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WikiworlD

Political Economy of Digital Literacy, and the Promise of Participatory Media

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For the editors and users of wikis,
where ever you are

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Introduction

Our writing of this book has been driven by several recent promises and possibilities, especially in the area of education and digital media. These include a new ethos of participation, collaboration and co-operation in many branches of action in the digital sphere; the new openness of academic and other publishing is one example. As we argue in this book, we are moving towards a progressive transformation from the institutionalized and individualized forms of learning to open learning and collaboration. This book is born out of the tension between, on one hand, a fascination with the use of new technologies and learning practices in furthering socially just futures, and, on the other hand, a critical view of the constants or "unmoved movers" of the information society development: the West and Capitalism. In short, our task is to explore the promises of open access and the power of critical pedagogy in the context that we entitle in this book the Wikiworld.

By the notion of Wikiworld we refer both to the technical and social spheres of the Internet; more specifically to those social formations and political struggles that can be enforced by the possibilities of the Net. The Wikiworld is built through the "collaborative turn," or what is called participatory culture, which includes relatively low barriers to civic engagement and activism, artistic and other sorts of expression, easy access for creating and sharing one's outputs with others, peer to peer relations and informal mentorship as well as new forms of socialization, social connections, collectivism and solidarity (see Jenkins et al. 2006). And more than that: from our point of view the Wikiworld, and its phenomena, is not sufficiently scrutinized if not seen in the larger socio-political context through the lens of radical political economy. From this angle the Wikiworld is also an ideological battlefield, and the stakes are

high: in question are the very ways in which we conceive of the digital sphere and its physical counterparts.

A case in point in the collaborative turn is Wikipedia and its sister projects like Wikiversity, which in our estimate will soon confront nationally governed educational systems. Researchers, educators, teachers and other cultural workers are tired of waiting to get on board the Wikiworld through their institutions, and are building their blogs and wikis and forming alliances globally with their peers and like-minded people. They are part of informal networks and "invisible colleges." Some of them have joined digital temporary autonomous zones. New forms of interaction and knowledge production are flourishing outside closed educational systems. Old organizational structures are like dinosaurs preparing for extinction in the new era. And the potential goes beyond the transformation from formal education to public education: there is Wikinews, Wikileaks, Wikibooks, not to speak of all the grass-roots wikis of specific communities. These social inventions are taking research communities back home: to the diverse forms of co-operation free from the pressing and often alienating system logic of the market universities, national boundaries, and language barriers. Wikipedia and its sister projects have proved the effectiveness of voluntary work in producing and creating free contents. These contents have no market value; instead they have huge use value in genuine intellectual interest, unreified sociality and the search for knowledge. Autonomy of science and public education gain from the freedom of the Wikiworld. In terms of education, the Wikiworld comprises some of the key ideas of the Cape Town Open Education Declaration, which is part of a larger global collaborative turn towards open education and open access to knowledge:

> We are on the cusp of a global revolution in teaching and learning. Educators worldwide are developing a vast pool of educational resources on the Internet, open and free for

> all to use. These educators are creating a world where each and every person on earth can access and contribute to the sum of all human knowledge. They are also planting the seeds of a new pedagogy where educators and learners create, shape and evolve knowledge together, deepening their skills and understanding as they go. This emerging open education movement combines the established tradition of sharing good ideas with fellow educators and the collaborative, interactive culture of the Internet. It is built on the belief that everyone should have the freedom to use, customize, improve and redistribute educational resources without constraint. Educators, learners and others who share this belief are gathering together as part of a worldwide effort to make education both more accessible and more effective. (http://www.capetown-declaration.org/read-the-declaration)

Current international and national trends in educational policies emphasizing educational qualifications, competition and marketization of higher education are too narrow and repressive views to last for very long. They distort learning and research like the notions of "German" and "Socialist" science did in their time. In contrast, internationally open and free scientific activity benefits all people and nations equally; otherwise it does not deserve to be called science. But openness is a challenge for closed educational and other systems; it forces educational authorities – public and private alike – to abandon shortsighted monetary aims. Profit-orientation (competition, evaluation, audition) must be replaced by diversity, conviviality, collaboration, actual freedom, accessibility and participation. Again, this goes beyond the agenda of formal education. As the rallying cry of the Swedish Pirate Party goes, the goal is "to make the totality of human culture available for everyone." And not just available: the Wikiworld is also editable, improvable.

By making this book an open access publication we wanted to foster these ideas. Of course we discussed whether to take the manuscript to a publisher, and we actually did. But whatever the publisher's decision, in the end we chose open access. This is also a political statement. Since we work in a public university funded by the Finnish government (for how long, we don't know; for as we write in spring 2008, the publicly funded university system has been in a state of turbulence for years), we are obliged to do our job for the public without cashing in, or without putting some extra cash in our own pockets. Perhaps, if we were independent agents, the case would be different, as we would need to bring bread to the table without a monthly paycheck from the university. But even that situation shouldn't prevent us from writing and publishing open access, quite the reverse.

Open access publishing fits extremely well with the core ideas of critical education as it cherishes collaborative learning in its various forms, and sharing critical ideas and crucial personal and collective experiences. And, as Joe Kincheloe (2007, 10), one of the founding figures of critical pedagogy, has put it, "a vibrant, relevant, effective critical pedagogy in the contemporary era must be simultaneously intellectually rigorous and accessible to multiple audiences. In an era when open-access publishing on the Internet is a compelling issue in the politics of knowledge (Willinsky 2006), I contend that open-access writing and speaking about critical pedagogy are also profoundly important." This is where the philosophy of open access meets the philosophy of critical education; in the era of corporate rule in the mainstream media (including the academic publishing business), and elsewhere, critical thought and open access need and nourish each other, perhaps more than ever (see, e.g., the Net presence of Paulo Freire at http://freire.education.mcgill.ca/)

In a fundamental sense, the social and digital collaborative sphere, the Wikiworld, is anarchistic in its very nature. This means that we cannot channel, control or predict the future of the Wikiworld in

advance. But we can offer and share insights, ideas and collaborative productions which at best can free our minds from the restrictions of the closed system logics. To say that the Wikiworld is anarchistic is not to deny that it is also overdetermined, that is, its development is caused by the multiple actions of the multiple actors. To paraphrase philosopher J. L. Austin (1911–1960), the question on the Wikiworld is not only *How To Do Things with Words*, but also *How To Do Things with Edits, Saves, Uploads, Downloads, Histories, Revisions, and Discussions*.

The book is divided into six chapters. We start the first chapter by locating our position in the critical discussion on education and maintain that there actually is a tradition of educational research and thought that helps in understanding the various characteristics of the Wikiworld. Furthermore, this tradition can be advanced by theorizing the tools of the Wikiworld in the context of a critical educational paradigm. In the second chapter, we follow closely and analyze some of the central, often taken-for-granted assumptions and conceptual schemes of the present age. We adopt the view of political economy in making a division between a netocratic elite and a consumtariat. The third chapter deals with the question of radical monopolies, their problems as well as the possibilities of overcoming them with radical openness in the educational and other arenas. In the fourth chapter, we continue with the theme of the present divided world, especially focusing on the youth question and evolving forms of socialization. The fifth chapter is dedicated to the issue of collaborative learning particularly in the context of higher education. As the title of our last chapter states, the essential issue in the Wikiworld is one of freedom – levels and kinds of freedom. Our message is clear: we write for the radical openness of education for all.

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1. A Critical Paradigm of Education

In his critique of political economy, Marx did not care much about Nature as such, but about how human beings in their social relations use its resources for their own purposes. He was interested in relations between material substratum, capital and labor, which "is a creator of use value, is useful labour, it is a necessary condition, independent of all forms of society, for the existence of the human race; it is an eternal nature-imposed necessity, without which there can be no material exchanges between man and Nature, and therefore no life" (Marx 1867). Marx put his emphasis on examining how it can be that the coat may be "worth twice as much as the ten yards of linen." In the discourse of digital media and digital literacy it is sometimes, maybe too often, maintained that digitalization and digital apparati are sort of master movers that change the world and us by their mere existence. This is partly true if we take it that material being affects human consciousness. But as we see it, more interesting and more important than binary strings of ones and zeros – these rolls of linen of our time – are the uses, and perhaps misuses, of digital media and digital literacy.

Thus digitalization as such is not in the scope of our book, but what we as human beings can make of it. In this sense we tentatively define digital literacies as various processes of using digital information and communication technologies for the common good. In this book, digital literacy refers not only to the ability to use digital technologies – whether personal devices or communication networks – to locate, create and evaluate information, but also and more importantly to build alliances to increase material, social and individual justice and enable social transformation. These aims are shared in the tradition of critical pedagogy and by critical theorists in education who claim that at present

we are witnessing and living through the first steps of a true revolution in the modes of digital communication and convivial tools for collaborative literacy and transformative learning.

> To dramatize the issues at stake, we should consider the claim that we are now undergoing one of the most significant technological revolutions for education since the progression from oral to print and book-based teaching. … Furthermore, the technological developments of the present era make possible the radical re-visioning and reconstruction of education and society argued for in the progressive era by Dewey and in the 1960s and 1970s by Ivan Illich, Paulo Freire, and others who sought radical educational and social reform. (Kellner 2004, 10.)

In the vast theoretical literature of critical pedagogy issues of material, social, political, and cultural modes of production with such related topics as class, gender, race, and popular culture as critical social formations have been analyzed during the past decades (Darder & al. 2003; McLaren & Kincheloe 2007; Macrine & al. 2008) However, there are only a few attempts so far to try to capture the effects of the vastly growing field of digital production with its ever-evolving technologies, ideologies, and social codes – of course with some notable exceptions (see Giroux 2000a; 2004; Kellner 1995; 2004; Peters & Lankshear 1996; Lankshear & Knobel 2003).

In the debate, three general expectations towards digital media as a "teaching machine" can be discerned: threats (or even fears), promises, and possibilities. Firstly, new information and communication technologies have been seen as threats from the point of view of their implicit technical rationality, "technological determinism" and covert features of alienation. As Henry Giroux and Susan Searls Giroux (2004, 268) have put it, the central threat is not what new technologies enable,

"but that such technologies, when not shaped by ethical considerations, collective debate, and dialogical approaches, lose whatever potential they might have for linking education to critical thinking and learning to democratic social change." In other words "the real issue is whether such technology in its various pedagogical uses … is governed by a technocratic rationality that undermines human freedom and democratic values" (ibid.). These fears were explicated early on by the German philosopher Martin Heidegger in his critique of enframing and Herbert Marcuse in his critique of technocracy (see Thomson 2003). Heidegger thought that the ultimate danger of technology does not lie in its possible breakdowns (nuclear disaster, climate change, etc.) but rather in the fact that technology does not fail but works smoothly and faultlessly in its own hermetic realm, making us think of ourselves as resources (see, e.g., Heidegger 1982). To use Heidegger's idea, one could say that the ultimate fear is that the "teaching machines" enhanced with information technology will work seamlessly together with technological rationality so that all emancipatory potential is finally lost.

For his part Marcuse saw technocracy as a political state in which "technical considerations of imperialistic efficiency and rationality supersede the traditional standards of profitability and general welfare" (Marcuse 1941 cited in Thomson 2003, 61; see also Kellner 1998). But what distinguishes Marcuse's critique of technology from Heidegger's and also from most of his peers around the Frankfurt School was his insistence that technology holds also a promise if its instrumentality can be thought of differently. The idea is to modify technology by the abolition of class society and the principle of reducing people to things or mere resources to be optimized with maximal efficiency. For it is "not only an ontological question of what technology is making of us; that question needs to be posed, to be sure, but we must also ask the political question of what we can make of technology" (Feenberg 1998). This line of thought is to be found in most critical educators who, in Marcuse's footsteps, "reject the hype and pretensions of techno-utopias

and techno-fixes to the problems of education and society" (Kellner 2004, 13), and instead want to critically examine and reflect the uses of information and communication technologies together with progressive and transformative pedagogical theories.

On the other hand digital technologies and their evolving applications have been seen as containing promises and ingredients of a new public sphere and "hyperpedagogy" (Dwight & Garrison 2003) to be formed in cyberspace with diverse digital learning tools; for some this has promised a new, enhanced active citizenship. Referring to the 2,500-year-old Western teleological, dogmatic metaphysics with predetermined and rational educational ends, technological enthusiasts demand that digital learning tools "should free students to create their own unique essences in the learning process rather than have their essences proscribed by a teleological value system of predetermined fixed ends" (ibid., 724). The latter promise has also been seen in the rejuvenation of a Habermasian ideal communication (see Habermas 1981) consisting of open and free rational discussions in various web fora.

Diverse spheres of digitally mediated communication – wikispheres, blogospheres, podspheres, and so on – have held possibilities to enlarge and enhance educational expertise into new areas of learning such as private enterprise, consulting and digitally conducted distance education by using new information and communication technologies. Critical theorists have for their part asked for new emancipatory skills and literacies needed in comprehending various digital spaces and incorporating them in the settings of radical politico-social transformation and educational change. In terms of new possibilities Kahn and Kellner (2006) have maintained that

> people should be helped to advance the multiple technoliteracies that will allow them to understand, critique, and transform the oppressive social and cultural

> conditions in which they live, as they become ecologically-informed, ethical, and transformative subjects as opposed to objects of technological domination and manipulation. This requires producing multiple oppositional literacies for critical thinking, reflection, and the capacity to engage in the creation of discourse, cultural artifacts, and political action amidst widespread technological revolution. Further, as active and engaged subjects arise through social interactions with others, a notion of convivial technologies must come to be a part of the kinds of technoliteracy that a radical reconstruction of education now seeks to cultivate.

Besides these questions of skills and literacy, only a few have dared to ask the substantial questions pertaining to the critical or even revolutionary potential of social media. In the following we want to probe this question by using the effects of Wikipedia and other wikis like it as examples. Wiki software seems to promise almost limitless global open collaboration in terms of content production, discussion and argumentation, and thus ideally exemplifies the Habermasian potential of digital technology. However, we need to look further into the depths of the nature of such technology in order to see how the much-hyped promise of wikis and other types of social media interacts with the real world's structural constraints and conflicts. To say it in a nutshell, it is not the form but the content – what is said and why – that is crucial in evaluating digital media's effects, its promises and perils in terms of global justice. Consequently, the analysis of digital media in the context of communication and educational theory has to be intertwined with an analysis of critical political economy.

Although our book's topic is new digital literacies in the seemingly fancy world of new information and communications technologies, we have tried to keep globally growing social, economic and educational

inequalities firmly in our minds. And as our frame of reference is political economy of communication and media technologies and critical sociology of education, we study these inequalities especially from the point of the view of young people – those of us who inherit the world. Therefore we want to remind ourselves and our readers at the outset that even today there are over 100 million children who lack primary education, and 55 per cent of them are girls. Wandering around – both literally and metaphorically – in the Mall of America, in one of the largest shopping paradises in the world, it can be hard to realize or remember that according to UNESCO statistics almost 800 million people aged 15 and above are still without basic literacy skills. Thus writing about new information and communication technologies, whether in the traditional sense or in the sense of social media, is already extremely biased, and although we want to write critically and against the grain, the old saying "the West and the rest" is highly illustrative, as we hope to show in what follows. And yet two more sobering facts: only one-sixth of the world's population uses the Internet on a regular basis. Where are these people? If you can point out the affluent countries on the world map, you can also point out the countries with the most Internet users. Basically it is as simple as that.

Our Point of View: A Critical Paradigm of Education

"Now that self-education and fraternal education are becoming more general, the teacher must, in the form he now normally assumes, become almost redundant. Friends anxious to learn, who want to acquire knowledge of something together, can find in our age of books a shorter and more natural way than 'school' and 'teacher' are." (Nietzsche 1996, 353.) Friedrich Nietzsche wrote these words in the 1880's in his book for

free spirits, *Human, All Too Human*. If Nietzsche's 'age of books' was replaced by 'age of lifelong learning', 'open learning', 'distance learning,' 'co-operative learning,' 'age of network learning,' or 'new learning technologies,' the above quotation would tell part of the story of contemporary educational thinking. Moreover, it summarizes thoughts in critical paradigm of education. A case in point is Ivan Illich and his ideas about deschooling society; they contrast the present culture of learning and education as a commodity.

One basic belief in the critical paradigm of education is that learning and education are fundamentally social and political activities reaching from formal schooling to everyday life and ordinary activities. That is to say that learning is a central intersubjective human activity which belongs to and is part of our being in the world. Thus, there are at least three different views in the critical paradigm of education approaches which bear close resemblance to each other in their theoretical underpinnings.

The first one is developed by Bruner (1996). His seminal developments in the area of cultural psychology are closely linked to Vygotsky's cultural historical theories of development. The second view consists of those theories which emphasize that learning is a social phenomenon and plays a crucial role in different everyday- and work-related practices (Engeström & Middleton 1996). This includes the area of learning through apprenticeship (Lave & Wenger 1991; Kvale & Nielsen 1997). The third view can be called critical political economy of education, for researchers in this field are not merely interested in the sociality of learning as such, but ideological and political functions and consequences of learning and systemic education.

In this third view it is argued that social learning and education have to be understood as producing not only knowledge but also political subjects. Furthermore, as a form of cultural production education and learning are "implicated in the construction and organization of knowledge, desires, values, and social practices" (Giroux, 1992, 3). In

general, the critical studies in education approach tries to question and formulate the old boundaries of educational research and practices. All these research orientations share the theoretical assumption that learning, like other human activities, always occurs in a certain place and time, in other words, learning is socially and politically situated, and that its primary aim is to fight against oppressive social and political conditions, and further true democracy and enhance cultural and political transformation (see McLaren & Jaramillo 2007; Giroux 2006). In addition, it is believed that learning, like other human activities, is historically and culturally bound.

Education in its diverse institutional forms has played a major role in creating the modern era. It is said that in the West, as well as in other post-industrial nations, we live in learning societies. Some theorists (Giroux, 1995, Aittola & al. 1995) claim, however, that the modern legacy of schooling has began to break down: the locus of significant learning experiences has shifted from school to the peer-to-peer learning situations; from the formality of the classroom to the informality of diverse learning sites such as home, work, leisure-time and popular culture, and those of the Net. This claim is based on the fact that because of today's electronic information technologies there is much more information available outside than inside the classroom.

These observations are, however, modern themselves and, besides this, rather ahistorical. For if education and learning are looked at through a historical perspective, we see that it is neither informal learning nor learning outside the classroom but school learning that is a recent phenomenon (see Table 1). Historically, human beings have gained most of their learning experiences in their natural environments, that is, from learning to stay alive. In other words, people have learnt simply by living; that life itself has been, and still is, the greatest educator (see also Antikainen & al. 1996). This applies also to the Wikiworld with its information and communication abundance.

Table 1: History of Human Learning

Period	**Premodern**	**Modern**	**Late Modern**	**Late Late-Modern**
Form	*Life itself*	*School*	*Life-long learning*	*Learning webs*
Media	*Tradition*	*Texts and Informal learning*	*Networked examinations and life practices*	*Everyday life*
Sphere	*Local*	*National*	*National and global*	*Global and local*
Function	*Surviving*	*Knowing*	*Having*	*Being*

Moreover, it is crucial to note the differences between the modern and the late modern eras of learning. Modernity was the time of school learning. The modern school was a bureaucratic organization which was characterized by multiple standardized procedures (Kvale 1997). It was ruled by text-based learning and, especially, by formal and ritualized examination. It was the examination which, according to Foucault (1979, 192), was at the centre of procedures that constituted the individual, guaranteed the functions of distribution and classification, and, as a consequence, constant surveillance of pupils.

Largely, the school is the product of modern mass society, a response to the needs of industrialization. Social and technological change have forced people as laborers to keep on learning – learning to have, know

and think correctly – throughout their lives, to become life-long learners who embrace the right attitudes for being modern and postmodern consumers. On the other hand, late modernity might mean different type of approach to learning.

Assumingly in late modernity, if seen as the time of collapsing moral and practical certainties (Bauman 1995), learning will be defined through value rationality – in Weber's sense of the term – and characterized as a way of personal and social transformation more than through instrumental rationality and as a way to better competencies in labor market. Similarly, as learning has shifted from the school to the various sites of networked everyday life, learning and pedagogy will be defined, using Giroux's (1994, x) words, as "the creation of public sphere, one that brings people together in a variety of sites to talk, exchange information, listen, feel their desires, and expand their capacities for joy, love, solidarity, and struggle." As we shall see, this is the picture Illich draws in his idea of convivial institutions.

In their current forms, it might be that schools no longer belong to the order of things in the late modern era, and they are about to vanish from the map of human affairs, "like a face drawn in sand at the edge of the sea," to paraphrase Foucault's (1994, 387) prediction about the future of human beings as an object of inquiry. This is at least Illich's standpoint in his *Deschooling Society*. Before turning to some of Illich's central arguments important to our own thinking against the schooled society, and ways of deschooling it (through learning webs and a new image of human being), we will describe some of the key points in his general educational thinking. First and foremost, Illich is a utopian thinker. Utopia, as u-topos, refers to a time or place which does not and never will exist. Thus, that is both the tragedy and hope of all utopias and utopian thinkers. Along with Paulo Freire, he is also one of the most radical political and social thinkers in the second half of the twentieth century. His aim was to analyze the institutional structures of

industrialized society and to provide both rigorous criticism and a set of alternative concepts.

Illich's basic claim is that not only learning and education but also Western societies in general have become schooled. He calls this the Western tendency to institutionalize the teaching of values: People have become dependent not only on school but also on other bureaucratic agencies of modern capitalistic societies: the consumer-family, the party, the army, the church, the media. According to him, all modern conveniences have hidden curricula designed to make people believe that they are essential services for people. Thus, he is a deconstructionist in the sense that he is ready to abolish schools as we know them and deschool a whole society. He is also a conservative in the sense that he does not believe in progress through schooling. Quite the contrary, in his view education leads "to physical pollution, social polarization and psychological impotence." His devaluing of modern institutions can be described as nomadic postmodernism, the basis for neo-Marxist criticism of Illich as a conservative.

According to Paula Allman (1988, 90-91), Illich does not distinguish between the symptoms and the cause of the problem. That is, he wrongly locates the cause within schools and other institutions rather than within the socio-economic superstructure of capitalist societies. The neglect of material conditions and their ideological masking creates even more social divisions and inequalities. Furthermore, Illich's ideas about learning webs might work well in a socialistic order, but in market economies, says Allman, they are only piecemeal tactics which lead "to securing further privilege for the dominant groups in these societies." Illich himself wants to remind his critics about the fact that modern superstructures have effectively penetrated our lifeworlds and become major employers and benefactors of society. That is why Marxists fail to explain the triumph of the capitalist consumer society: the worker has profited from it and "has a great deal more to lose than his chains" (Fromm 1970, 30). This, and the fact that schools are a form of industry,

is often forgotten by neo-Marxists who argue that the process of deschooling must be postponed until other disorders are corrected. However, Illich (1996) has said that he has been misunderstood. Rather than deschooling society, he wanted to use the term 'disestablishment of schools' and reminds us to be alert when learning needs and demands are mentioned in the media.

Illich's attitude resembles that of Nietzsche's who, in *Human All-Too-Human*, says that by means of school, rulers win the gifted poor over to their side. Teachers, above all, become members of the rulers' intellectual court by their unconscious striving for higher culture. Modern critics, because of their faith in progress through the sciences and emancipation of humans, do not share Illich's notion of late modernism aiming at abolishing all institutions, whether economical, administrative, ideological or political. In this sense Illich's criticism applies both to capitalism and socialism. Natural framework for Illich's approach, then, is the well-known social theoretical opposition between the system and the lifeworld, elaborated by Habermas (1989) in his theory of communicative action. Roughly speaking Habermas' central argument is that the economic and administrative systems of modern societies are the primary conditions of colonization of the lifeworld, which, in turn, is the source of social integration, symbolic reproduction and socialization.

Surprisingly or not, Illich is a learning optimist, for he separates learning from teaching and schooling, learning from grade advancement and good behavior, and from obedience and education. Thus, Illich's views do not reduce to any simple definition, they do not fit in to any narrow ideological frame: they escape all trivialized readings through ready-made lenses. Illich maintains that learning belongs to a particular person and to that person only; it is one's right and one's duty. Thus, this position makes him along with his learning theory a proponent of individualistic philosophy of education. His individualism is, however, socially conscious, for, as his theory of learning can be interpreted,

individual actions form the basis for emancipation of human beings; a genuine change is always based on one particular being's actions. In his individualism Illich is also a Nietzschean free spirit. He says that school makes human beings abdicate the responsibility for their own learning and growth, and, in addition, makes many commit a kind of spiritual suicide. What, then, would better define his attitude towards the task of learning and self-transformation than Nietzsche's (1996, 379) aphorism 282: "The teacher a necessary evil. – As few people as possible between the productive spirit and the spirits who hunger and receive!" Illich's utopia is turning out to be more of a topical scenario of our so-called information age than anyone ever thought. Illich's learning web metaphor is in itself interesting. It represents nicely the current trend that it is as if all the best minds in education are found from the virtual world of the World Wide Web.

The point of departure in Illich's thinking is the idea of unlimited access to learning: In his words, "[T]he most radical alternative to school would be a network or service which gave each man [and woman, our addition] the same opportunity to share his [and her, our addition] current concern with others motivated by the same concern" (Illich, 1971, 19). This requires "the return of initiative and accountability for learning to the learner or his most immediate tutor" (ibid., 16). Illich, thus, wants to correct the common mistake that learning is the exclusive result of teaching, rather than that most learning occurs outside schools:

> Everyone learns how to live outside school. We learn to speak, to think, to love, to feel, to play, to curse, to politic, and to work without interference from a teacher. Even children who are under a teacher's care day and night are no exceptions to the rule. Orphans, idiots, and schoolteachers' sons learn most of what they learn outside the 'educational' process planned for them. (ibid., 28-29)

Nowadays this is rather common wisdom among many educators. Studies in educational anthropology have shown that even in educational settings, in schools, there is a amount of "extracurricular," nonacademic and informal activities going on all the time: different clubs, events, meetings, projects, sport events, informal relationships, dating and romance (see Peshkin 1994). In his phenomenology of schools, Illich identifies several underlying assumptions, or hidden curriculum of schooling that denies the unlimited access to learning. From Illich's global view point, most people are not able to provide childhood to their offspring and those who do it feel that it is a burden not a blessing; he sees that age, as we Westerners know it, is a construction of the nineteenth century bourgeoisie. Furthermore, a teacher-pupil relationship is based on the belief that culture must be transmitted from the older generation to the younger: schools do not fulfill this task because "pupils have never credited teachers for most of their learning" (Illich 1971, 29).

In addition, full-time attendance at school "tends to make a total claim on the time and energies of its participants" (ibid., 30). This makes teachers into custodians, moralist-preachers, and therapists. Illich argues that teachers' powers mentioned above, along with attendance rules, creates an enclave which is more primitive, magical and total than the everyday world of Western culture. In this magic zone, distinctions between morality, legality and personal worth collapse into one and each student mistake is made to be felt as a multiple offense.

Illich also analyses the broader hidden curriculum of schooling. This analysis reveals that schooling serves as a rite of initiation into a growth-oriented consumer society creating "the myths of schooling". The myth of unending consumption is strengthened by the idea that teaching produces learning (compared to the idea of learning by doing or participating in a meaningful setting). Learning is understood as a product that has the same structure as other merchandise. Schools are learning factories which produce demand for school learning. The myth

of measurement of values says that everything can be measured, from personal growth, happiness and intelligence to development of nations and progress toward peace. Furthermore, education and learning are defined as consumer goods, as merchandise that is sold and bought on the school market. Consumer parents, who can afford it, make education investments and read college ratings in order to evaluate the exchange value of their money. Schooling at all levels is big business.

The myth of self-perpetuating progress emphasizes that the number of persons effectively treated by a teacher measures the success of schooling. We have pupil-hours, study points and credits, and other statistics, which allow competition and comparison between pupils, schools, areas, and nations. This is the myth which is living well in today's political rhetoric of education. In the present situation, schooling is like an obligatory lottery machine. Children are allowed to play, but the game is not fair. Those who "choose" the right parents as well as the right race, culture and nation, that is, the family with social, educational and economic wealth and capital, are more advantaged than others, and collect the prizes in the fields of constant educational competition.

Schooling is not only the new world religion with its curses and blessings, but also among the fastest-growing markets in the world. This assertion has held good for the past decades, and is still valid. Thus, schooling is a form of alienation, for it creates an illusion that students are constructors of their own wisdom, although they are only objects of the knowledge industry in which knowledge "is conceived as a commodity put on the market in school" (Illich 1971, 47). According to Illich, the school is the main evil, the institution of manipulative institutions, which shapes people's vision of reality. The school "enslaves more profoundly and more systematically"; it "touches us so intimately that none of us can expect to be liberated from it by something else," (ibid., 47). There are, however, other instances with same functions and their own hidden curricula: family life, draft, health care, and media. Hence, Illich splits institutions to manipulative and

"convivial," and offers a classification of different institutions depending on their totality or openness.

On the manipulative side are institutions like law enforcement, the army, prison, mental hospital, nursing homes and orphan asylums. Membership in these socially or psychologically addictive institutions is achieved coercively: "by forced commitment or selective service" (ibid., 54). Convivial or spontaneous institutions, on the other hand, are like telephone links, subway lines, mail routes, public markets and free exchange of ideas. This type of institution is like a network which facilitates communication and co-operation among free agents. Illich sketches a picture of the public place where learning and other kinds of activities would flourish – naturally without charge:

> There could be tool shops, libraries, laboratories, and gaming rooms. Photo labs and offset presses would allow neighborhood newspaper to flourish. Some storefront learning centers could contain viewing booths for closed-circuit television, others could feature office equipment for use and for repair. The jukebox or the record player would be commonplace, with some specializing in classical music, others in international folk tunes, others in jazz. Film clubs would compete with each other and with commercial television. Museum outlets could be networks for circulating exhibits of works of art, both old and new, originals and reproductions, perhaps administered by the various metropolitan museums. (ibid., 84)

Like the above quote clearly shows, Illich's thinking is holistic or multidisciplinary in nature. For, he is not only suggesting an educational reform with the idea of convivial institution but, at the same time, working in the fields of urban planning, architecture and social policy. Modern schooling reflects the consumer society as both cause and

consequence. It makes learning and education into commodities that can be marketed, sold, bought, consumed, wasted and recycled; teaching becomes a relation between a supplier and a consumer even though in a quite paradoxical way: "it guaranteed the movement of knowledge from the teacher to the pupil, but it extracted from the pupil a knowledge destined and reserved for the teacher" (Foucault 1979, 187). All this is made happen in various kinds of learning institutions. Not only is the ideology of schooling restricted to childhood, but also, as Illich points out, it is expanded to adulthood in the name of life-long learning. Illich (1971, 69), obviously, neither believes in the ideas of life-long learning nor open learning environments:

> Now the teacher-therapists go on to propose life-long educational treatment as the next step. The style of this treatment is under discussion: Should it take the form of continued adult classroom attendance? Electronic ecstasy? Or periodic sensitivity sessions? All educators are ready to conspire to push out the walls of the classroom, with the goal of transforming the entire culture into a school.

The spontaneous use of institutions opens up the possibility of different learning webs, including Illich's core idea of unlimited access to learning. There are three demands for the creation of deschooled society in Illich's utopia: changes in the arrangements of learning, new aims for educational system and changes in teachers' roles. Thus, the arrangements of learning, which could give each human being the same opportunity to share their current concerns with others motivated by the same concern, are (Illich 1971, 103):

1. Reference services to educational objects as a system "to liberate access to things by abolishing

the control which persons and institutions now exercise over their educational values."

2. Skill exchanges as an adjustment "to liberate the sharing of skills by guaranteeing freedom to teach or exercise them on request."
3. Peer matching as a communication network which liberates "the critical and creative resources of people by returning to individual persons the ability to call and hold meetings."
4. Reference services to educators-at-large as a directory "to liberate the individual from the obligation to shape his [or her] expectations to the services offered by any established profession- by providing him [or her] with the opportunity to draw on the experience of his [or her] peers and to entrust himself [or herself] to the teacher, guide, adviser, or healer of his [or her] choice."

A good educational arrangement as a convivial system would, then, provide everyone who wants to learn at any time in their life with access to available resources; it would empower people to share their knowledge; and it would give an opportunity to people to present an issue to the public whenever it is necessary. To accomplish the task of deschooling society certain types of teachers are also needed. First type is composed of network administrators, who would build and operate diverse learning networks. Second type consists of pedagogues, who would facilitate learning and help people to find their own paths in the networks. Third type is composed of educational leaders, *primus inter pares*, whose task would be to create dialogical educational relationships. This latter kind of educational relationship is, according to Aristotle in his *Nicomachean Ethics*, like a moral type of friendship: "it makes a gift, or does whatever it does, as to a friend". Thomas Aquinas

characterizes this relationship as an act of love and mercy. Illich says that it is always a mutual luxury, a form of leisure for the teacher and for the pupil.

In addition to the changes in the arrangements of learning, aims of educational system and changes in teachers' role, new attitudes and, what is of importance, a new image of human being also is needed. Illich suggests that the above-mentioned learning webs should lean not on technology but on co-operation, caring, and sharing of knowledge and skills between people. Furthermore, Illich claims that changes in the role and use of institutions are not possible without a dramatic change in current worldviews, images of human being and functions of human beings in the world. Currently we are living in a technological utopia in which it is believed that all the problems created in modernity, social as well as political and educational, are susceptible to a technical solution and qualitative improvements are possible through technological development. This is the dogma of institutionalizing of values. According to Illich, we have to move to another utopia, which Erich Fromm (1971) calls humanistic radicalism. Fromm's words are worth quoting at length:

> Humanistic radicalism is radical questioning guided by insight into the dynamics of man's nature; and by concern for man's growth and full unfolding. … All this means that humanist radicalism questions every idea and every institution from the standpoint of whether it helps or hinders man's capacity for greater aliveness and joy. This is not the place to give lengthy examples for the kind of common-sensical premises that are questioned by humanist radicalism. … I want to mention only a few like the modern concept of "progress," which means the principle of ever-increasing production, consumption, timesaving, maximal efficiency and profit, and calculability of an

> economic activities without regard to their effect on the quality of living and the unfolding of man; or the dogma that increasing consumption makes man happy, that the management of large-scale enterprises must necessarily be bureaucratic and alienated; that the aim of life is having (and using), not being; that reason resides in the intellect and is split from the affective life; that the newer is always better than the older; that radicalism is the negation of tradition; that the opposite of "law and order" is lack of structure. In short, that the ideas and categories that have arisen during the development of modern science and industrialism are superior to those of all former cultures and indispensable for the progress of the human race.

Illich's new image of human beings can be translated into a less metaphysical language of learning. In Table 2, two conceptions of learning are opposed. The table also shows some of the thinkers who have elaborated these conceptions. Illich's conception is placed on the right column, with the other critical humanists.

Here we further explicate Erich Fromm's (1996, 16) distinction, in which he separates two concepts, those of having and being, which refer to two fundamental but distinct modes of experience and learning. Learning as having, on the one hand, reflects the archaic idea of incorporating a thing in order to possess it. Fromm says that the attitude inherent in consumerism – and, we might add, schooling and the Net as commodity and the market place in the spirit of Illich – is that of incorporating, "of swallowing the whole world" (ibid., 27). On the other hand, learning as being refers to internally motivated learning, learning without other purposes than ethically meaningful self-transformation, and learning as an end in itself.

It seems as if Illich's utopia drew society as an island of free spirits sharing opinions and ideas in an Eden like purity without social powers,

social divisions or other modern pollutions. This is, of course, a caricature of Illich's utopian or nomadic postmodernism.

Table 2: Two Conceptions of Learning

Learning as…	
consumer good	an end in itself (Kant)
having	being (Fromm), sharing and caring
political bargain and rhetoric	self-transformation (Foucault)
manifestation of instrumental rationality	an act of love and mercy (both eros and agape) (Thomas Aquinas)
domination	the practice of freedom (Freire)
surveillance and social status quo	social criticism (Apple)
engineering and economic utility	askesis, experiment, pleasure (hooks)
and taking place in…	
manipulative institutions	"convivial" institutions (Illich)

Zigmunt Bauman (1995) claims that, unlike in modernity, in late modernity people are left alone with their moral dilemmas. Modernity was the era of philosophers as moral legislators, preachers as ethical experts and teachers as therapists, whereas late modernity demands that people take care of their own moral decisions, ethical dilemmas and educational tasks. In postmodernity, there no longer is a solid foundation of morality in the form of institutions, grand narrative or ideas. In Bauman's (ibid., 43) words "it is possible now, nay inevitable, to face the moral issues point-blank, in all their truth, as they emerge from the life experience of men and women, and as they confront moral selves in all their irreparable and irredeemable ambivalence".

In our interpretation this is the intellectual landscape in which a thinker like Illich can be understood. There are, however, a number of problems in Illich's thinking. In the same way as other utopias, Illich's individualism and radical humanism is based on a too positive image of human beings. It forgets that people are capable of evil (like Goethe says: "that there is no crime of which one cannot imagine oneself to be the author") and inclined to laziness. Along with other utopians, Illich is a true believer of fair play; he believes in a just society (in the manner of John Rawls 1971). He does not want to take into account the evident fact that all social institutions, no matter how sophisticated in design, contain free-riders such as learning consultants, therapists of different kinds and degree hunters unconcerned about actual learning. Furthermore, his model assumes that everybody wins and nobody loses, a practical impossibility in human activities.

Although Illich does speak about social institutions and their powers over individual learners, he, like other utopians, does not analyze the concept of power deep enough. He believes that people are good in nature, that learning webs are democratic in themselves, and people in them work on an equal basis. Like all good utopians he also believes that people are ready for the proposed changes, that they are willing to adjust their attitudes and behavior. Moreover, he assumes that they will

act like autonomous learners and use their reason with courage, as Kant demanded.

Illich would not be a utopian thinker unless he took his ideas to extremes. He seems to think that schooled society, devoted to "the god of Consumership" (Postman 1996, 33), is fanatic and hegemonic, that is; it offers no alternatives to its grand narrative of competition through schooling. Keeping these reservations in mind when reading Illich, it is still possible, we believe, to face the moral issue of education, schooling and learning point-blank, in all its truth whatever we mean by truth as it emerges from the life experience of men and women, teachers and administrators, children and politicians.

Thus, a close reading of Illich's prophetic and utopist book also poses nowadays rarely mentioned questions: How to be an autonomous learner when autonomy revolves around the educational techniques of power? How to break free from the oppression of the system when there is no oppression anymore, only free enterprise and happy learning? In the spirit of critical education, Illich invites us to ask: What are schools for? Why are schools? What is the reason for schooling? Is there any reason? What are the forms of counternarrative in the world of constant freedom of educational choices? With these questions in mind, it is possible to develop a readiness to find what surrounds us, and what is usually common and commodity, strange and odd, to develop a sharpened sense of educational reality.

2. Digital Literacy and Political Economy

At a certain stage of their development, the material productive forces of society come in conflict with the existing relations of production, or – what is but a legal expression for the same thing – with the property relations within which they have been at work hitherto. From forms of development of the productive forces these relations turn into their fetters. Then begins an epoch of social revolution. With the change of the economic foundation the entire immense superstructure is more or less rapidly transformed. In considering such transformations a distinction should always be made between the material transformation of the economic conditions of production, which can be determined with the precision of natural science, and the legal, political, religious, aesthetic or philosophic – in short, ideological forms in which men become conscious of this conflict and fight it out. Just as our opinion of an individual is not based on what he thinks of himself, so can we not judge of such a period of transformation by its own consciousness; on the contrary, this consciousness must be explained rather from the contradictions of material life, from the existing conflict between the social productive forces and the relations of

> production. No social order ever perishes before all the productive forces for which there is room in it have developed; and new, higher relations of production never appear before the material conditions of their existence have matured in the womb of the old society itself. Therefore mankind always sets itself only such tasks as it can solve; since, looking at the matter more closely, it will always be found that the task itself arises only when the material conditions of its solution already exist or are at least in the process of formation. (Marx 1859.)

An image may be "1. An optical representation of a real object, or 2. A mental picture of something not real or not present." (http://en.wiktionary.org/wiki/image): the image of the information society is like the persona of a human being, concealing something by showing itself in full nudity. Nevertheless, does not an image reveal the truth insofar as it has its causal history and its consequences? What if the questioning, the *polemos*, of the information society – like any other society – has to be done precisely on the level of its image, its influence, mobility and speed? What if the image of the information society as a "logic of networks," "informationalism" and "risk society" is true, corresponding to the reality of the wealthy First World countries like Finland, a country with one of the highest rates of suicide mortality in the world? The image responds with a wry smile, and tells us that we should not be so dense: Truth is relative, the truth for or by someone. For whom is the contemporary society an information society or a network society? What is its price to humanity?

If we ask who we are and what characterizes the times we are living, one of the prominent answers is the notion of risk society. We live in a time when modern societies have progressed to a stage where, as Beck (1995, 16) points out, the social, political, economic and personal risks are beyond the control of traditional institutions. At first, risks are

produced as if nothing had happened, then they rise to the focus of political discussion, shadowing other conflicts and clashes. With the inevitability of contemporary economy-driven development, the risk society is not an option to be chosen, but an inevitable consequence of modernization (ibid., 17.) The same goes for the logic of networks and "informationalism that is replacing industrialism as the hegemonic form" (Castells 2000, 139); you have to take part in the networks or face degeneration. The frontline of information society does not exist between workers and capitalists but between a netocratic elite and a consumtariat (Žižek 2004a, 192).

The fundamental difference between the netocracy and the comsumtariat is "that the former controls its own production of desire, whereas the latter obeys the orders of the former. Hence there is vital symbolic value for netocracy in continually signifying in one's choice of lifestyle that one is independent of consumptive production of manipulated desire, and thereby indicating one's social distance from the vulgar masses." (Bard & Söderqvist 2002, 141.)

> Netocrats travel to places without a tourist industry, listen to music that is not available from any record company, get their entertainment from subscription channels or websites that neither carry adverts nor advertise their own existence, and consumer goods and services that are never mentioned in the media and which are therefore unknown to the masses. This lifestyle can never be fixed: it will always be in a process of constant change. When the netocracts tire of one desire and the experience has lost its value, they can always throw it to the masses – recreating it for the comsumtariat with the help of adverts – and this also has its economic advantages. But whatever is reserved for the time being for the netocracy will always

> be unknown, incomprehensible and out of reach for the consumtariat. (Ibid.)

Furthermore it is maintained that to recognize and to understand this and other dialectics of the present era is to be 'reflexively modern'. If the reflexivity of modernization is seen as a normative or pedagogical – i.e., political – concept, we enter the field of politics of recognition: who recognizes what and why? We are inclined to think that at this state of modernity reflexivity is flawed by any measures of social equality and global justice. In its current forms reflexivity produces mere social frigidity and greedy competition between people of the West. The risk society is a risk first and foremost because common sense, political decision-making and philosophical reflection have not kept up with the ecological, sociological and ideological changes not to mention new ethical demands in terms of equality and caretaking. Corporative and militarist globalization has totally eluded these issues in their empty discourses of open markets and free competition. If these socio-political sea changes are mentioned, they are used to justify the inevitability of current phenomena of the U.S. and WTO-controlled organization of the global order. But does the notion of risk society make possible the change of current socio-political structures? How does it measure up to the actual (absolute, substantial, real, material) events and forms of alterity that emerge outside the Western sphere, or up to the real anomalies of the West itself (including structural violence, drugs, medicalization, depression, exhaustion…)?

What reflexive modernity can embrace is the steady individualization and atomization of the human being; we are doomed to become individuals forced to "design and re-design" (Beck 1995, 27) our own autobiographies, especially with regard to work, where the world is divided into winners and losers (Castells 2000, 147). This individual is no longer the autonomous subject of enlightenment, but rather a heteronomous postmodern chameleon and nomad, rearranging herself

and her identity according to the situation, always slipping from the pincers of totalizing systems. Economic production, the individual as a subject and politics are all *ad hoc* projects, as already explained by Gilles Deleuze; reality itself is continual becoming, and humans the machinistic realization nodes of non-subjective affects, drives and desires. Reality contains a virtual aspect that connects the seemingly solid everyday objects to a necessary but invisible web of connections, influxions and investments (Deleuze & Guattari 1993; 1987).

Staging the Information Society

In order to overcome these anomalies, reflexive modernity invents the idea of "reinventing the political." This is the call to which the idea of digital social media answers with a promise of reorganizing the political and breathing new life into democracy. Information technology contains a huge promise: "Technology will make it increasingly difficult for the state to control the information its people receive. … The Goliath of totalitarianism will be brought down by the David of the microchip," as Ronald Reagan observed already in 1989 (quoted in Kalathil & Boas 2003), long before Al Gore allegedly invented the Internet. The crucial thing is not the availability of information but the relationship between information as reality and ourselves: "As game programmers instead of game players, the creators of testimony rather than the believers in testament, we begin to become aware of just how much of our reality is open source and up for discussion. So much of what seemed like impenetrable hardware is actually software and ripe for reprogramming. The stories we use to understand the world seem less like explanations and more like collaborations." (Rushkoff 2003, 37). The "interactive

renaissance" predicted by Rushkoff (2003, 39) promises a return of the political:

> Interactivity, both as an allegory for a healthier relationship to cultural programming, and as an actual implementation of a widely accessible authoring technology, reduces our dependence on fixed narratives while giving us the tools and courage to develop narratives together. … We have witnessed together the wizard behind the curtain. We can all see, for this moment anyway, how so very much of what we have perceived of as reality is, in fact, merely social construction. More importantly, we have gained the ability to enact such wizardry ourselves.

The promise of social media is that technological innovation is giving voice to a plurality that used to be choked by the bottlenecks of "broadcasting". In harmony with the logic of networks, the ailment and the cure stem from the same root: the centralized subject of totalitarianism and authoritarianism is replaced by a multitude of voices generated by the immateriality of work in the information society. As Hardt and Negri (2000) point out, immaterial production makes ownership superfluous and gives the workers the possibility of mastering their own social order. A dream is born; the dream of cybercommunism, where the networked subjects interact in producing intangible bits in a cornucopian community unlimited by the scarce resources of a material world (see also Merten 2000).

This dream is preceded by the idea of a frictionless capitalism. Corporations outsource risks, both economical and ecological, to consumers who also work as co-designers of the new products. In addition this means individualization of corporate risks, a phenomenon sociologist Richard Sennett (2003) has labeled as "cd-rom economy." In

the center there is a laser which reads the most essential information needed to run economic operations properly. In the present 'lean' organizations these lasers consist of a group of executives and operative leaders who rule, makes decisions, set tasks, and assess the results.

Reinventing the political gives two new directions for "creative and autonomous" action. First, it means the overcoming of the old left-right classification, and, second, the birth of politics of the everyday or biopolitics. While class-consciousness as an empirical experience has, indeed, faded in many First World countries, class structures have not gone away. Politics is no longer an attempt to make decisions according to an analysis of these positions (left vs. right, working-class vs. capitalists) but rather reaches to a world categorized beyond the old distinctions. The basic questions are: how do you deal with uncertainty, foreigners, living together? (Beck 1995, 65.) These questions are faced in the rocky waters of everyday life, far beyond the familiar shores of political parties. Immense possibilities for economic and political action (double-dealing, free-riding, being an entrepreneur) and unsatisfied needs (new age, spiritualism, porn, reality-reality) are created alongside with urges for a new clarity and hardness (extreme sports, self-mutilation, anorexia, obsession with health and food, religious and atheist fundamentalism). Reflexive modernity does not imply the fulfillment of the broken tradition of enlightenment, a renaissance of the people and its freedoms, but rather a renaissance of a staging of the people and the staging of a renaissance of the people (Beck 1995, 66).

"Information society" is properly understood as a name for this charade, the reality TV or, better yet, reality-YouTube of everyday life, where we try to act so as not to reveal that we are acting. Reality TV is at its best when it stages a real competition or takes home the advertising money while someone presents the unorthodox choices they made in their everyday life. For instance, they might have chosen not to wear underwear ever again or to find a suitable sexual partner for their parents. Being extravagant and being a freak is tolerated as long as it

does not disturb the peace of the consumtariat; what if somebody decided to be a Nazi or a racist? As Žižek (2002a, 542) asks: "Can one imagine a better summary of what the freedom of choice effectively amounts to in our liberal societies?"

Demos and Actuality

The theory of reflexive modernity does recognize some of the problems of postmodernity and the need for new conceptual and pragmatic models, but the tools it offers (politics of the everyday, creativity, new solutions to new problems, new one-issue movements) are not sufficient to shake the structures of economic production or social life. The liberal system is by definition ecumenical, listening to the voice of all particular groups (from feminists to fair trade activists) equally and patiently, as long as these groups do not reach outside democracy itself. All critique is allowed, even welcomed, as long as the plethora of critiques is under the umbrella of "critique of globalization" and without any meaningful unity. We have created a politics without the political, where all you can do is either stay in (to form alliances and try to be close to the core of decision making) or form yet another social movement and join the queue.

What both of these possibilities neglect is the level of "concrete universality" where a single-issue movement no longer stands only for itself but for the whole, the society as a totality:

> the members of the *demos* (those with no firmly determined place in the hierarchical social edifice) presented themselves as the representatives, the stand-ins, for the whole of society, for the true universality ('we – the

> 'nothing,' not counted in the order – are the people, we are all, against others who stand only for their particular privileged interest'). Political conflict proper thus involves the tension between the structured social body, where each part has its place, and the part of no-part, which unsettles this order on account of the empty principle of universality, of the principled equality of all men qua speaking beings, what Étienne Balibar calls *égaliberté*. Politics proper thus always involves a kind of short circuit between the universal and the particular; it involves the paradox of a singular that appears as a stand-in for the universal, destabilizing the 'natural' functional order of relation in the social body. The *singulier universal* is a group that, although without any fixed place in the social edifice (or, at best, occupying a subordinated place), not only demands to be heard on equal footing with the ruling oligarchy or aristocracy (that power) but, even more, presents itself as the immediate embodiment of society as such, in its universality, against the particular power interests of aristocracy or oligarchy. (Žižek 1998, 988-989)

If the multitude of movements acts as critiques of power and as "resistance", what happens when power is no longer criticized or resisted but taken and used? As Žižek (2004a, 199) writes, the Zapatista leader "subcommandante Marcos" – also known as Rafael Guillén – who speaks for various voices of criticism of globalization is an important icon of resistance. But what happens when this masked man who speaks for the oppressed and knows the feelings of his people turns into a powerful president? *Vestibulia terrent.* The politics of multiple voices is faced with a dilemma: *ad hoc* diversity is by definition resistance, while the wielding of power necessarily turns into a

totalitarianism that is forced to swallow the bitter pill offered by the World Bank, the IMF and the WTO.

Does not the dilemma of reflexive modernity also characterize the concept of information society? Does not the notion also cover up its material roots? Does not the information society contain a notion of freedom that is purely formal? In other words, does not the information society exist in a vacuum created by ideological-economical necessities? Do we not need an information society of actual freedom, where the structure of the ideological setting, its material conditions and the nature of the subject can all be changed? Žižek (2002a, 544) defines formal freedom "as freedom of choice within the coordinates of the existing power relations, while actual freedom designates the site of an intervention that undermines", contradicts and problematizes these very coordinates. Thus an act of actual freedom breaks the seduction of symbolic order and even if coerced chooses as if not (Žižek 2001, 121). The idea of actual freedom demonstrates how what we used to call the information society (like any other form of society a symbolic order) is lived and reproduced as if it were real or at least in the process of becoming real. In this precise sense actual freedom refers to the social existence in which the expression 'as if' always already defines that which is only just becoming. Actual freedom thus draws a revolutionary line in which the future is at hand and "we already are free while fighting for freedom, we already are happy while fighting for happiness, no matter how difficult the circumstances" (Žižek 2002a, 559). Freedom is based on a misunderstanding: The king is still alive, but we act as if he was dead.

Political Economy and Digital Media

When we want to analyze digital literacy as separate from a more general notion of media literacy, the analysis has to be based on the properties of digital media and the uses that give them their distinctive nature. An account of digital literacy guided by an understanding of digital technology will, in turn, direct attention to the overall features of the development of information societies. Views of what we want to call strong digital literacy should imply a vision of what a desirable information society is all about. The *differentia specifica* of digital media – interactivity, multimodality and non-linearity, possibilities for recombination and perfect copying – are not neutral toward established forms of society. To take one example only, the convergence of media technologies made possible by digitalization is rapidly changing the entire landscape of forms, use and ownership of the media. And when it comes to the concept of digital literacy there is a hegemonic struggle going on regarding its uses and definition. As Lankshear and Knobel (2006) characterize the two aspects of the current debate:

> First, currently prevailing views of digital literacy share in common the ideas that there is a 'thing' we can call digital literacy; 'it' is singular; its essence can be rendered as a standardised measurable competency – or unified set of more specific competencies and skills; and it comprises a 'truthcentric' ideal of information proficiency. Second, in the established world of conventional print-based literacy various agents and organisations take it upon themselves to define what literacy is, to teach it, measure it, assess it, and remediate it – in a word, to universalise and standardize it. Similarly, we find government bodies as well as non-governmental organisations like the Global

> Digital Literacy Council, the Educational Testing Service (ETS, USA), the International Society for Technology in Education (ISTE), and the OECD's Program for International Student Assessment (PISA) currently taking it upon themselves to do exactly the same in the area of digital literacy.

From the critical point of view one can argue that digital literacy has been rapidly colonized by various international bodies as well as supranational and intergovernmental unions who use it as their tool to govern, or who, in Foucaultian vocabulary, they practice "governmentality." The battle over definitions is one thing; another is an unprecedented concentration of media ownership as the key consequence of the digital revolution. In terms of political economy "the complex structure of power between states, capitalist markets and social groups has shifted to a great extent towards the interests of powerful private capitalist actors and institutions in what is often described as global civil society" (Wilkin 2002, 18). Thus, one obvious answer to the question of why a perspective of political economy is needed when analyzing digital literacy is that "we are living at a particular historical juncture of unregulated capitalism with an overwhelming income reconcentration at the top" (McLaren 2000, 98), and as a consequence, power has shifted out of the public realm and into the realm of private corporations.

Simultaneously, the digital media have been celebrated as a tool that inevitably leads toward democratization and the emergence of different kinds of grass-roots civil society activities. Digital literacy promises a leap to authorship, the transformation of "receivers" into active creators, collaborators or authors of new media content. However, this promise is counteracted by contemporary large scale economic trends "in which the market becomes the master template for all human affairs, … a dystopian vision designed to affect almost every dimension of everyday life, including large cutbacks in social programs, freeing market forces

from government regulations, and the ongoing privatization of government services, public goods, and non-commodified spheres" (Giroux 2003, 468). As a result, information societies face an internal tension between the technology- and a profit-driven information society agenda promoted by the international mega-companies and the richly varied agendas of the civil society representatives, including the hackers and hactivists who still today initiate groundbreaking technological developments. This internal tension is well portrayed in the declaration called "Shaping Information Societies for Human Needs" that was issued by the civil societies to the UN World Summit on the Information Society in Geneva 2003:

> We are conscious that information, knowledge and the means of communication are available on a magnitude that humankind has never dreamt of in the past; but we are also aware that exclusion from access to the means of communication, from information and from the skills that are needed to participate in the public sphere, is still a major constraint, especially in developing countries. At the same time information and knowledge are increasingly being transformed into private resource which can be controlled, sold and bought, as if they were simple commodities and not the founding elements of social organization and development. Thus, as one of the main challenges of information and communication societies, we recognise the urgency of seeking solutions to these contradictions.[1]

1 The same sort of emphasis as in this Geneva declaration can be found from the final report "A Fair Globalization: Creating Opportunities for All" (2004) of The World Commission on the Social Dimension of Globalization, which was initiated by the International Labour Organization (ILO) as an independent body to respond to the needs of people as they cope with the unprecedented changes that globalization has brought to their lives (see http://www.ilo.org/wcsdg).

The notion of digital literacy is at the very heart of this tension. From the political economy perspective it is not enough to analyze and define (digital) literacy as a mere technique or a simple question of basic literacy taught at schools. As Lankshear and Knobel (2003, 5) point out in a Freirean tone, literacy is a form of political action and political acting in the world. In this sense to be (digitally) literate is "to read the word and the world", that is, to analyze and understand the results and consequences of one's actions better than before in their socio-political context. And based on the new understanding of the world, to criticize and to change the world for the better.

Furthermore, as a politico-structural concept defining the character of the information societies to come, digital literacy contains the issues of authorship and ownership of information and thus invites a perspective of political economy (for a definition of political economy of communication, see McChesney 1998; Wilkin 2002). Political economy of communication and digitalization often refers to the issues of ownership and control of the means of communication, that is, to the issue of media concentration, and its effects on the structures of power that exist between states, capitalist markets, and various social groups seen in terms of class, gender, ethnicity, race, and nation (Wilkin 2002, p. 20). The crucial point from a political economy perspective is that media concentration fosters two problems in the media; those of hypercommercialism and denigration of public service (McChesney & Nichols 2002, p. 52). As McChesney & Nichols (ibid. p. 55) state:

> Nowhere is the commercial marination of the American mind more apparent than in the case of children, where advertising assault was increased exponentially in the 1990s. … This desire to indoctrinate fuels the commercial drive into education and suggests that the moral foundations for coming generations may be resting on a dubious base. Nobody knows what the exact consequence of this

> commercial blitzkrieg upon children will be, but the range of debate extends from 'pretty bad' to 'absolutely terrible.' The only thing we know for certain is that the media giants and advertisers who prosper from it do not care and cannot care. It is outside their frame of reference.

Thus, the basic lesson to be remembered in political economy of digital literacy is that the frame of reference of the media corporations and their entertainment industry is to make a profit, and not to teach democratic thinking or public understanding. The latter is our and our fellow citizens' global task as human beings, social actors and media activists. Vandana Shiva (2003), one of the leading figures of the global democracy movement, writes:

> We are witnessing the worst expressions of organized violence of humanity against humanity because we are witnessing the wiping out of philosophies of inclusion, compassion and solidarity. This is the highest cost of globalization – it is destroying our very capacity to be human. Rediscovering our humanity is the highest imperative to resist and reverse this inhuman project. The debate on globalization is not about the market or the economy. It is about remembering our common humanity. And the danger of forgetting the meaning of being human.

As a politico-structural concept that defines the character of the information societies to come, digital literacy contains the issues of authorship and ownership of information and thus invites a perspective of political economy. This means that in order to be able to live a democratic life, digital literacy in its various forms is a fundamental prerequisite. In a political economy context, digital literacy is crucial "to our ability to act as critical, reasoning beings, making judgments about

the factors that affect our daily lives" (Wilkin 2002, 59). Thus we would like to envision – largely in the spirit of the declaration above – that in the near future the primary educational as well as political meaning of digital literacy has to refer to a world in which everyone has an opportunity to create, access, share, and disseminate information and knowledge free of charge in order to educate and empower themselves, and define their quality of life locally and in their own terms. This task, of course, is a contested one, and contradicts the official – yet illusory – world-scale politics of economic agencies, such as the WTO.

One of the most obvious examples of how the WTO policies are further polarizing the information societies to come is the TRIPS ('trade-related aspects of intellectual property rights') agreement that "was the first stage in the global recognition of an investment morality that sees knowledge as a private, rather than public, good." (Drahos & Braithwaite 2002, 10.) The agreement "effectively globalizes the set of intellectual property principles it contains, because most states of the world are members of, or are seeking membership of, the WTO. … Every member for example, has to have a copyright law that protects computer programs as literary works, as well as a patent law that does not exclude micro-organisms and microbiological processes from patentability." (Ibid.). Consequently, "no one disagrees that TRIPS has conferred massive benefits on the US economy … or that it has strenghtened the hand of those corporations with large intellectual property portfolios." (Ibid., 11).

The problem here is double. First, there is the basic ethico-political problem that knowledge and information that have been created by the many during centuries if not millenia are now, in the 21st century, closed and commodified, given to the hands of the few. Second, there is the practical problem that an agreement like the TRIPS treaty structurally tends to favour established mega-companies, not the 'copyright-holders' of, say, indigenous knowledge (see Shiva 2001). As for the first, fundamental problem, the UN Economic and Social Council Sub-

Comission on Human Rights suggested in August 2000 that implementing the TRIPS agreement may violate basic human rights including "the right of everyone to enjoy the benefits of scientific progress and its applications … there are apparent conflicts between the intellectual property rights regime embodied in the TRIPS agreement, on the one hand, and international human rights law, on the other" (quoted in Drahos & Braithwaite 2002, 200).

In sum, an outline of the core ideas of the political economy approach related to the various forms and practices of digital literacy can be presented as follows. First, social phenomena such as digitalization locate and exist within a historical and structural context shaped by the mode of production and class relations, which change over time. Second, these phenomena of digitalization should always be analyzed in the global context for they have global effects. Third, different classes and groups have different interests in a digital world, which are often contradictory and conflicting. Fourth, besides the global level the conflicts in the digital world are reflected at the state level, and hence national and regional public policies (i.e. EU-policies) should be analyzed in terms of the varying forms and conditions of inequalities in society (Rantala & Suoranta 2008). Fifth, intellectual and cultural life is formed by the capitalist mode of production, and the struggle for ideological hegemony must happen both in the globalities of the Net and the Wikiworld, and in the institutions of the state and in the civil society. And sixth, we need to emphasize, as Youngman (2000, 30) does, that "opposition to the existing capitalist socioeconomic order is expressed not only by political parties but also by social movements and other organizations in civil society which articulate alternative conceptions of society and how it should develop." In addition, it is extremely necessary to maintain that at the present age of digital literacies many organizations of civil society "seek to transform people's understanding of society and thereby engage their support in struggles to change

society" (ibid., 30). The message we take is that the ideological game is not over. It is only starting.

Strong Digital Literacy: the Leap to Authorship

Digital technology creates cultural spaces – such as the Internet – in which the participants are not designated clear cut roles as "senders" or "receivers". "Interaction" is the key word of the digital age. Digital technology is different from the previous media precisely in that it makes it possible to take part in shaping the "how" (the vehicle carrying the message) of the storytelling as well as the "what" (the content of the message) of the story itself. Even if these two could be separated on the abstract level, in practice they work together; the total effect of the story is in the combination. Therefore the analysis of media should also bring the "what" and the "how" ultimately together. This need for unity is only increased by the digitalization of communication technologies.

If digital literacy is considered only from the point of view of skills of interpretation and strategies of reception, the digital media are degraded into just another channel of distribution. This weak or narrow interpretation of digital literacy has to be augmented by a stronger version that includes as its core element a leap to authorship. The concept of authorship in digital literacy refers to the idea of actual freedom as separate from formal freedom. Paradigmatic examples of formal freedom would be choosing from the preset electoral candidates or ready-made curricula or from the pre-existing matrix of proprietary software. On the other hand, actual freedom would mean learning from experiences in the context of everyday life in order to transform and change it (for instance, creating revolutionary uses of the Net for local

empowerment or using and creating free software according to particular needs).

An essentially Western assumption is, and has been for several decades, that the learning and teaching of diverse modes of literacy belongs to the school. As many thinkers and commentators across the political spectrum and from various disciplines have suggested, this assumption does not necessarily hold anymore, for the schooling system, as we know it, is a modern institution which cannot meet the needs and demands of strong digital literacy, and actualities of the everyday life. As Stanley Aronowitz (2004) has pointed out, fiscal exigency and a changing mission have left public education in the US and elsewhere in a chronic state of crisis. Among the main issues is the question of whether schools are failing to transmit the general intellectual culture, its democratic institutions "and the citizens who are, in the final analysis, responsible for maintaining them." Aronowitz refers to the words of Hannah Arendt who (1961) went "so far as to ask whether we ‘love the world’ and our children enough to devise an educational system capable of transmitting to them the salient cultural traditions."

The leap towards digital authorship prompts an analysis of questions of political economy from a fresh angle. The possibilities of strong digital literacy are not affected only by ownership of channels of distribution or by the impact of social class on education, but also by the self-organizing and self-determining creation of communities of communication. In the digital era, the creation of communities implies questions of the ownership of the "code" which is more like an abstract form than a material quantity. Digital code can be re-programmed and re-distributed, unlike physical objects. The malleability of code, and the "softness" of software, has given a reason for hoping that digital media is in some sense more democratic than the previous forms of communication. The freedom to create discussion groups, newsletters, global communities, Web logs and so on has been seen as a sign of a new renaissance of creativity and resistance in terms of democratic civil

society. As the eminent peace researcher Johan Galtung has observed, the trend of media concentration has been counteracted by the Internet revolution. According to Galtung's (2003) optimistic view:

> The access monopoly is to some extent broken. Even a poor village, with neither electricity nor telephone, may sustain one computer powered by solar cells, and connect with a cellular phone if the signal is good enough. They can download technologies produced by intellectuals who have not sold their souls in those Faustian deals with State and Capital. And they may make inputs themselves to the WGIP, the World Gross Idea Product. Sooner or later this will have a revolutionary effect, particularly on the position of the intelligentsia. The world's libraries are available and search engines do the search, which means people not educated/brain-washed by established institutions may see new connections, or prefer to work on the basis of immediate, less mediated experience. The sky is the limit.

Indeed, digital technology has provided new counter-media to the prevalent corporate media. In March 2003, after the attack on Iraq, "Al Jazeera" replaced "sex" as the most sought-after term on the Lycos search engine ("Al-Jazeera Site Clicks with Net Users" 2003, "Web surfers flock to Al-Jazeera", 2003). This indicates at least two things. First, the Net is possibly more pluralistic than a corporate TV or newspaper media. Second, it means that people in the North can be moved culturally, socially, and politically by information that contradicts some of their cultural assumptions. In this sense they are capable of being challenged – of being touched, and influenced – and in that sense "wounded" by the content that does not share their presuppositions of the world. While the Qatarian Al Jazeera might not be that far from a

cultural setting more familiar to us, it proceeds from concerns and cares which are somewhat different from those of the Western corporate media, and can therefore, at best, throw new light on cultural perceptions and manufactured consent. In a more cynical, or perhaps realistic, sense one can imagine that there is a constant (information) warfare in the media sphere, and as a consequence, all the possible means of propaganda and 'perception management' are in active use in the fight between the West and the rest of the world.

However, in the era of digital hegemony and an endless "war on terror", the idea of digital freedom is more a suggestion to which it is easy to pay lip service than a realistic option. As digitalization is driven by the push for commercialization as opposed to the pull of cultural pluralism, there are few signs in the apparently free markets of digitalization that would benefit the poorest of the poor. Those critical minds living and sharing the everyday traumas of capitalism in developing countries, such as the Indian writer Arundhati Roy, see the present predatory globalization as a war launched by the rich against the poor in which poverty and protesting against further impoverishment are "being slyly conflated with terrorism" (Roy 2004). As Roy (ibid.) puts it: "It goes without saying that every war Empire wages becomes a Just War. This, in large part, is due to the role of the corporate media. It's important to understand that the corporate media doesn't just support the neo-liberal project. This is not a moral position it has chosen to take, it's structural. It's intrinsic to the economics of how the mass media works."

The leap to authorship and the possibility of being touched by information and communication over cultural barriers are needed in overcoming the digital hegemony of the Western media giants. Authorship and "the ethics of being wounded" are among the key factors of strong digital literacy. This pluralist view of the information age implies that we should not think of "information societies" in the singular with a linear uniform transformation from the industrial era to an informational age and beyond. On the one hand, pluralism and non-linearity mean that

the wealthy people of the West are able to be and should be wounded by digitally transported messages and contents from other parts of the world, and, on the other hand, that non-Westerners as "significant others" are free to find ways of authoring their own digital contents.

Digital Contents as Resources

Digitality as a property of information processing is created by different technological means (electrical, optical, magnetical, etc.), but has the general characteristics of making possible the (near) perfect copying and (near) unlimited distribution of the information content. Digital information is essentially binary, consisting of, e.g., 1s and 0s coded in a suitable physical medium. The reproduction, copying and distribution of digital information (strings of 1s and 0s) are substantially different from the reproduction, copying and distribution of analog information (such as the printed page or speech). The crucial point is that not only is the copying and redistribution of digital information much more precise but digital information can also be copied and redistributed with a minimal price compared to analog information.

As Wilkin (2002, p. 59) has maintained, "in order for citizens to be able to develop their ideas about politics, economy and culture, it is necessary that there is an adequate supply of information that is both diverse and which aims to inform and challenge received opinions." But this is not enough. There also have to be adequate means and technologies for the production, distribution, reception and storage of the relevant information. One of the technological beauties of the Internet is that the network is an effective multi-purpose distributor of information packets. The net does not discriminate between packets on

the basis of their content (in fact, the TCP/IP protocol does not provide a way of knowing what the content is).

This basic technological fact has wide socio-political consequences. The most pertinent implication in terms of political economy of digital literacy is, first, the near to zero price of copying and, second, the nearly perfect quality of copies which make digital contents possible as free public resources. This means that digitalization has democratic potential: It can act as a scarcity-remover. After the adequate infrastructure exists, digital information can become available for everyone for a very small price. However, this technological possibility is far from reality at the moment. Since the business model of large content-producing corporations (Hollywood industry, software industry, news and entertainment industry) is based on the scarcity of content, and since digital information and communication technology (ICT) has the potential of removing that scarcity, it is in the interest of the corporate world to try to create mechanisms of "artificial" scarcity, and to erect barriers to the abundance of digital content. These mechanisms include legislation ("intellectual property"), technology, policy, and education. Digital technology is reducing scarcity, legislation is producing it: this is one of the basic tensions built in information societies.

Even if digital information can remove major barriers of distribution, there is no guarantee that it would actually do so. On the contrary, there is every reason to believe that relative wealth rules the Internet. The notion of "intellectual property" functions largely as a scarcity-producer. Most assets on intellectual property rights are owned by a few mega-companies from the Northern hemisphere. The idea of intellectual property rights is to commodify content by creating both the legal and technological means, and, more importantly, the ideological will to treat digital content as commodities, with the ensuing benefits of protection that property enjoys. Given the current forms of economic production and corporate markets, it is important to notice that the liberating potential of digital information necessitates countermeasures that

manifest not only in media ownership, but also policy, legislation, and the development of technology. The details of the technological infrastructure both on the hardware and the software side have wide consequences for possibilities of use. And again, what matters is not only the architectural details per se, but even more importantly the questions of ownership of technological means (patents, etc.) as well as digital content (copyrights, etc.). The digital technologies that liberate information are the very same technologies that give the possibility for almost perfect control over the distribution of content. A systematic tension between civil societies and the corporate world occurs again and again since the possibility of liberating content applies to copyrighted content too, and because in the digital age the extension of copyright has grown almost exponentially.

The profusion of digital technology contains a mixed if not contradictory set of practices that both support and undermine the development of wide-spread digital literacy. The basic contradiction is the following: The quick development and distribution of digital technology promises to deliver digital information to any place at any time. This is the great democratic potential of digital technology. However, the structure of production and the corporate logic are based on a market where digital content (like any other "consumer good") is considered as a scarcity and in which its distribution can be controlled so that a continuous revenue stream can be guaranteed. Both an authoritarian national regime and a mega-company like Disney or Microsoft want to control access to information, the former for reasons of controlling political opinion, the latter for reasons of continued demand for commodified information and profit. For both, however, the need for control of digital information creates a need for control of digital technology and, *a fortiori*, of the skills and abilities needed for digital creation. This explains the emphasis on computer and media literacy in the national curricula across the globe and gives a new urgency to the call for strong digital literacy.

3. Radical Monopolies

The wish to control digital information implies a need to control and monopolize digital literacy. According to Ivan Illich (1980, 55) monopoly has traditionally meant "exclusive control by one corporation over the means of producing (or selling) a commodity or service." Radical monopoly, on the other hand, means "the dominance of one type of product rather than the dominance of one brand." In other words monopoly is radical when "one industrial production process exercises an exclusive control over the satisfaction of a pressing need, and excludes non-industrial activities from competition." Illich's (ibid, 56) example is the school institution which has tried to extend the idea and practice of radical monopoly on learning by redefining learning as education and training.

One important yet problematic aspect of radical monopoly has been the rise of an expert and corporate-led society through modern schooling systems. Thus, radical monopoly has existed where learning as school education has ruled out natural competence. In addition, the transformation of learning into education paralyzes human beings' "poetic ability," that is, their power to endow the world with personal and socially rewarding meaning. "Radical monopoly imposes compulsory consumption and thereby restricts personal autonomy. It constitutes a special kind of social control because it is enforced by means of the imposed consumption of a standard product that only large institutions can provide." (Illich 1980, 56.) Radical monopolies have been exercised by mega-corporations that train obeying workers.

Illich (1980, 58) maintains that people have a natural capacity for practices like healing, learning, building their homes, and burying their dead. Each capacity meets a need, and the means for satisfying these

needs are abundant "as long as they depend primarily on what people can do for themselves, with only marginal dependence on commodities." In other words these activities have locally relevant use-value instead of abstract exchange-value.

The crucial turning point is the moment when these basic capacities can no longer be met by abundant competences; in such a situation peoples' basic satisfactions become scarce. In consequence the establishment of radical corporate monopoly occurs; people are forced to give up their native ability to do what they could do for themselves and for each other. Radical corporate monopoly thus substitutes the standard packages for the personal and social response. It introduces new classes of scarcity (teachers, physicians, information technology technicians, consultants, lawyers, software engineers, and many more experts), and new devices to classify people according to their possibilities to act as good consumers. (Illich 1980, 58.) Therefore, radical corporate monopoly makes people dependent on global corporate forces that are neither in people's social nor political control.

Like literacy in general, digital literacy is rapidly becoming dominated by a radical monopoly in the Western world. Hackers and computer enthusiasts from the 50's up to the 70's were able to build their own computers and thus to have a native capacity to satisfy their own ICT needs. While this might still be true for a group of hackers, most people have to learn ICT skills in a world that is almost perfectly controlled by pre-configured computers with monopoly operating systems and web browsers, pre-configured uses of the Internet and the mobile phone. It is this radical monopoly that we need to see as a real threat to strong digital literacy.

The Wikiworld consists of those "tinkerers" who, in the words of Vaidhyanathan (2004, 100) while repairing equipment "often master the skills of dubbing, editing, remixing, and distributing video" and other media. However, this kinds of "nativity" in the abilities and mastery of the symbolic forms necessary for the production of digital content is

currently being counteracted by a massive trend of commodification of digital information and the architecture of digital technology. This trend not only concerns digital content (such as music, movies, and stories) but increasingly the very "code" in which digital content is expressed. The commodification of code happens under the name of "intellectual property" – a 20th century innovation that spells trouble for the enlightenment ideals of non-authoritarian use of reason and growth of scientific knowledge. Intellectual property is created through legislation concerning immaterial rights including patents, trademarks, and copyrights. During the last century, the term of copyright protection was extended 11 times in the US (Lessig 2001). At the same time, the scope of patentability has grown considerably; in the US concurrently both software (i.e., algorithms and their applications) and the biological "code", such as genes, of organisms can be patented. More importantly, through the actions of institutions such as WIPO and agreements such as TRIPS, the US-style IP legislation has been increasingly globalized. At the same time, through the concentration of ownership of media, software and related companies, intellectual property has become increasingly concentrated. It has been estimated that industrial countries hold 97% of the world's patents.

The imbalance and inequality of the commodification of IP has been graphically illustrated in the case of bio-patents. Western companies have been able to patent genetic lines of plants, such as rice, which have been in indigenous use for centuries in the developing countries. Such IP schemes clearly create further dependence. However, it often goes unnoticed that when it comes to digital content, the current trend of commodification threatens to create equally big problems of dependence and to create obstacles for digital literacy. If the (software and hardware) tools and skills needed for digital content production are increasingly owned by media and software companies, the possibilities of a globally balanced digital literacy look bleak.

In many developing countries a very high percentage of computer software exists as illegal copies – illegal in terms of the TRIPS-related copyright law. The "piracy" rates often exceed 90% of the total number of programs. When the price of a legal copy of a program often corresponds to several months' if not years' mean income, it is easy to see that the notion of IP effectively functions as a tool for widening the digital divide. Again, there are two issues involved. One concerns the economic side of the issue: the US Congress decided in the 19th century not to recognize European "IP" legislation because paying license fees to the old continent would have slowed down economic development. It is safe to assume that the emerging global IP regime works in the same way hindering the economic possibilities of the developing countries.

The other side of the issue has to do with literacy. It is well known that some sort of "piracy" is often connected to the birth of a widespread native literacy. The Catholic church did not exactly call the early protestant translators of the Bible "pirates", but the content and the tone of the Church was quite close to the content and tone that, for instance, the most rabid proponents of the recording or software industry use against illegal copying. The historical example also points out that a new kind of literacy is a phenomenon of wide cultural ramifications.

Radical Monopoly and Public Education

Public education is also under corporate attack and radical monopolization by multinational corporations that view education as a frontier to be conquered. Critical educators want to fight against the tide of corporate assault and they want to give teachers and practitioners in formal and non-formal education the necessary tools to fight the capitalist wave. The problem is that more and more education is lacking public funding

not only in developing countries but also in such welfare states that are rapidly turning into helpfare states as in Finland. As Giroux (2003, p. 471) has put it, the recent space of power "appears beyond the reach of governments and as result nations and citizens are increasingly removed as political agents with regards to the impact that multinational corporations have on their daily lives." As a result, those public places are eliminated that "link learning to the conditions necessary for developing democratic forms of political agency and civic struggle."

Manuel Castells (2001, 259-260) has acknowledged the fact that new learning technologies are not used properly in public education. It lacks sufficient technological resources, since it is territorially and institutionally differentiated by economic and ethnic factors (class and race). Access to the Internet requires teachers with appropriate proficiencies, but such teachers are unevenly distributed from place to place. In addition, pedagogical climates vary greatly between educational institutions in different countries. In some countries emphasis is put on ‘opening the mind’ (via experimental curricula, progressive learning and teaching methods, and with the help of new information and communication technologies), whereas in other countries, due to a lack of material and human resources, schools are more or less forced to act as child warehouses. Finally, the lack of resources leads to a form of parentocracy in schooling. Parentocracy is a phenomenon in which parents (very often single mothers) have to take over all of their children’s upbringing and their overall education and training. Under hard economic and social pressures the burden can sometimes become too heavy to handle. In these circumstances children are bound to learn their "attested inferiority" (Tammilehto 2003, 47).

The general problem of the corporatization of public education is that whereas learning is one of the basic human functions both in coping with and in transforming reality, formal education in the modern era has primarily served the aims of the state or capitalism; in the words of Althusser, it has served as a major ideological apparatus. Hence, in the

age of digitalization of information, formal and non-formal education systems in the West have ended up in both internal and financial crises. In order to "survive", to keep their authorities alive in the field of information, schools, adult education centres, and other sites of teaching and learning need to be transformed from ‘islands’ into ‘hearts’ of their own communities, for learning and teaching have always been shared enterprises.

One step towards this transformation is to begin to see formal and non-formal education as phenomena which are tightly integrated into their virtual and ‘real’ communities. In general terms this integrated view of education consists of two parts (see Suoranta & Lehtimäki 2004, 85-87). The foundation would involve learning general skills needed in an information society. However, what constitutes these general skills is a controversial issue: the components that were perceived as general skills before are not necessarily central in today’s society. In the end, the notion of general skills is subject to socio-historical context, agreements and values. For example, it may be that, as a result of changes in a nation’s values, versatile self-expression is replaced or supplemented by the skill of listening and remaining silent while others speak (see Welton 2002).

With respect to comprehensive education, the following can probably be counted among general skills, the significance of which does not diminish with time and upon which other know-how can be built: reading and writing (understood in the wider sense of digital literacy), counting, and physical and playful cooperation in the form of physical activity that prepares children for sociability and coordination. In addition to these general skills, in school education, adult education, and higher education, there is a need for integrated multidisciplinary thematic units, which could combine traditional literacy with digital literacy in the use of the various media technologies and versatile and experimental expressive skills. Henry Giroux (2000a, 33) writes about experiences in the United States:

> A growing number of alternative school programs and universities have developed very successful media literacy programs and mass communications programs, which, unlike computer technology programs, do not reduce digital literacy simply to learning new skills. These programs allow children and young people to tell their own stories, learn to write scripts, and get involved in community action programs. They also challenge the assumption that popular culture texts cannot be as profoundly important as traditional sources of learning in teaching about important issues framed through, for example, the social lenses of poverty, racial conflict, and gender discrimination.

The integrated view of education should not be based on a shortsighted preparation for the information society. Rather, it should be based on a shift from learning isolated subjects alien to reality toward a multimodal curriculum that would respond to the change in society, reproducing and challenging the media world as encountered both by children and adults, and through these means enabling the reinforcement of their identities and skills in the art of living as well as the analysis and critique of the global media-cultural situation. If we were to add here the aim of transforming formal and non-formal educational institutions into the nuclei of democratic society, into arenas for participation and oases for caring about other members of the community, we might locate certain values that could foster people's growth into participatory and critical human beings.

We believe that these changes, although necessary but not by any means sufficient, would have dramatic effects in the way we see and define not only information and teaching as transmitting information, but also the idea of human being in general. These changes in the ideas of formal and non-formal education are part of a struggle against the

machine, that is, against the recent trend of super states like the US and the EU to turn educational institutions (from primary school to universities) into pure profit-making factories and radical monopolies of information.

Radical Monopoly and Computer Software

Let us take another example: computer software. A classic question concerning literacy has been the question of the access to information using one's native language. The question easily translates to questions of, for instance, the language in which information on the web is presented or the localization of computer software. Again, the loop should be widened to include questions that have to do with the ability to produce digital content (e.g., web content, software, images, video and sound). These abilities are closely related to skills that have to do with the use of the computer and other digital devices; these skills crystallize in their most basic and most powerful form in the skill of programming.

A computer program is typically owned by its author. The end user is given permission to run the program if she accepts a license agreement. The license agreement states, among other things that the user is not allowed to copy modify or redistribute the program. Such an act would be technologically possible, even easy (especially if the program were not made technologically more cumbersome by copy-protection measures), but the possible cooperation and abundance is cut short by the legislation proper. This in itself is already an artificially produced loss to the possibilities of strong digital literacy, as well as to the promotion of civil society through digital technology.

The problem, however, runs deeper. The user receives the program in a binary format that the computer can run but which is unintelligible to humans. A person or a programmer would need the source code (written in a programming language, not in 1s and 0s) of the program in order to study, understand and eventually modify or produce new versions of the program. Distributing software in closed binary code and bound by strict end user licenses is like distributing books in a format through which one cannot learn the letters or the words, and in which the book cannot be lent to a friend. The proprietary closed-source model for software distribution strongly discourages digital literacy, and in this case the skill of programming. Indeed, it can be claimed that even in the affluent countries the skills needed for digital authorship have not received the attention they would need. Digital literacy has deteriorated from the skill of programming to the skill of using Microsoft Windows.

Computer software is a telling example because it is always encoded digitally. Therefore its possibilities of distribution are the widest, and the measures needed for creating artificial scarcity are most severe. The measures include legislation concerning intellectual property rights (patents, trademarks, copyrights), copy-protection technology, patents on document formats, and patents on hardware. The radical monopolization of the desktop computer space is also a way of creating scarcity and discouraging openness.

The case of software is closely analogous to scientific knowledge (including theories represented in formal code, such as mathematics, large parts of natural science, programming, etc.), which receives its special status and credibility from the very fact that it is not owned: knowledge becomes scientific only through the open and free critique of the scientific community. To quote Jacques Derrida: "… in a scientific text … the value of the utterance is separated, or cuts itself off, from the name of the author without essential risk, and, indeed, must be able to do so in order to lay claim to objectivity" (Derrida 2002, 47). As a speech act, a scientific text has to be distinguished from the person or

persons who "sign" it, otherwise we are not dealing with a text that can assume the special characteristics, and authority and allowances acceded to a scientific text. This has been and still is largely the way in which scientific information and knowledge are severed from a concept of private property that is dependent on the link between a person and an entity. The author, the one who "signs" science, is the scientific community. A particular way of speaking, a particular type of speech act, i.e. scientific texts, creates a community and a way of appropriating knowledge that is different from the case of private property (as understood, e.g., in the Lockean sense).

A similar device for co-operating without the intrusion of private property has been developed in the case of computer software. So-called free/open source software is built by a community of share-and-share alike: the goal is to develop software that the user is free to use, modify and redistribute provided that the same freedoms are transferred. In this sense the ideal is close to the ideal of science. For this purpose the movement needs a legal and social tool, one that uses the copyright claim set on a piece of software for community building rather than private property building. This tool, developed by Richard M. Stallman and his co-workers is often colloquially called "copyleft": the copyright statement in question gives the user the right to modify and redistribute (the modified version of) the software provided that the right is also transferred (see Stallman 2002). This cumulative nature of the "copyleft" copyright protects the information and knowledge amassed in the software from becoming closed by ownership. The knowledge is appropriated inside the common control of the community.

Both in science and free software, the goal and the prerequisite is a community of sharing based on a certain set of common values and practices. Both can be seen as ways of acting, as power-structures, that are instrumental in creating an information society that contradicts the trends of seeing everything as code and setting up a system of ownership for code. As such the practices of these communities also demonstrate

that digital information processing (or any other technology) does not force us to accept the commodification of code and the ensuing radical monopolies.

Radical Monopoly and Social Media: Wikipedia and Freedom

Wiki, from the Hawaiian word for 'fast', is a web technology that enables users to modify existing web pages on the fly, to see the history of these changes and to discuss the contents of the page with other users. The technology is best known for the fast growing encyclopedia, Wikipedia.org, but is used also in many other projects of knowledge creation around the Internet. Wiki pages, or in the following just wikis, including different wikipedias, benefit from this technology of fast and easy creation and editing. However, it is only in connection with the hacker-originated culture of freedom on the Net that the Wiki technology gains its true potential.

The Wikipedia project has its roots in the hacker movement working in order to provide free software. The ambiguity of the word "free" merits further attention. Wikipedia is free in the sense of "gratis", but, more importantly, it is free in the sense of "free speech". The Wikipedia is licensed under the Gnu Free Documentation License (GFDL) innovated by Richard M. Stallman and the Free Software Foundation. In essence, the license says that one can use, distribute and modify text licensed under the GFDL provided that the redistributed and modified versions are also licensed under GFDL. This makes GFDL a so-called copyleft license. It uses copyright law in order to give the users more rights: the rights of redistribution and modification.

A copyleft license guards the content from lock-in or privatization: no institution can take the content and commodify it. Ideally, this

freedom is forever. In fact, like free software, free information under the GFDL has no exchange value, but does have a potentially big use value. In this sense a combination of Wiki technology and of copyleft licensing (such as exists in the case of the Wikipedia and many other wikipedias and wikis) provides a germ form of a new kind of "knowledge work". The social and political effects of such production are highly interesting and debated (see, e.g., Hardt & Negri 2004, 301ff, Žižek 2002b, 2006b, Merten 2000). From the economical point of view, the question of motivation is one of the most crucial: why do people engage in volunteer work like this without immediate economical rewards? The conditions under which voluntary non-alienated work are possible are of the utmost importance for the critical potential of open collaborative projects like the Wikipedia. We will return to this question after looking more closely at the promise of Wikipedia.

The Wikipedia has an obvious Gutenbergian potential. It is a free encyclopedia providing all the emancipatory potential of encyclopedias of the Enlightenment era, such as the *Encyclopédie ou dictionnaire raisonné des sciences, des arts et des métiers* (1751-72) by Diderot and D'Alembert. It makes encyclopedic knowledge accessible for free everywhere where the Internet is available, and in some cases even where it is not. CD-ROMs with a stable version of Wikipedia and even printed editions and special wikibooks are being produced to overcome the lack of Internet infrastructure. If Gutenberg's revolution was about making printed media more abundant, the Wikipedia has the same effect on digital information but on a different order of magnitude.

The Gutenbergian effect of Wikipedia with its different language versions is already being felt in educational institutions. Students borrowing material from the Wikipedia up to the point of "cheating" is a well-known phenomenon. Educators relying on the reproduction of ingested material in order to supervise the process of learning are having a hard time fighting this kind of use. More noteworthy is the fact that many teachers on different levels of education from the primary to the

university levels are starting to feel that some topics that have traditionally been lectured (like 3D animation engines, TCP/IP protocol and other "nerdy" subjects where the current state of Wikipedia is most advanced) are now better presented in the Wikipedia, and it is better to use the effort on something else. This wave will be felt during the next decades in all subjects in one way or another and will contribute to the changing nature of education and expertise.

However, this Gutenbergian potential is not the most interesting part of Wikipedia with regard to issues of critical media literacy or pedagogy. The fact that the Wikipedia is free in the sense of free speech, is, in our estimate, going to be much more influential. This second freedom has two important consequences that together can over time completely change our views on things like education, literacy and expert knowledge. Let us call these the internal and the external perspectives: internal meaning the process of creating wikipedia content, and external concentrating on wikipedias as whole entities. We do not want to call these the producers' and users' perspectives, as the point is precisely that the division between these roles will be blurred (Peters & Lankshear 1996, 62).

The External Perspective: The Proliferation of Wikipedias

From the external perspective the "free speech" freedom of Wikipedia makes possible limitless forking, that is, new modified versions based on the existing ones.[2] We should, indeed, be talking of the class of wikipedias, in which the current Wikipedia with its various language versions is one case and wikipedias – such as the Conservapedia (http://www.conservapedia.org), "The Conservative Wikipedia" – with

2 For forks of Wikipedia, see: http://en.wikipedia.org/wiki/Wikipedia:Mirrors_and_forks.

different viewpoints or attitudes form the next class. In fact, the different language versions can already be classified as content-forks, since their content is different to some extent (see, e.g., the English and French articles on human reproductive organs). The reasons for forking Wikipedia have so far included reasons of editorial policy, attitudes on advertising and, most importantly, different rationalities or points of view behind the content. In essence, when talking about the forks of Wikipedia or the class of wikipedias in general, we are dealing with the politics of knowledge production.

Currently, Wikipedia has a policy of "Neutral Point of View" (NPOV): while discussing controversial issues, Wikipedia articles "must represent all significant views fairly and without bias." The NPOV is self-consciously a view, not the absence of all views. This means that like the Encyclopedias of the Enlightenment, the Wikipedia does contain a rationality of its own. The excessively scientific-positivist rationality of the Enlightenment has been amply criticized in the last 100 years or so. We have learned that far from being a boon to all humanity, as it believed itself to be, Enlightenment rationality meant the suppression, if not worse, of different rationalities and people believing in them. While Wikipedia's NPOV is not as rabid as the most virulent forms of Enlightenment rationality, it is clear that the growing prominence of Wikipedified information will be corrosive towards certain types of communal, religious and other rationalities. However, the possibility of forking the Wikipedia somewhat mitigates this negative aspect.

Some kind of common rationality is necessary for any kind of open collaborative project to work. In the case of free/open source software, the criteria for an improvement of the code are quite straightforward. If the new code works better, it is better. In the case of Wikipedia, the NPOV provides the necessary goal-oriented rationality and makes it possible to decide what is an improvement over an existing version of an article. It is clear that the NPOV is not the only possible criterion of improvements. Consequently, different wikipedias with different

rationalities are emerging. This possibility of non-neutral wikipedias goes way beyond the Gutenbergian revolution. Editing Wikipedia articles is easy. Given time, many political, gendered, geographical, ethnic and so on viewpoints will have wikipedias of their own. Already a whole universe of different wiki-projects exists on the Net, from the sustainability wiki of Finnish eco-villages to the gambling wikis of Las Vegas.

This radical proliferation of non-neutral point of view (nNPOV) wikipedias will provide a wide spectrum for critical literacy. Not only are we able to learn from various points of view, we will also be able to formulate and argue for our own. The radical proliferation does not only concern points of view. The level of difficulty and need for active participation from the reader may be varied at will, as well. Already many Wikipedia articles are formed by providing a combination of short versions of longer articles. This fractal nature of wiki-information will also provide an active playground for critical reason: Sometimes understanding demands more information, sometimes less.

Limitless forking is not a value in itself; the Internet is already full of more or less useless information. However, in the hands of a group of committed individuals and intellectuals working towards a more or less shared goal in incremental steps, wikis provide essential possibilities. Free knowledge production in terms of copyleft does deliver – *mutadis mutandis* – something about Marx's ideas in his *Critique of the Gotha Program* (1875):

> In a higher phase of communist society, after the enslaving subordination of the individual to the division of labor, and therewith also the antithesis between mental and physical labor, has vanished; after labor has become not only a means of life but life's prime want; after the productive forces have also increased with the all-around development of the individual, and all the springs of co-

> operative wealth flow more abundantly – only then can the narrow horizon of bourgeois right be crossed in its entirety and society inscribe on its banners: From each according to his ability, to each according to his needs!

The Internal Perspective: Wikis as Ideal Communication

A wikipedia article comes not only with a button to the edit page, but also with a history and a discussion page. These two provide a unique perspective on how the content has been created, criticized and co-operated on. Already the existence of the "edit" button indicates a subtle but profound epistemological shift: knowledge comes with a past and a future; it is not immutable "black on white".

The birth of the public has also been credited to the Enlightenment. Especially the newspaper as a media in which argument based on the public use of one's reason – Kant's definition of adulthood and maturity in his "An Answer to the Question: What is Enlightenment" (1784) – has been celebrated as a cornerstone of democratic discussion and decision making. The newspaper has also been criticized by Kierkegaard and others as leveling down genuine expression. Now that commodified messages and mainstreamed content is taking over even so-called quality newspapers, their role as an open and participatory public discussion forum in the sense of Habermas or Dewey is rapidly declining, and Kierkegaard's worry seems grounded.

However, something of the Kantian-Habermasian public space is being recreated in the discussions around wikipedia content. The NPOV explicitly endorses Habermasian discourse, where the conditions of ideal communication are explicitly upheld by the guidelines of NPOV

itself. These discussions have two aspects: the political and the epistemological.

On the epistemological side, the processual nature of wiki-content emphasizes the pragmatic and public aspects of knowledge, disregarding or circumventing aspects of authorship and credentials. The discussions on the reliability of Wikipedia articles often miss the interesting internal change: the reliability of a Wikipedia article is not (only or mainly) to be examined on the basis of the article as it stands, but also by looking at how it has been developed and what kind of criticism it has withstood. This widely distributed peer-review gives wiki-content a reliability that is different from that guaranteed by authors with institutional credentials. Currently proposals are being made on how visual cues – for instance, color – could be used in highlighting well-established content on a wiki-page (see Cross 2006).

On the political side, the Wikipedia, and even more importantly, other open, collaborative wikis, are currently functioning as hotbeds for democratic discussion and education throughout the world. The nNPOV wikis formed by special interest groups or communities with common problems have perhaps the most to gain as the pre-existing non-digital goal and motivation works as a dynamo for collaborative knowledge creation. With the edit, history and discuss buttons, information on a wiki-page is obviously a collective process, not an individual's possession. This epistemological shift together with the proliferation of wikipedias will have dramatic effects on education and learning. Community wikis and larger, open wikipedias are already building the public spheres of the future.

Breaking Radical Monopolies: Digital Opportunities and Real Impossibilities

The hope brought about by the emergence of social media like Wikipedia lies in the promised post-scarcity and non-alienated mode of labor. Even if a cybercommunist utopia is still far away – What will the hackers eat? Will everyone be a hacker? – a change can already be felt inside the hegemonic forms of production. By adopting aspects of the social media, the first economy of commodities and markets – or less euphemistically, capitalism – tries to present itself "with a human face". This imitation is felt on many fronts: schools and universities want to expand their scope by providing access to informal learning using social-media tools, presenting themselves as hubs of social interaction, rather than as formal institutions of power; nation states want to shift attention from traditional industries to competition in terms of design and high-quality experiences; and companies invite their customers to co-create their future products in a process in which innovation itself is supposedly dispersed and equalized (for "innovation" in the new setting, see Thrift 2006).

Again, Žižek (2006b) has his finger on the pulse when he discusses a new form of business, in which "no one has to be vile". One crucial step removed from the utopia of cybercommunism, Žižek calls this new ideal of capitalism with a human face "liberal communism":

> These are the rules of the new nomadic, frictionless capitalism, geared toward the cultural industry:
>
> 1. You shall give everything away free (free access, no copyright); just charge for the additional services, which will make you rich.
> 2. You shall change the world, not just sell things.

3. You shall be sharing, aware of social responsibility.
4. You shall be creative: focus on design, new technologies and science.
5. You shall tell all: have no secrets, endorse and practise the cult of transparency and the free flow of information; all humanity should collaborate and interact.
6. You shall not work: have no fixed 9 to 5 job, but engage in smart, dynamic, flexible communication.
7. You shall return to school: engage in permanent education.
8. You shall act as an enzyme: work not only for the market, but trigger new forms of social collaboration.
9. You shall die poor: return your wealth to those who need it, since you have more than you can ever spend.
10. You shall be the state: companies should be in partnership with the state.

This is all well and good, as far as it goes. But the liberal communist economy conveniently forgets the essential structural conditions of its own existence. For Bill Gates to give away to charity huge sums from his fortune, he first had to collect it using ruthless monopolistic practices. More generally, "Developed countries are constantly 'helping' undeveloped ones (with aid, credits etc.), and so avoiding the key issue: their complicity in and responsibility for the miserable situation of the Third World. [O]utsourcing is the key notion. You export the (necessary) dark side of production – disciplined, hierarchical labor, ecological pollution – to 'non-smart' Third World locations (or invisible ones in the First World)." (Žižek 2006b). What liberal communism hides, deliberately or not, is the structural violence inherent in global capitalism.

Žižek points out that liberal communism can work only by masking the structural (economic, social and political) violence on which its outsourced practises are based. Against this he insists on a true universalism that transcends all local (ethnic, national, gendered, etc.)

identities. Local identities are not, for Žižek, a force against global capitalism, as it is only too happy to manipulate, create and commodify such identities. We might ask does not the utopia of liberal communism itself contain a certain amount of structural violence, a violence that is familiar from the earlier stages of cultural change?

Let us proceed according to the hypothesis that the areas designated by the phrase "creative industries" are precisely the places where the structural bias and consequent violence of the cybercommunist utopias may be discerned. Since the free/open-source software movement is so often presented as the paradigm of the new forms of intellectual labour, let us consider for a moment the crown jewel of that movement, the GNU/Linux operating system. Linux is available free for anyone to use, modify and redistribute on the Net. In 2002, it was estimated that a typical GNU/Linux distribution (Debian) contains more that 55 million lines of source code, and if it were to be created using traditional proprietary methods of software development, the cost would be 1.9 billion US dollars (Gonzáles-Barahona et al., 2002). That was in 2002; by now, its value will have grown further. It is easy to see that this kind of value created and distributed freely is indeed something not previously seen: germs of non-commodity exchange, indeed. The fact that GNU/Linux does have a tremendous use value for thousands of people around the world shows how freely co-operating and self-organizing communities can do real work. The transfer of skills and knowledge happening in the Linux community may be one of the best examples we have of a global volunteer organization.

Nevertheless, the structures of inequality quickly kick in. Most Linux-kernel developers are male and relatively young. Moreover, most of them come from North America or Europe. In the case of Debian, this holds true. The developers have typically received some academic education, and the number of PhD holders in the group is quite high – over 10 percent. Again, most of the developers come from the global North (see, e.g., Mikkonen & al., 2007). This geopolitical bias is not just

a historical fact, a fossil created by the initiation of these projects in the North. During the 15 years or so the projects have been in progress, only minor change has occurred, with individual programmers from Brazil, India and some other Southern countries getting involved. Indeed, there is as much reason to believe that the economic divisions in the real world are exacerbated in the digital world as to believe that there are grounds for hoping that digital technology could bridge these gaps. If we consider the fact that, during the year from summer 2005 to summer 2006, the Linux kernel took in more code from the .mil domain (US military) than from most third world countries, we instantly get a feeling of the old colonialism continuing in new guises.

Or let us go back to Wikipedia. The English Wikipedia has circa 2.275 million articles (March 11, 2008), and other language versions are developing quickly. The non-neutral neutrality of the NPOV was mentioned, above. If we like the Habermasian communicative rationality, the NPOV is nice, but it is corrosive with regard to certain types of communities. In order for a wikipedia to work, it needs a certain critical mass (to resist vandalism, to promote increased content, diversification of contributor roles, etc.). The smaller the (linguistic) community, or the group with a common rationality, the slighter the chances of a vibrant Wikipedia. Furthermore, critical mass means normalization, which in itself works against certain types of communal identities. From the user's point of view, the fact that the English Wikipedia is so much better than, say, the Finnish one, provides an additional pull towards the hegemonic language and its values.

These two small examples should serve to indicate that the liberal communist utopia is by no means neutral with regard to local identities. Indeed, we might suspect that the power structures of the first economy are visible in the digital sphere. If this is the case, the drive towards culture as the playground of global commerce reveals a new side. The possibilities for small linguistic areas like Finland to make successful business out of the creative industries look bleak, notwithstanding the

digital opportunities. The Sibeliuses and Alvar Aaltos of previous generations learned their trade from Europe, and by cleverly infusing it with "local" coloring, sold it back to the source. Being a classical composer or being a modern architect are European occupations, and a Finn can succeed in these only in so far as she is able to become European. And what else is "European" than an ideological discoursive construction? Why would things be any different with regard to digital creation? Finland, to be sure, is a wealthy, highly modernized nation, with a well-educated population. This is one of the reasons why advanced technology has been one of our success stories. But what, after all, is this "ours", and "us", and what is the "Finnish culture" in, say, Nokia mobile phones? Precious little. Again, even the design of the phones is recycled global style, with minor improvements, and production is outsourced to the point where nobody wants to know about the toxic trail leading to illegal mines in Nigeria. If the promise of "creative liberal communism" is as an empty one, as in the case of Finland, what can it be like in other, equally small, but less wealthy cultural areas?

Corresponding to the demand for stylish mobile phones in the market, there is zero demand for the non-European parts of Finnish culture, such as "eräkirjallisuus" ("wilderness literature"), in which hunting and fishing trips are described in endless variations on the short-story formula. This type of literature is not politically correct, since it involves the killing of animals, is mostly read and written by non-elitist males, and in a ritual way always revolves around the same narrative: leaving home for nature, hunting or fishing, and gaining something in the process. No amount of digital revolution will wash away this political incorrectness and make Finnish wilderness literature desirable for the European or global public. Better to write detective novels – a European genre – with a local flavor; the rise of the Scandinavian detective is already in evidence.

All of this points to the fact that, in the case of small cultures and linguistic areas, the problems and possibilities of the digital era are significantly different from those of the bigger, more dominant players. It also means that attempts to understand intellectual labor or the creative industries cannot rely exclusively on the tools created in critical discussions in the heart of Europe. The post-post-isms springing from Italy or France have only so much purchase in a landscape that is only now entering the phase that cultural critics like Adorno described in their classic postwar writings. In Finland, the first generation that likes to shop, and which has never really worried about spending money and not saving it, is only now emerging. Likewise, a mass public for soap operas is a very recent phenomenon. Consequently, the critical analysis of a mass society and cultural industry is becoming topical at the same moment that it is also being left behind.

If this non-synchronicity is true of such a pseudo-European area as Finland, what can be said of other non-European or non-Westerns places? We strongly suspect that a co-existence of different world-eras around the globe makes it impossible to utilize only the latest theory from Paris or California, as if only the latest would be advanced enough. Indeed, globalization is reinforcing, for instance, both class-distinctions (as a mobile phone assembler in Finland and China face similar problems that are widely removed from Finnish or Chinese managers) and ethnic identities (as environmental crises threaten local nature). If there are histories of the world that are not the history of Europe, then we also need multiple theories of the information society.

4. The World Divided in Two

As the above-mentioned example of a different "world eras" hopefully shows, we are living in a world of dramatic cultural, economic, social and educational distinctions. These distinctions are largely dependent on whether the person in question was born in the rich North or in the poor South. By North and South, we refer to the economic, social and educational gulf prevailing in the world at the moment. In the South, people die of malnutrition, whereas in the North, the most common causes of death result from being overweight. While in the South people are living under the regimes of corrupted governments, in conditions best described as a state of societal chaos, people in the political totalitarianism of the North are discussing the reasons and consequences of the democratic deficit. While in the North the use of the appliances of information and communication technologies (ICTs) is skyrocketing, in the South a significant portion of the population – over 800 million adults, two thirds of whom are women – still lack basic literacy.

From a very general perspective, peoples' living conditions appear to consist of a wide variety of different ingredients. First, we can't sufficiently stress the fact that people today are growing up in economically, culturally and socially different and differently timed worlds. However, in contrast to this immense variety of living environments, there exists a grand narrative: an unprecedented and unifying educational power of global media culture, which challenges and often surpasses such traditional forms of socialization as family and school. As observed by Douglas Kellner (2000, 305):

> Culture had been a particularizing, localizing force that distinguished societies and people from each other. Culture provided forms of local identities, practices, and modes of everyday life that could serve as a bulwark against the invasion of ideas, identities, and forms of life extraneous to the specific local region in question.

At present, however, the status and meaning of culture has changed: "culture is an especially complex and contested terrain today as global cultures permeate local ones and new configurations emerge that synthesize both poles, providing contradictory forces of colonization and resistance, global homogenization and new local hybrid forms and identities" (ibid., 305) In literature, this complex cultural situation, where people are forced to struggle for their lives, living conditions and identities, has been given a variety of names. Some call it the information or informational age, others term it technoculture (Robins & Webster 1999) or techno-capitalism, global media culture or simply globalization, referring to the dialectic process in which the global and the local exist as "combined and mutually implicating principles" (Beck 2002, 17). A number of other labels, such as post-industrial, virtual or cybersociety, are also in use (see Hand & Sandywell 2002), but the notion behind these descriptions is that across the globe, ICTs are playing a central role in people's lives, as well as in society at large.

The first assumption behind these terms is that the proliferation of ICTs is causing rapid transformation in all branches of life. The second underlying idea is that ICTs function to unify and standardize culture. A wide variety of grand narratives have been written on the topic of media culture. In the following citation, Manuel Castells (2001, 2) analyzes some of the demands that have characterized the transformation from the industrial to the informational era:

> The needs of the economy for management flexibility and for the globalization of capital, production, and trade; the demands of society in which the values of individual freedom and open communication became paramount; and the extraordinary advances in computing and telecommunications made possible by the micro-electronics revolution.

The grand narratives of contemporary society are rarely told from the standpoint of the ordinary citizen, not to mention children and young people. The processes behind the afore-mentioned terms would deserve a more thorough analysis from the point of the view of people's experienced life-worlds. The same that is true of the above-mentioned buzzwords can be said of media culture in its entirety: It is largely affected by Western values. When talking about bridging the digital divide, it is thus important to recall that ICTs carry a number of Western values – a cultural package, so to speak – not directly transferable to other cultures. The media culture comprises both traditional media, including print media, television and the telephone, and the more recent ICTs, such as computers, the Internet and mobile phones. All of these appliances are saturated with Western popular culture and advertising.

Typically, the debate about the meaning of ICTs moves between two polarities: utopias and dystopias. Pessimists and cynics who believe that the core meaning of ICTs is one of cultural barbarism challenge technology enthusiasts who believe that ICTs will revolutionize every aspect of the world. Somewhere in between there are those who collect statistics about the global diffusion of ICTs with little emphasis on their interpretation. The latter group forgets the fact that the very act of reasoning is value-laden in itself. Furthermore, the media itself is keen to inform the public but lacks the critical capacity to evaluate the core meaning of ICTs (Castells 2001, p. 3). Those more or less autonomous researchers who are doing their best to gain a better understanding of the

current situation provide another vantage point. Unfortunately, critical and analytical thinkers with the capacity and willingness to put forward ideas that go beyond technological determinism remain few.

Our perspective is twofold. First, we fully appreciate the fact that ICTs represent a Western value package, but it is also our understanding that people are capable of interpreting and using ICTs in diverse and novel ways, thus filling them with their own meanings. Second, we share deep misgivings about the technology deterministic attitude evident in many discourses on ICTs. Technology determinism fosters assumptions about ICTs having the power to overcome the current maladies of the world including poverty, hunger and deprivation and the conflicts arising from them. Our stance on the issue could be described as a critical yet cautiously hopeful and optimistic, the main question being, what are the terms on which ICT optimism can be sustained in the age of technological cynicism?

Global Media and Information Culture

A wide range of definitions and characterizations has sprung up around global media and information culture. Generally, the concept "media culture" refers to the socio-cultural condition where most of young people's daily perceptions and experiences are indirect and transmitted through various ICTs, whether traditional (radio, television and newspaper) or new (mobile phone, computer). Some of the definitions emphasize the significance of information and information technology that has emerged around it. Manuel Castells' magnum opus, *The Information Age* in three volumes (Castells 1996, 1998), is a paramount example of this emphasis. Castells' account of the network society, the economic and social dynamics of the new informational age, is strongly

reminiscent of the analysis once conducted by Marx on the industrial society. The most fundamental difference between the two is that where Marx emphasized industrial labor as the basis for all productivity, Castells (1996, 17) stresses the meaning of information and information flows:

> In the industrial mode of development, the main source of productivity lies in the introduction of new energy sources, and in the ability to decentralize the use of energy throughout the production and circulation processes. In the new informational mode of development, the source of productivity lies in the technology of knowledge generation, information processing, and symbol communication.

In the footsteps of Marshall McLuhan, Manuel Castells (2001) has further argued that the Internet is the message of our times; that it is the medium that forms the fabric of our very lives. For Castells, the network represents the leading idea of our era and functions as a metaphor extending its influence to various aspects of human activity: "Core economic, social, political, and cultural activities throughout the planet are being structured by and around the Internet, and other computer networks," he contends (ibid. p. 3) and continues: "Exclusion from these networks is one of the most damaging forms of exclusion in our economy and in our society." He then goes on to compare the meaning of information technology with that of electricity in the industrial era, likening the Internet to the electrical grid or the electric engine: The Internet can distribute the power of information throughout the entire realm of human activity.

The central position of information also dictates the type of competencies required from a labor force in the future. Perhaps the most central capabilities are those of learning and re-learning and managing

information. Yet Castells' accounts on the matter are not one dimensional, but do justice to the versatile and contradictory character of the global media and information culture. For instance, Castells is well aware of the fact that ICTs can be used both as the accelerator of immaterial flows of value, such as money and free trade, and as the information channel for various social movements and anti-corporate activism. The foundation of Castells' analysis as well as its conception of the essence of the information society rests on economic activity. In fact, the term "information economy" is exactly right for the model of society constructed in Castells' theories. More than technological determinism, Castells' thinking seems to be guided and motivated by the ICT imperative. The following quote from Hand and Sandwell (2002, 198) does well to illustrate this type of thinking: "Where information technologies have been singled out as key causes of progressive change and democratic enlightenment, we not only have an instance of ideological simplification but also an advanced form of technological fetishism."

Where Castells and his kind emphasize access to information as a factor to global and macroeconomic success, a number of other people (e.g. Kellner 1995; Webster 2000; Norris 2001; May 2001) highlight the importance of surrounding cultural, political and social factors in the construction of the global media and information culture. In short, they believe that the lifeworld should, involve other things than just ICTs. Only after a thorough analysis of these factors surrounding ICTs can we say something about the significance of the global media culture in general and ICTs in particular. From a sociological viewpoint, global media culture has often been associated with the substitution of the national by the global: "the logic of manufacturing is displaced by the logic of information; and the logic of the social is displaced by that of the cultural" (Lash 2002, 26). The sovereignty of nation states – the economic, political and cultural relationships between independent states – is being replaced by global flows such as finance, technology,

information, communication, images, ideas or people. The logic of manufacturing is giving way to the logic of information. This means that a vast array of products is becoming more informationalized: for instance, toys and computer games are becoming increasingly digitalized. Moreover, work and production processes are no longer labor-intensive, but information, knowledge and design intensive. Furthermore, the social is being displaced by the cultural: Where the social was tied to place and tradition, in the world of wired connections, the cultural flows freely as money, ideas and popular images (ibid., 26).

In his largely skeptical take on the information society, Christopher May (2001, 12-17) has located four central, yet problematic, claims about current media culture. The first claim is that, above all, the meaning of media culture is that of a social revolution induced by the manifestations of information technology, such as computers, mobile phones and the Internet. As observed by May, the claim represents technological determinism and forgets that the meaning of technology is not to be found in technology itself, but arises from its usages and the cultural-political context. May (2001, 14) goes on to contend: "Once we recognize that there has been a long gestation of the relevant technologies and of their interaction with societies across the globe, then the claims for revolution start to look a little strained."

The second claim foresees a replacement of the rigid social, political and judicial institutions by an ICT-based new economy and Californian ideology. The global development of Californization is about autonomous individuals who communicate with other autonomous individuals with the primary aim of finding new ways to make money. The new economy offers no hope for longstanding or permanent jobs that would create stability and social security in young people's lives. In the weightless economy of the future, young people in the North work primarily in flexible, half time, half-pay service-sector jobs, while the youth of the South slave away in sweatshops. The third claim suggests that in the pre-Internet world, many writers stressed the significance of

expert power afforded by management, control, ownership and distribution of information. The age of the Internet has witnessed the spread of what one might call a do-it-yourself ideology. Its central assumption is that people automatically mobilize into small and efficient interest groups and social movements that they act in and no longer require traditional parties or social institutions to forward their aims.

The final claim argues that nation states are slowly disappearing from the political scene. According to this view, "the information revolution has undermined the state's ability to control information for its own ends, with fatal consequences for its overall authority" (ibid., 16). Of course, the claim is exaggerated, as in many senses the nation state remains a powerful category in the scene of global politics and there are no signs of its disappearance. To summarize, the discussion on media culture and the information society contains powerful simplifications. In addition, the debate also operates on exaggerations and often has very little to do with reality as experienced by young people.

The Media Culture

It is hardly necessary to dwell on the fact that the majority of the content of current media culture is of Western origin and is produced mainly in the US by Hollywood's entertainment industry. Its contents are blind to people's – defined as consumers – cultural, economic, and educational backgrounds as well as their social status. The logic of Western media culture is largely based on the old model of broadcasting: from few mastodons of communication to the many. The same is true of big portions of the Internet, which has been hailed as a subversive instrument, thanks to its opportunities for many-to-many communication. Prevailing media culture is, at least to some extent,

culturally blind and ruled by a small number of media giants. The concept of media culture refers to an increase in different mediated signs and messages and a play of interlacing meanings. The media saturated by popular culture penetrates such fields of reality as politics, economy, free time and education. At present, global media culture is a pedagogic force that has the power to far exceed the achievements of institutionalized forms of education. As Giroux (2000a, 32) puts it:

> With the rise of new media technologies and the global reach of the highly concentrated culture industries, the scope and impact of the educational force of culture in shaping and refiguring all aspects of daily life appear unprecedented. Yet the current debates have generally ignored the powerful pedagogical influence of popular culture, along with the implications it has for shaping curricula, questioning notions of high-status knowledge, and redefining the relationship between the culture of schooling and the cultures of everyday life.

However, the concept of media culture does not refer simply to symbolic combinations of immaterial signs or capricious currents of new and old meanings, but an entire form of life (see Lash 2002, 13), where images, signs, texts and other audio-visual representations are connected with the real fabric of material realities, symbols and artificialities (see also Giroux 2000a, 98). Media culture is pervasive: its messages are an important part of the everyday lives of people and their daily activities are structured around media use. The stories and images in the media become important tools for identity construction. Films stars, musicians, and other celebrities provide models for the purchase of new outfits, and language used by a cartoon character becomes an important factor in the street-credibility of young people. In the present situation, there aren't

many corners of the world left to escape the meanings embedded in televised media culture.

In a mediated culture, it can be difficult for young people to know whose representations are closest to the truth, which representations to believe and whose images matter. This is partly because the emergence of digitalized communication and the commoditization of culture have significantly altered the conditions of experiencing life and culture. Many people perhaps still feel attached to the romantic image of the old organic communities, where people would converse with each other face-to-face and live in a close-knit local environment. Digital communication, however, is gradually wiping out the romantic image:

> Most of the ways in which we make meanings, most of our communications to other people, are not directly human and expressive, but interactions in one way or another worked through commodities and commodity relations: TV, radio, film, magazines, music, commercial dance, style, fashion, commercial leisure venues. These are major realignments. (Willis 2000, 48.)

Media culture is produced and reproduced by diverse ICTs. Thus it would be imperative to replace the teaching and training of knowledge and skills central in the agrarian and industrial societies by education in digital literacy. A similar point is made by Kellner (1998, 122), who contends that in a media culture it is important to learn multiple ways of interacting with social reality. Students must be provided with opportunities to develop skills in multiple literacies, in order for them to be able to better work on their identities, social relationships and communities, whether material, virtual or combinations of the two.

The media culture does not simply concern signs and symbols, but also manifests in people's bodies. Media culture covers the body through means made available by the currently prevailing fashion. The

body is a sign that can be used efficiently to produce cultural identities. Furthermore, various kinds of media cultural skills and knowledge are stored movements of the body. This is evident in a number of subcultures, including certain popular sports and different games and dances such as street basketball, skate boarding and hip hop. The body is also highly susceptible to different technologies of control. In typical schools, the student bodies are regulated by control mechanisms (schedules, sitting still, health monitoring, etc.) and cognitive knowledge production (writing tests, reports, discussing civilly, etc.). Conversely, in the streets, youth clubs and private spaces, bodies function according to a different logic. Media cultural, informal knowledge does not simply equal conscious memorizing, but also involves somatic materiality produced for commercial purposes. The trouble with commercialized corporality is that it holds nothing sacred; if necessary, it will make use of material such as pornographic images of children and youth (Giroux & McLaren 2001, 53, 219-230). Furthermore, in the experience of young people, media culture represents a culture of pleasure and relative autonomy compared to home or school. As Willis (2000, 37) states:

> Informal cultural practices are undertaken because of the pleasures and satisfactions they bring, including a fuller and more rounded sense of the self, of 'really being yourself' within your own knowable cultural world. This entails finding better fits than the institutionally or ideologically offered ones, between the collective and cultural senses of the body – the way it walks, talks, moves, dances, expresses, displays and its actual conditions of existence; finding a way of 'being in the world' with style at school, at work, in the street.

The ICT Debate

The current discussion on ICTs is dominated by several viewpoints, among them a technological-administrative viewpoint. From this angle, the main issues constitute Internet diffusion, access to the Internet and use skills. The discussion is seemingly value neutral. Nonetheless, a firm belief in progress, technology and market economy is evident in this discourse. As can be expected, enabling access to the Internet constitutes a key issue for the players in global economy. The opportunity to use the Internet is also a central issue in welfare politics promoting equal opportunities for young people. Aside from concerns related to market value and equal opportunities, an important form of criticism concentrates on the digital divide, which is perceived as distinct from the more elementary worldwide problems (cf. Castells 2001, 269). Another viewpoint emphasizes social structures of the Internet and the unequalizing social structures constructed around it. The emphasis is on social problems that emerge as by-products of the Internet culture. The polarization between the rich and the poor is another serious concern in this respect. The adoption and use of technologies is believed to reflect and aggravate social inequalities, but also to increase the rate of employment and build up the information technological infrastructure required by social justice.

Yet another viewpoint is that of digital divide, or the viewpoint of the information rich and the information poor; it demonstrates a belief in the traditional political intervention. Political decision-making and independent scientific research and development hold a key position when tackling the economic and social problems of information societies and especially the problem of the digital divide, which in many texts is seen as a grave structural problem. The discourse of the information rich and the information poor advocates welfare state politics as a central and natural solution to economic and social

problems. The spread of ICTs fosters inequity in terms of language barriers, geo-ethnic background factors, and Internet access and media literacy. The flow of data does not dissolve existing social structures: if anything, the old structures are reinforced by the new technologies. In this sense, new technologies increase structural inequity. The technologies and markets on their own are unable to solve the social problems of media culture.

The information elite uses the gap generated by the technologies for its own benefit. The ideology is based on the capitalist logic of earning, where technology is turned into a necessity, the acquisition of which signifies growth in sales and the birth of new markets. This tendency is exemplified in commercial software, the capitalist tradition of copyright and the high cost of telecommunications infrastructure: factors that make the use of ICTs impossible in poorer countries. Aspects like these turn economic politics into power politics and a new form of colonialism. Taking into account the different viewpoints of the information rich and the information poor thus opposes neo-liberalist globalization and stresses the need for global politics and research as the promoters of equal opportunities. Though the opening up of the world is a good and important objective, national governments, NGOs and organizations such as the United Nations constitute necessary instances of control that have the opportunity to advance equal development in the world.

The fourth viewpoint, labeled visionary utopianism, strives to unravel ways of thinking described above. It stresses the reconsideration of values and promotes what has been termed ICT avant-gardism, the creative and unexpected use of ICTs to support identity politics and many practical aims. Others endorse a complete change of course, as they perceive information and communication technologies as a part of a global conformity project based on capitalist profit seeking and the war of all against all. This change of course is expected to take place partly with the help of a new world ethics emphasizing equality, ecological

thinking and tolerance as the most central values. The new paradigm of ICTs would mean the end of the Diaspora of Africa, the emergence of a humanist ethics in the new technologies and the global openness of scientific information in virtual universities. As a result of these developments, ICTs would no longer function as an instrument of inequality but would serve to unite people's fates in the global village. The viewpoint of visionary utopianism includes the idea of children and young people as our hope for the future and as heralds of better things to come, as characterized by Buckingham (2000, 44) as follows:

> Thus, it is argued that computers bring about new forms of learning which transcend the limitations of older methods, particularly 'linear' methods such as print and television. And it is children who are seen to be most responsive to these new approaches: the computer somehow releases their natural creativity and desire to learn, which are apparently blocked and frustrated by old-fashioned methods.

In contrast to this view, especially children and young people are sometimes seen as innocent victims of media powers (see the discussion in Buckingham 2000). This way of speaking evokes all the beasts of the apocalypse and a wealth of other evils to threaten the idealized world of childhood and youth. The breakdown of the nuclear family, teenage pregnancies, venereal diseases, pedophilia, child trade and child prostitution spreading through the Internet, drug use, youth crime, the degeneration of manners, suicide and religious cults are all seen as problems exacerbated or even inflicted upon us by the world of media. According to this view, the parents have either died of AIDS or for some other reason lost their handle on their child's education. Schools have been transformed into teaching factories incapable of providing young people with the skills necessary in media culture (see also Castells 2001, 259-260). The media, especially television, feeds children material that

makes them disturbed and passive, and they "as a result of their developmental stage" are incapable of processing it. Children and young people are seen as passive recipients of messages, as spellbound viewers and dim-eyed zombies susceptible to a range of addictions from drugs to the media. ICTs steal children from their parents and eliminate the natural life phases of childhood and youth.

Perhaps an even clearer manifestation of a way of speaking proclaiming the end of childhood and youth is a form of media panic where children and young people are seen as victims of ICTs. The term media panic refers to a concern, worry or fear that arises from the use of new devices or new cultural forms that children and teenagers adopt at the same time challenging earlier cultural practices and conceptions. It is useful to remember, however, that in its time, the spread of the cinema to a wider audience unleashed a panic reaction and inspired a wave of research intended to empirically prove the destructive effects of motion picture viewing. Another panic reaction emerged when in the early 1950s in the United States and in the following decade in the Nordic countries, the television became standard equipment in every home. The third media panic regarding the detrimental nature of ICTs is, of course, occurring as we speak. A sad fact about media panics is that they rarely evoke questions about what we might call problems of the factual world. It may be, however, that media panics are becoming less fierce in nature as social reality is becoming increasingly pluralistic with regard to its ethnic foundation, gender codes, political map and cultural meanings (see Fornäs 1995). The discourse examined above serves to create rules for dealing with the problems of the networked societies and the globalizing world, but it also functions to construct a demonized image of youth.

Whatever the case the fact is that in the global village children and youth with their own practices and consumer choices often are the vanguard of the developments in ICT use. A number of thinkers from diverse ideological camps suggest (see Tapscott 1998; Papert 1996;

Rushkoff 1996; Katz 1997; Jenkins 1998; Kinder 1999; Giroux 2000b; Buckingham 2000) that children and young people can act as "oppositional intellectuals" and "semiotic guerrillas" of the Internet age. In the current situation, certain economic visionaries of the IMF speak of providing network connections to the developing corners of the world and advocate a cultural leap directly from agrarian societies to digital and post-industrial societies. On the other side are a number of critical pedagogues who have always had faith in the wisdom of youth and are now channeling their hopes to the possibilities of using ICTs as a tool for resistance. For the latter, ICTs represent a powerful tool for self-expression, avant-garde, digital situationism, semiotic guerilla war, media criticism and influence through media, interaction and research. Some of these people (e.g. Giroux 1996; McLaren 1995; 1997; Lankshear et al. 1996) adopt a systematically critical attitude toward the capitalist and commercial foundation of media culture.

The critics maintain that not all of the teachings of media are worth learning. The messages received from media should be critically negotiated nationally, locally and between family members examining the meanings carried by them, whether visible, invisible, public or implicit. It is often argued that children and youth are not just more familiar with the practices of media culture than their parents and teachers, but also create new media culture independently of formal pedagogy or curricula. Without underestimating the capabilities of young people, it is reasonable to claim that children and young people are unable to manage their everyday lives on their own. They need to be loved, supported and understood by adults who also provide them with limits and advice. It does not seem likely that global predatory capitalism could fulfill these needs.

In the context of media culture, the basic needs of children and teenagers remain unaffected. In fact, they may even be highlighted. While some are forced to comply with an inhuman pace of work and the resulting socio-psychological anxieties and others must live in an

inhuman idleness under a constant threat of starvation, the meaning of social safety networks and lasting human relationships is bound to be increased. The debate on children and youth reflects not just worry for our own lives and the lives of people close to us, but also concern for the state of the world. The viewpoint on the state of the world and the welfare of people as seen in the above discourses is altered completely when we begin to discuss the problems of media culture as societal concerns affecting the whole world. It is thus our opinion that discussion on childhood and youth should be broadened to cover the general conditions and structures of life, or, in other words, social justice in a world ruled by global corporations.

Generally speaking, discussion of media culture has largely been US-based and dominated by liberalist viewpoints stressing individual, national or corporate interests. The people actually affected by this webwork of problems have no voice in the conversation. They live on the other side of the digital divide, on the outskirts of the means to power available in the networked world. Critical voices have claimed that in reality there is little intention to demolish the digital divide. It can be narrowed down somewhat, but not enough to lose the economic advantage derived from it. As perceptively noted by Eduardo Galeano (2001, 36): "And don't forget the ferocious protectionism practiced by developed countries when it's a matter of what they want most: a monopoly on state-of-the-art technologies, biotechnology, and the knowledge and communications industries. These privileges are defended at all cost so that the North will continue to know and the South will continue to repeat, and thus may it be for centuries upon centuries." Is a situation where the South would teach and the North would learn completely inconceivable in this respect?

Forms of Digital Divide

All of the international organizations including the European Union, the United Nations, the International Monetary Fund, the G-8 countries and the OECD have expressed their awareness of the fact that the proliferation and use of ICTs form yet another dimension in the division of the worlds' youth into fortunate and less fortunate ones. As Castells (2001, 265) puts it, "the new techno-economic system seems to induce uneven development, simultaneously increasing wealth and poverty, productivity and social exclusion, with its effects being differentially distributed in various areas of the world and in various social groups." International agencies, both inter-governmental and non-governmental as well as those belonging to the corporate sector, discuss the digital divide and compile charts and agendas for the purpose of bridging it.

In the debate, the concept of the digital divide is used in at least four different ways (Norris 2001, 414; Castells 2001, 256-258). First, there is the notion of the global digital divide that is used to refer to the differences in the use of ICTs between people living in different corners of the world. An important dividing line in this respect can be drawn between the rich North and the poor South. From the point of view of economic activity, ICTs are expected to significantly increase the reachability of potential customers in terms of both marketing and direct sales. The Internet is also believed to benefit the development of public services, such as administration, healthcare and education. The problems that make up the digital divide are being tackled by hundreds of projects carried out by hundreds of governmental and non-governmental organizations around the world.

The second interpretation of the digital divide concerns the unequal opportunities for ICT use within countries. Important factors here are the individual's socio-economic position, level of education and place of residence. The lesser the income and education and the further away

from the capital the locality, the more likely the person is to be left outside of information flows and networks. This type of social stratification is connected with the third version of the digital divide pertaining to democracy and its possibilities after the digital revolution. The theme of the democratic divide is particularly significant with regard to the civic engagement of young people. The opportunities of children and young people to express their ideas and opinions about the different issues in society have traditionally been very limited. Often, the means of influencing the world around them have been limited to peer relationships, rebelling against the boredom of school or the resistance expressed at home (Buckingham 2000, 13). Furthermore, some researchers have claimed that mobile-based interaction through cellular phones between adolescents and their parents tends to diminish productive conflicts between them, thus robbing adolescents of the opportunity to develop their sense of self through such conflicts.

The increasingly mediated and digitalized essence of culture has opened up the world both geographically and socially. Media culture and ICTs do not automatically equal the globalization of economy: they also provide new opportunities for engagement and resistance. Yet for the moment, it is impossible to know what ICT-based democracy and activism will mean in practice, although the global network and email have already in many instances been successfully used for globalize civic activism. In this sense, the Internet is a contested terrain used by both the right and the left, by dominant media corporations from above and by radical media and other activist groups from below. In the likely event that new technologies constitute the dominant forces of tomorrow, "it is up to critical theorists and activists to illuminate their nature and effects, to demonstrate the threats to democracy and freedom, and to seize opportunities for progressive education and democratization" (Kellner 2000, 316).

The discussion on the digital divide has sparked a notion called participation hypothesis, under which ICTs would have a dual effect on

the participation of people (Norris 2001, 195). First, the new opportunities for participation created by ICTs may strengthen the civic engagement of those who are active in this respect to begin with. Second, ICTs may serve to mobilize those who weren't previously interested in any form of political or social engagement. Similarly, people who do not read newspapers or follow the news on television may be drawn in by the opportunity to participate in societal debate through the Internet. However, as there has been no research into the field yet, it is too early to tell whether the participation hypothesis is accurate on either of these counts.

The fourth type of divide concerns the division in technology and knowledge. One characteristic of the development of ICTs is that as one technological gap seems to be narrowing, another opens up. This is due to the rapid cycle in which the current technology is replaced with new technology. As stated in a maxim termed Moore's law, computing power doubles every eighteen months while costs remain constant. Thus, in the opinion of Castells (2001, 256), "it could well happen that while the huddled masses finally have access to the phone-line Internet, the global elites will have already escaped into a higher circle of cyberspace". Castells' point appears rather cynical as, from the point of view of sustainable global media culture, the real question naturally concerns the type of ICTs that people need and the kind of technology they use in their everyday activities, whether to do with worklife, gaming, personal contacts or schoolwork. Here we encounter a discrepancy between ICT manufacturers operating on the basis of commercial interests and young people driven by the interests central in their life-world.

The concept of digital divide merits also some criticism. The use of the concept has certain social consequences: it functions to shape social reality and contains unarticulated value judgments. This involves the danger of shutting out alternative ways of thinking and constructing a uniform vision of culture. The discussion on the digital divide may in fact serve in reproducing the myth of the Internet economy based on

"the magic of technology but, more important, upon a belief in capitalism as a fair, rational, and democratic mechanism" (McChesney 1999, 121).

In his book on the Internet, Castells (2001, 258-260) unleashes a relatively powerful attack on contemporary educational systems that sustain the digital divide based on the knowledge gap. Castells' critique is based on the idea turned common belief that education and lifelong learning constitute central resources that add to the individual's work qualifications and enhance his or her personal development. In his opinion, most schools in developing countries, but also in the over-developed countries, function more as storage for children and youth. In global assessment, schools display tremendous variation with regard to teachers' qualifications and other resources. Castells goes on to argue that schools have failed to adopt the type of pedagogical thinking required by the Internet era, thinking that originates in the old idea of learning to learn: "what is really required is the skill to decide what to look for, how to retrieve it, how to process it, and how to use it for the specific task that prompted the search for information." Resulting from the misery of schools, the task of preparing young people for the new era is left to the homes, a fact that is likely to further add to the disparities in the knowledge, skills and attitudes of children and young people. Along with a number of other ICT enthusiasts, Castells (2001, 269) stresses that postponing the launch of the Internet in developing countries until after having attended to the more pressing difficulties experienced by the population would be a grave mistake. Without an Internet-based economy, writes Castells, there is little chance for any country to survive in the global race.

Sugata Mitra, who leads an Internet project in a slum in India, supports this line of thinking. Although digital appliances are of little use without the ability to read, the notion that only after a global campaign to organize general education for everyone should we contemplate a quantum leap to digital age does not seem entirely

palatable. According to Mitra, synchronicity is important in shaking colonialist attitudes: "The information in the Internet should be available as easily as water and electricity. We can't take the attitude that first we need school, then teachers and children who go to school and only then the Internet. Instead, I would say give them the Internet now" (Tuohinen 2001). It is important to recall, however, that children not only need the resources generated by ICT economy but also require social security and good-quality basic education and healthcare. In this situation, even basic education, learning to learn and reflexivity are not enough. In order to be able to build their lives in the society of the future, young people need to develop a capacity to critically adapt their learning to the prevailing global, societal and local circumstances. With no intention to undermine the global significance of especially girls' and women's education, some local projects have indicated that schooling and basic literacy aren't always necessary to up people's capacity for action. Often, it is possible to depart from very practical problems and to rely on locally accumulated oral tradition combined with a technology suited for the need and use context. As Sanjit Roy, the founder and director of the Barefoot College in rural India, states: "'We have looked at the problems that the poor face from their point of view and not from the point of view of a so-called expert looking from outside,' says Roy. 'We have come to the conclusion that, using their own knowledge, skills and practical wisdom, it is possible for them to solve their problems themselves.'" (Coles 2002, 42.)

With regard to the global digital divide, the uptake of ICTs entails a number of practical problems that are particularly relevant in the poorest nations of the world. The primary concern is the lack of money and ICT resources. It is a generally accepted view that the amount of development aid should be at least doubled from the current total of 50 billion dollars (Annan 2002b). According to this view, poor countries need external funding and technological assistance for basic investments before they are capable of functioning independently on the global

market (Annan 2002a). Nonetheless, financial aid provided without the teaching of human and property rights is not sufficient, as because of corruption, development aid often ends up in hands other than those it was intended for. The second problem is also a financial one: the newest ICT applications are far too expensive from the point of view of developing countries. One suggested solution for this has been the utilization of freeware and the development of devices that are sufficient for the needs of the user without representing the newest and the fastest technology. A commonly acknowledged problem with ICTs is that instead of originating from the actual needs of people, its development is based on a constant pursuit of financial gain and a never-ending race for bigger and better egged on by the market.

The third problem is the language used in ICTs. Today, English is the global *lingua franca*. According to estimates, there are some 3,000 to 4,000 languages in the world, but 80% of all web sites exist in English alone. A number of possible solutions exist for crossing this language barrier. Young people learn languages spontaneously through watching the English-language programs produced by multinational media corporations. Schools around the world teach English as the first foreign language. The language barrier can also be conquered through the help of better-skilled individuals, who, like the scribes of the old days, assist others in their community through translating texts from the local language into English and vice versa (see La Page 2002, 44). Young people learn languages more easily than adults and can in many situations function as translators or, more commonly, as interpreters between people speaking different languages. Moreover, the deeply disturbing fact that the Chinese have begun to cut off a muscle interfering with the pronunciation of English from underneath their children's tongue no doubt says something about the position of the English language in the world today.

Thinking optimistically, the perception of international actors on the problem of the digital divide is based on "a technologically deterministic

assumption that closing gaps in access to computers will mitigate broader inequalities, an assumption requiring enormous faith in the capacity of a technology to bring about major social change" (Light 2001, 723). From a more critical angle it could be conjectured that we are not dealing with technological determinism at all, but have simply encountered a new case of word magic that manages to keep the discussion on global development going while the predators of global economy are allowed to roam free, unhindered by any international regulations.

The World Divided in Two

Because of the recentness of the ICT revolution, there are no long-term statistics available that would enable conclusions concerning general trends in the development of ICTs. The most central worldwide statistics concern the diffusion of the Internet and people's opportunities to connect to the network. As can be expected, the statistics are very general in nature and limited to certain parts of the world, making it impossible to draw worldwide comparisons on young people's use of ICTs. The picture painted by the statistics of the digital divide speaks the same language as all other indicators of the state of the world: it reveals an accelerating tendency towards polarization. As the Internet is the most central technology in global media culture, observing its use provides some understanding of the proportions of the overall ICT polarization. Examining the proliferation of the Internet use also affords an idea of the overall significance of ICTs for young people on a global scale.

The methods used in assessing the number of Internet users vary, and it is worth remembering that the figures always constitute estimates.

There is no denying that in the last five years, the world has witnessed a veritable Internet explosion. In early 1997, the number of Internet users was estimated at less than 60 million globally. In 2002, the number of users is tenfold: some 580 million. In less than 5 years, in early 2007, the world total was doubled into 1,1 billion. Reviewing the figures of different continents offers a simplified yet revealing picture of the situation: the distribution of Internet users is extremely uneven.

A regional view reveals that the vast majority, that is, about a half (544 million) of all the Internet users live in North America and Europe. The number of Internet users in the Asia Pacific region has risen rapidly in recent years from 170 million in 2002 to 390 million in 2007, that is 35,6% of all the users. A growing proportion here consists of the Chinese (the proportion has risen from some 57 million users in 2002 to 132 million in 2007), though the number is still relatively small compared to the relative proportion of Internet users in the population of Japan (83 million) and South Korea (34 million). In Latin America, the number of Internet users has grown from 33 million in 2002 to 89 million in 2007. In the same time in Africa, there has been an increase from some 6 million to 32 million, which is the highest relative growth rate in this five-year period. The number of Internet users in the Middle East has grown from 5 to 20 million in the years 2002–2007. (See http://www.internetworldstats.com/stats.htm)

The Internet is thus highly illustrative of the differences between the Northern and Southern hemispheres; the statistics reflect an image of a world split in two. Proportioned to the population of the world, the differences are dramatic. The following fact reported by Galeano springs to mind: "Two out of three human beings live in the so-called Third World, but two out of three correspondents of the biggest news agencies work in Europe and the United States" (2001, 282). Pekka Tarjanne (2002) of the United Nations ICT Task Force has examined the digital divide and the position of young people in the changing world. According to Tarjanne, "ICT has created a new world of opportunity",

but only for the lucky few. The new world has opened up "to the individuals fortunate enough to be able to access these technologies". Like many others, Tarjanne believes in the idea of progress accelerated by the Net: "Without access, history's exponential progress is evolving without global participation, resulting in what we today call the digital divide, one of the glaring inequalities of our modern society."

Consequently, in the current situation where the Internet reaches less than 10 per cent of the world's population, reducing the digital divide is dependent on "the participation and support of all players in different sectors of society, including government, the academic world, civil society, the private sector and non-governmental organizations". Tarjanne expands his view by stating: "The impact of the information revolution touches all of society, and . . . [the revolution] is being led by the young adults of the world, on both sides of the digital divide. Young adults from developing countries are increasingly realizing the wonders of foreign cultures and customs." Tarjanne's perception of young people is one of explorers who, free from economic and cultural binds, look for information in other countries and have grasped the importance of networking in the global labor market of the future: "The tools of information technology have provided the next generation with faces and customs of alien places … Universities and small cafés are flooded with young adults attempting to find news not available to them in their city or village. They realize how important this knowledge economy will prove for their future."

This view is close to the idea of cosmopolitanism (Beck 2002), according to which young people in particular feel as one with global processes and phenomena through popular culture. In the words of Beck (ibid. 31), "the sphere of experience, in which we inhabit globally networked life-worlds, is glocal, has become a synthesis of home and non-place, a nowhere place." However, there are at least two critical issues to bear in mind here. The idea of progress emphasized by Tarjanne can no longer be thought of as a monologic Western formation

capable of functioning as a measure of a range of other cultural formations defined as non-Western. Furthermore, we need to be aware of the fact that not all young people have unlimited access to these glocal experiences or the opportunity to speed up on the information superhighway. As to the question of equal opportunities for young people and the quality of their lives, we may well fear that the digital divide will maintain and increase the present gulf between rich and poor countries.

According to Norris (2001, 49), there is nothing out of the ordinary about the absolute differences in media cultural structures between rich and poor countries. The disparities in media cultural possibilities reflect the previously recognized differences in national income, healthcare and education. Instead, from the viewpoint of diminishing the digital divide, it is disconcerting to realize that even the traditional media is not equally distributed around the globe, but its use has accumulated to affluent countries. Norris predicts that the Internet is most likely to be adopted in countries where the old media, such as radio and television, are in active use. In other words, Norris sees no easy end to the development separating the poor Southern countries excluded from the information flows and the rich Northern countries not only firmly attached to the currents but also steering them.

The profound statistical analyses carried out by Norris thus indicate that the problems in the spread of the Internet to developing countries do not result from the medium itself. The differences in the diffusion of the Internet and traditional mass media are the consequences of the profound economical, political, social and educational discrepancies between societies:

> The problem, it appears, is less whether Namibians lack keyboard skills, whether Brazilians find that few websites are available in Portuguese, or whether Bangladesh lacks network connections. Instead, the problems of Internet

> access are common to the problems of access to other communication and information technologies that have been widely available for decades in the West. (Ibid., 66)

This being the situation, (ibid. 51) Norris recommends the following approach: "rather than any short-term fix, such as delivering beige desktop PCs to wired schools in Mozambique, Egypt, and Bangladesh, the long-term solution would be general aid, debt relief, and economic investment in developing countries." She (ibid., 67) also makes the following remarks about the stages of the Internet revolution:

> In the first decade, the availability of the Internet has therefore reinforced existing economic inequalities, rather than overcoming or transforming them. The reasons are that levels of economic development combined with investments in research and development go a long way toward explaining those countries at the forefront of the Internet revolution and those lagging far, far behind. … If countries have the income and affluence, then often (but not always) access to the Internet will follow, along with connectivity to telephones, radios, and television.

Norris' argumentation thus departs from that of Castells in a number of important points. As Castells sees that efficient utilization of ICTs can lead to economic success, it is Norris' contention that the uptake of ICTs must be based on a sufficient economic and political foundation. The juxtaposition constitutes a classic chicken-and-egg problem. On the one side, there are the ICT enthusiasts, such as Castells, who argue that access to information sources, particularly the Internet, improves the competitive positions of nations as well as the desirability of individuals in the labor market. The narrow scope of this view is, of course, easily revealed when it is considered from a standpoint outside of the Western

idea of progress. Moreover, it emphasizes the significance of a single type of information: one that is published in the format of bits. Clearly, people's life-worlds contain many other modes of information, such as stories, narratives, music, beliefs, myths, artifacts, tools and local practices of different forms and shapes.

The opposite view is taken by commentators who, like Norris, see that the digital divide cannot be explained through the characteristics of the medium, such as the Internet, or the opportunities provided by it. Instead of linking more schools to the Internet, instructing teachers in issues connected with digital literacy and establishing network connections in poor areas, the focus should first be on the basic tasks such as the realization of basic rights and the diminishing of economic, social and educational inequalities. This is not to say that alongside with these aims we should not act to demolish the digital divide through solutions such as those suggested above.

It does seem, however, that the issue of ICTs is offering a harmless facade behind which to conceal the complex political, economic and social problems concerning the state of the world. The idea of bridging the digital divide is an aim supported by actors regardless of their political orientation. Conversation on the diffusion of ICTs is much more convenient and less conflict-prone than a fundamental debate on important reforms in the global economic and political order. As Light (2001, 716) contends:

> It is comforting to imagine that the diffusion and use of a particular technology will remedy complex social problems. … Certainly, for the myriad of claims makers, the simplicity of the concept and the restricted scope of existing debates are virtues. These simplifications help to generate broad support that more comprehensive constructions of inequality could not.

Here we are again faced with the commonly repeated questions arising from the illusion of progress: the most important of which is, what is the standard of living that the worlds' resources can support? By themselves ICTs are not terribly energy consuming, but what should we make of the material well being demanded and also created by them? Should ecological values be incorporated in the debate on ICTs? Would it be possible for ICTs to generate a reversal of values that would allow people to see the world as containing differences and different ways of defining concepts such as well being? Perhaps the next direction of ICTs is to be found in sustainable development, where the production of new bulk devices in the hope of easy profit would end and young people would no longer be tricked into buying devices most of the features of which are useless. Instead, designers and manufacturers would focus on rolling out simpler and more easily usable technology, as exemplified in products such as the mobile terminal device Simputer (http://www.simputer.org) or the 100-dollar laptop (http://laptop.org).

Information and Communication Technologies as New Forms of Socialization

Children and youth in the affluent part of the world seem to be living their lives amidst the wonders of media culture like fish in water. Their media-filled life incorporates the use of ICTs, which is something that they do flexibly in their practices along with other more traditional activities. The mere existence of ICTs makes the lives of today's children and youth differ in important ways from the lives of the earlier generations. The products of media culture teach children different attitudes as well as vast amounts of informal skills and knowledge.

However, children's everyday learning is often compromised and complicated by the stereotypical attitudes and cultural fantasies of the less-than-ideal adult world (cf. Internet child and teenage porn sites). One might contend that children and youth in ICT-rich countries are currently experiencing the second stage of media culture characterized by two types of phenomena. First, ICTs are used multimodally, which is to say that the different technologies intertwine in many ways in the lives of children and young people. Second, the technologies are becoming an increasingly important part of the everyday lives of children and young people, which have implications for the ways in which young people use time and interact with people close to them.

In rich countries, the ways of life of children and young people display a tendency towards accumulation of hobbies (cf. accumulation hypothesis). On the one hand, this development generates an active group of children and teenagers, who are versatile in their use of the new ICTs, but also engage in sports and culture-related activities. On the other hand, there emerges a group of passive young people, whose everyday life is filled by television viewing, which, incidentally, has been considered as one of the central factors in the diminishing of social capital and solidarity between people (Putnam 2000). A number of scholars have voiced the well-founded claim that in the rich countries of the North, public spaces are disappearing and life in general is undergoing a process of privatization (Putnam 2000; Giroux 2001), which also entails erosion of social cohesion and trust. As Galeano (2001, 274) puts it in his criticism of the present communication world and the unchallenged faith in ICTs:

> This sort of progress just promotes separation. The more relations between people get demonized – they'll give you AIDS, or take away your job, or ransack your house – the more relations with machines get sacralized. The communications industry, that most dynamic sector of the

> world economy, sells abracadabras that open the doors to a new era in human history. But this so-well-communicated world looks too much like a kingdom of loners and the mute.

An examination of the power relations at work in commercial media opens up another global dimension on the use of ICTs by children and teenagers. The contents of the media culture targeted at children and young people are decided by a few of global ICT and entertainment companies that dominate the culture industry: Vivendi in Europe and AOL-Time Warner, Walt Disney, Viacom and News Corp. in the US. Although the issue is kept relatively quiet, the ICT market is revolving increasingly around children and young people. There are two main reasons for this. One is that children and young people are capable of adopting and, because of their developmental stage, are keen to adopt new things as parts of their life-world. The second reason is that children in the affluent Northern societies are becoming an increasingly important consumer group: they have their own money and also influence their parents' purchase decisions with their opinions.

Yet, the vast majority of the children and young people in the world are unable to take part in the Western consumption frenzy, as it is known that almost a half of the world's population has to get by on no more than a few dollars a day and that four out of five under 20-year-olds live in the poor South. With comparable income levels, it is quite impossible to conceive of purchasing information and communication technologies for one's personal daily use. In this context, the digital divide amounts to nothing more than one more dimension in global inequality.

When discussing young people and ICTs, it is impossible to overlook the fact that the young people of today simultaneously inhabit multiple worlds. On the one hand, they are forced to struggle with a range of vastly different problems concerning livelihood and adjustment. While some toil in conditions best described as slavery and inhabit shanty

villages that have sprung up on the outskirts of metropolis, others contemplate their identities in their bedrooms, chatting away by their personal computers. Also, while some strive to escape the authority of parents, others look for someone to offer security and consolation. On the other hand, the youth of today are also faced with the global world. For them, global media culture represents a unifying force, a type of cultural pedagogy that educates them in how to consume, act, "and what to think, feel, believe, fear, and desire" (Kellner 1995, xiii). It is possible, and even very likely, that young people throughout the world are dreaming about the glamorous life of a pop star or a top athlete and wishing for a stereotypical Western youth with its broken hearts and other minor miseries. In any case, global media culture filled with popular culture is bumping against the real world adolescents live in like a pressure wave. The pressure for homogenization effected by media culture varies from one culture to another and depends on the young person's media competence and his or her power to resist outside influences.

Culture permeated by ICTs creates a setting where the traditional modes of socialization are altered and, at least to an extent, replaced with new ones. The viewpoints vary, but on the whole it is a generally accepted notion that in today's world, mediated popular culture and ICTs constitute a socialization force more powerful than the home or school. It makes sense to perceive the relationship between people and technologies as a two-way one. People invent, use, appropriate and modify technology. Yet, through using technology we learn to live with it, and in this way it makes us the historical beings that we are. This can be seen to constitute dialectical socialization, where we create technological environments, which, in turn, create us. This is the central lesson of the social history of technology.

In this fundamental sense, it is possible to think that a person's lifespan and the general circumstances of life are dependent on the time and place of birth. It can be concluded that in this important sense, life is

largely determined by demographical, generational and geographical as well as cultural and political factors. This results in a situation where different generations are living different eras, even though existing at the same point in history. Another consequence of this is that the living conditions and opportunities of young people vary greatly. Above, the meaning of ICTs has been observed from a quantitative and rather a general viewpoint. It is important to recall, however, that above all, the emergence of ICTs is a cultural phenomenon. As Light (2001, 711) reminds us: "Technology is not a neutral tool with universal effects, but rather a medium with consequences that are significantly shaped by the historical, social, and cultural context of its use." This means that ICTs should always be examined contextually or socio-historically: in this instance, as a part of the changes that have occurred in the life-world of young people.

The three-way division of culture into postfigurative, cofigurative and prefigurative by Margaret Mead (1971) provides an interesting opportunity for this kind of examination. The three abstract cultural forms do not form a clear temporal continuum but can live and prevail simultaneously in different parts of the world, as, in fact, is the present situation. In a postfigurative culture, socialization occurs from the older generation to the younger. In a cofigurative culture, people also learn from peers and organize a versatile formal education. In a prefigurative culture, the direction of socialization changes so that the younger generation may instruct the older generation in how to function in a new cultural situation. The mere speed of cultural change is an important reason for this reversal. In a new cultural situation, old skills, knowledge and attitudes lose their meaning. Naturally, the transformation is never complete: even in a society thoroughly permeated by ICTs, post- and cofigurative cultures continue to live on as traditions nurtured by people.

However, considering the present cultural position of young people, the notion of a prefigurative form of culture acquires new importance, for its central idea corresponds to what has been called global media

culture. The assumption that in prefigurative media culture socialization would occur exclusively from the immaturity of childhood to the maturity of adulthood is clearly problematic. The problem is contained in the essence of culture itself. In post- and cofigurative culture forms, it was possible for culture to be transmitted exclusively from the older generation to the younger. In a media culture, the situation has altered, as cultural transmission can no longer take place just from the old to the young, but also occurs the other way round. The accelerating cultural change thus serves as grounds for the two-way socialization, or the fact that it is also possible to learn from children and young people, that children can teach each other and their parents and learn from each other. The popular stories and narratives become a part of the experiences of childhood and youth, while at the same time children and youth become a part of the narratives of popular culture.

This type of cultural change is also a reason why the cultural practices and meanings generated by children and young people need to be listened to, read, explored and studied with particular sensitivity. As a part of the life-world of children and teenagers, ICTs create public spaces where new couplings are formed between knowledge, skill and pleasure (Giroux 2000a, 30). In critique departing from the notion of the two-way socialization prevalent in the prefigurative culture, school is seen as an institution that both upholds and reforms tradition. School is a sanctuary of closed knowledge protecting its educational autonomy with every means available. The closed code of school can be compared, for instance, to the open code of the Internet. For the media savvy teacher, ICTs constitute a never-ending source of information and pedagogical challenges, as they provide the opportunity for establishing virtual classrooms uniting school classes in different parts the world. In the progressive school, ICTs might serve a fundamental pedagogic purpose: to generate discussion across all barriers. The purpose is not to persuade those who think, act and look different to conform, but to look for opportunities for a common understanding and a better future together.

It is interesting to consider the unprecedented range of opportunities for learning the use of ICTs offers: young people use ICTs in searching for information using web engines or traditional electronic databases; surfing the Internet as a leisure activity; listening to music in digital format; writing e-mails; engaging in an online chat session; attending a virtual school; playing virtual reality games; studying via diverse forms of distance education or participating in projects that call for organizational learning with the help of different information and communication media. The literacy requirements of media culture expand from the ability to read text to capacities to operate and understand the meanings delivered by a variety of equipment (CD- and other music players, the computer, the mobile phone, the video), something that often precedes the acquisition of traditional literacy. In addition, it is possible to conceive of online chat as a pedagogical site that enables learning in fields such as skilled use of words, interaction unattached to gender and demarcations crucial for identity work. The sending of text messages on the mobile phone produces its own medialore and in its way functions to reform the language, whereas gaming culture enhances sensory and aesthetic perception and produces cognitive skills that have so far been studied very little but have already been declared to provide access to the digital future. Furthermore, increasingly affordable computers and powerful and versatile software enable young people's own music production in cheap self-made studios. Furthermore, a range of subcultures is springing up around globally and ethically moving issues and appears to be spontaneously generating a new generation of communication.

According to Willis (2000, 124-125), confidences in one's own skills and the motivation for the creative learning that occurs in media culture arises from creative consumption, fandom and the copying of pleasure-generating cultural products. Learning based on the consumption of culture should be perceived as a normal way to learn, and no distinction should be made between production and consumption in this context.

Cultural practices are the practices of learning, and learning – even in school settings – is filled with media cultural meanings. According to Willis, we really are on the verge of a new electronic folk age. The prefigurative media culture has important implications on the position of young people in the labor market. Young people seem to take in knowledge, skills and attitudes from media culture almost by osmosis. Some of these skills are highly useful in a prefigurative culture: language skills become tradable assets and computer literacy is hard currency in ICT companies investing in the field. In other words, the new qualifications acquired through informal learning serve to construct a more skilled and knowledgeable labor force.

Moreover, the attitudes pushed forward by media culture have functioned to mould young people into compliant consumers of the future. As concluded by Naomi Klein (2000, 275), it seems that brand-name corporations, who have targeted their offers and goods to young people, are abandoning youth "at the very moment as youth culture is being sought out for more aggressive branding than ever before". Equipped with skills and attitudes necessary for survival in media culture, young people have become the targets of gross exploitation unparalleled in the past: "Youth style and attitude are among the most effective wealth generators in our entertainment economy, but real live youth are being used around the world to pioneer a new kind of disposable workforce" (ibid., 275).

The ideology of flexibility promoted by the market has placed young people in a difficult position. By attaching their identities to popular cultural messages, they have adopted some of the ideals and ways of thinking promoted by media culture. Yet they are currently finding themselves in a situation where it is impossible to feel secure enough to make any long-term plans, let alone model their lives and futures according to the ideals adopted from the media: "A hit soap opera is generally the only place in the world where Cinderella marries the prince, evil is punished and good rewarded, the blind recover their sight,

and the poorest of the poor receive an inheritance that turns them into the richest of the rich" (Galeano 2001, 301). Some proponents of privatization stressing the viewpoint of capital perceive the situation based on endless flexibility and insecurity as ideal. They should perhaps be reminded that the price of this insecurity is paid in violent behavior, psychological exhaustion, social maladjustment and general restlessness in society. As Robins and Webster (1999, 172) state: "The race is on to establish increasingly individuated work relationships, with labor ideally linked on a network which allows him/her to be constantly and routinely monitored, while also supplied with the technological know-how and motivational characteristics to allow self-stimulation and autonomous development."

The construction of a new, individualistic work culture is founded on the promulgation of a new philosophy of education. The principles of this philosophy can be summarized as follows: rather than subjects, young people are taught competencies and skills; teaching occurs by means of problem-solving methods rather than didactic principles; introduction of individual learning contracts in which students assume responsibility for their own development; increased emphasis of business training and more co-operation between schools and business companies; stressing the importance of technology education and computer literacy as well as commitment to corporative lifelong learning perceived as imperative for success in working life (ibid., 172-173). In this discussion, young people easily become defined as mere instruments of economic activity. Their value is often determined based on the extent to which they can benefit the culture of corporations, a concept that refers to "an ensemble of ideological and institutional forces that functions politically and pedagogically to both govern organizational life through senior managerial control and to produce compliant workers, depolitized consumers, and passive citizens" (Giroux 2000a, 41).

The relationships and causalities between ICTs, young people and economy are often observed slightly too deterministically. It is claimed that the success of ICT companies has a direct effect on the growth of economy and thus the well being of young people. As has been successfully indicated by a number of scholars, in reality, the relationship is reversed. Generally speaking, the social infrastructure of society (democratic government, even distribution of income, social security and public services) must be intact to enable the adoption and utilization of ICTs for the purpose of enhancing the sustainable development benefiting everyone.

It seems reasonable to claim that the mediated practices of young people, at least in the affluent West, point towards a phenomenon called network sociality. The concept of network sociality can be understood in contrast to the idea of community. The notion of community evokes meanings such as stability, coherence, common history, embeddedness, belonging and a certain social recognition (Wittel 2001, 51). It involves strong interaction and long-lasting ties as well as rich narratives of the collective. Conversely, network sociality is not based on a common narrative but on informational acts; as observed by Andreas Wittel (ibid.), network sociality is "not based on mutual experience or common history, but primarily on an exchange of data". In network sociality the social bond is created on a project-by-project basis.

The information and communication technologies and media culture in general shape the thinking of children and young people, as they form their understanding concerning themselves and others in close interaction with ICTs and the messages carried by them. Thus, in a pessimistic interpretation, it is possible to claim that we are moving towards a mode of sociality that is likely to significantly narrow the relationship between a child and his or her caretakers. Furthermore, sociality maintained via ICTs erodes enduring relationships and alienates people from each other. Richard Sennett (1998) has been one of the most prominent social critics of the decline of lasting and trustful

relationships. He argues that flexible project-to-project life without routines and security leads to a number of losses, including the loss of commitment and a trust both at work and in family life. These losses then turn into psychological and social pathologies such as forced loneliness, violent behavior, unnecessary divorces and other everyday problems ranging from harmless unfriendliness to social exclusion and racist stigmatization.

However, there is also a positive interpretation of the current situation. Margaret Mead (1971) was among the first optimists to suggest that the new prefigurative era carried with it a seed of change for a better future. In her view, the new era necessitated a number of shifts in social relations between people. In the new era the learning process has been turned upside down. For the first time in the history of humanity, children are afforded the opportunity and the responsibility to teach their parents and teachers, to guide their elders on their way to the future.

In a similar vein, Norris (2001, 84) mentions generational differences as the most important in the adoption of ICTs. An interesting point in Norris' analysis is that when looking for explanations for Internet use, a person's generation surpasses factors such as income, education and profession. In other words, the cultural and social capital and material resources available to the individual do not mean everything: "The Napster generation is already experiencing a virtual world as they develop that is different from formative lives of their parents and grandparents" (ibid. 85). Thus, the young are not just experiencing the new era, but are also actively shaping the future with their digital practices. Mead (1971) demands that as adults we too must teach ourselves to change our behavior and give up old ways of thinking in order to keep our minds open to new ideas generated by the younger generation. According to her, only by developing new ways of communicating and new modes of interaction is it possible to free people's imagination from the past. It is her conviction that the

development of culture is dependent on a continuous dialogue between younger and older generations.

The dialogue between generations can occur in many ways: the use of ICTs is one possibility if at the same time, it is remembered that communication over a distance can never replace flesh-and-blood interaction. Physical closeness necessary for and nurtured in thick interaction is of deep-seated importance in relationships not only between the child and the caretaker but also between adults. In the prefigurative age of media culture, it is highly probable that, as Mead suggest, the competencies necessary in media cultures are best achieved through parent-adolescent, teacher-adolescent and parent-teacher dialogue, where young people get to be heard as experts and as teachers, too. For, in the present media culture, it should be imperative for parents and teachers to perceive children and young people's informal skills in the use of ICTs not as threats but as opportunities for personal growth and social change and gateways to mutual respect.

5. Edutopias and Active Citizenship

It is clear that young people are learning new skills and attitudes in the spheres outside classroom, and thus the internal and the external freedoms of wikipedias, the possibilities for forking and for collaborative and processual content creation, will cause a complete re-evaluation of institutions of education. Like noted, already Wikipedia content is replacing the need for "information-delivery" lectures. What is the best way of using time when students and teachers are gathered together in a situation when wiki-tools exist? What is the best way of using time when students and teachers are gathered together in a situation when a relatively completed Wikipedia exists? In a few decades, there will be no need to lecture in order to transfer information. Rather, people gathered together can overcome the limitations of the cyberspace by discussing, criticizing, arguing, synthesizing and building an understanding. What is the role of the teacher or any other expert in such a situation? These are the questions we should be asking ourselves while charting a route towards future critical pedagogy. Do we still need places like high-class higher education institutions with their campuses and the related infrastructure, or can we put them into better use, for the people's needs in the Marxist sense of the word?

The situation resembles visions launched by many late 20th century philosophers who maintained that technologies of various kinds would play an important part in the democratic society to come. It seemed as if new information technologies were fulfilling some of the early prophesies of these and other democratic utopias. John Dewey's elementary pedagogical idea geared around the idea of "associated life",

a cover term for all sorts of educational ideas and practices, old and new, in which people depend on one another and learn with one another (Bruffee 1995). Ivan Illich (1980) for his part talked about convivial society, networked communities with their and autonomous free street corner learning clubs and learning webs in which people can enjoy media and create their own contents and messages. Using Gilles Deleuze and Félix Guattari's (1987) concept of rhizome some thinkers claim that the basic division in the politico-educational arena is that between hierarchal democracy and rhizome-like democracy (Vail 2005). The concept of rhizome refers to a "subterranean root-like stem that builds up a network of interconnections with no central organization" (Morss 2003, 134). The division between hierarchical tree-like democracy or an organization and that of the rhizomean democracy or an organization has not only political implications in the ideas of "leaderless revolution" and networked dissidence but also educational implications in how to organize curriculum in the era characterized by the end of foundational epistemology. In this situation teaching cannot be easily seen as a authoritarian activity but more like "subversive activity" (Postman & Weingartner 1971) in which teachers along with their students compare information from various sources, negotiate their knowledge and experiences together, and interpret the world.

When Jean-Francois Lyotard (1984, 53) claimed that "the age of the Professor" is ending he meant that academic professionals and other experts (in their often exclusive ivory towers) are no longer "more competent than memory bank networks in transmitting established knowledge, no more competent than interdisciplinary teams in imagining new moves or new games." Think of the team compiling Encyclopeadia Britannica compared to the team compiling the Wikipedia. Lyotard gave only two options for the future of higher learning. Whether it was the 'teaching machines', data banks and sorts which would provide and transmit the necessary information, this is the passive or digestive version of the future of higher education, or as in

the more active version, it was creative teamwork which would be the kernel of the production of new knowledge. The latter option was in Lyotard's view an elitist version of the future, reserved only to the chosen ones inside the academia.

In the Wikiworld the situation is rather different. For Lyotard did not take into account an opportunity of the use of collaborative media, like wiki, in which the former "memory bank networks" could be used actively and be defined almost as 'live' by-participants of human co-operation. This however is lived reality in the case of today's modes of co-operation between students and teachers, and between citizens and activists of various kinds in their daily studies and the search for the good and just society, as well as in pursuit of new ideas, information, innovations, social justice, peace, knowledge, love and wisdom. Michel Foucault (1988) for his part once dreamt about diverse methods of critical communication and broadcasting:

> I dream of a new age of curiosity. We have the technical means for it; the desire is there; the things to be known are infinite; the people who can employ themselves at this task exist. Why do we suffer? From too little: from channels that are too narrow, skimpy, quasi-monopolistic, insufficient. There is no point in adopting a protectionist attitude, to prevent "bad" information from invading and suffocating the "good." Rather, we must multiply the paths and the possibilities of coming and goings.

It is relatively easy to see that since these and other discourses all the visions have been reproduced in diverse technoutopias including our own, that of 'digital social creativity'. These utopias are in sharp contrast with the recent university policies and discourses in the Western world. We are repeatedly told that higher education is in crisis due to lack of public funding. As Mary Evans has put it in her *Killing Thinking – The*

Death of the Universities, the end of the Millennium "has not been a happy time, since those years have seen the transformation of teaching in universities into the painting-by-numbers exercise of the hand-out culture and of much research into an atavistic battle for funds" (Evans 2004).

The university system is regarded as our best resource and potential not only for intellectual vitality and creativity but also more straightforwardly for the national economic competitiveness in the global markets. Yet those potential resources are increasingly marginalized by cultures of assessment and regulation (Evans 2004). The crucial hegemonic struggle concerns the language implicit in the use of the new information and communication technologies. Whose language is it? What language is it: technocrats, students or teachers? Are there many languages, many vocabularies? Who has the power to define the leading vocabulary? There is a threat that the very same forces that are managerializing and thus ruining the critical potential of the universities will set the standards for the language proper. Thus an initial resistance would be urgent; it could start as "a refusal of a language now inflicted upon university staff" (Evans 2004, 74). In this refusal "out would go consumers, missions statements, aims and objectives and all the widely loathed, and derided, vocabulary of the contemporary university. In could come students and reading lists" (ibid. 74). To the 'in-list' we would include the use of social media in their various forms, and enough time for discussion, reflection, and debate.

It is said that the institution of education as an invention of a modern era was born to educate the people as citizens. At the same time as it was supposed to guide them, it also governed and disciplined them. But education – as well as literacy – is more or less a double-edged sword. As Raymond Williams nicely puts it in his book on *Television* (1974), if you teach people to read the *Bible*, you cannot stop them from reading the radical press. Whereas modern education emphasized obedience to authority, mostly "rote memorization, and what Freire called the

'banking concept' of education, in which learned teachers deposit knowledge into passive students, inculcating conformity, subordination, and normalization" (Kellner 2004, 10-11) in today's education the emphasis should be elsewhere, for today it is practically impossible to control peoples' learning by the means of formal education. Therefore we should now reach for and foster digitalized ways to learn and communicate in co-operation with each other to make a progressive social change; these skills we can call collaborative literacies.

In terms of literacies modern education imposed dominant forms of literacy "associated with formal organizations, such as those of the school, the church the work-place, the legal system, commerce, medical and welfare bureaucracies" (Hamilton 2005). "In dominant literacies there are professional experts and teachers through whom access to knowledge is controlled. To the extent that we can group these dominant literacies together, they are given high value, legally and culturally. Dominant literacies are powerful in proportion to the power of the institution that shapes them." (Ibid.)

In contrast, what Mary Hamilton names as vernacular literacies, and we call collaborative literacies, are literacies "which are not regulated or systematized by the formal rules and procedures of social institutions but have their origin in the purposes of everyday life" (ibid.). Collaborative literacy practices develop, and are learnt informally. They are rooted in action, but are not valued by formal social institutions. Often they develop in peoples' critical responses to authoritarian regimes and are part of the local and global protests against the institutions of power. Hamilton (2005) describes these literacies as follows:

> Vernacular literacies are as diverse as social practices are. They are hybrid in origin part of a "Do-It-Yourself" culture and often it is clear that a particular activity may be classified in more than one way since people may have a mixture of motives for taking part in a given literacy

> activity. Preparing a residents association newsletter, for instance, can be a social activity, it can be part of leisure or political activity, and it may involve personal sense-making. They are part of a "Do-It-Yourself" culture that incorporates whatever materials and resources are available and combines them in novel ways. Spoken language, print and other media are integrated; literacy is integrated with other symbolic systems, such as numeracy, and visual semiotics. Different topics and activities can occur together, making it hard to identify the boundaries of a single literacy event or practice. This is in contrast to many school practices, where learning is separated from use, divided up into academically defined subject areas, disciplines and specialisms, and where knowledge is often made explicit within particular interactive routines, is reflected upon, and is open to evaluation through the testing of disembedded skills.

In order to develop collaborative and vernacular literacies as parts of political protests as well as projects of participatory democracy and lifelong transformative learning we should increase physical spaces for people and groups to meet and exchange ideas, and access points for information (libraries, cyber cafes, bookshops, advice centres, Internet buses, community halls) so that citizens can engage in virtual or actual meetings with each other and with experts; strengthen open local government structures and forms of participatory democracy that facilitate social change and citizen action; support local media which help to break the power of the media giants; and provide structured opportunities to learn both content and process skills and link up with others interested in the same issues. (Ibid.)

Has Meaning Been Lost from Higher Education?

We want to defend the following argument: in higher education it is possible to save and renew higher learning's critical and revolutionary function by applying various digital information and communication technologies and use them wisely to create abilities or literacies what we would like to call 'digital social creativities'.

This debate has levels within levels, and discourses within discourses. Three major attitudes can be discerned: first those who look at this crisis from the point of the view of educational and economical policy making, second those who see it from the vantage point of structures and administration, and third those who define it as a part of such megatrends as capitalist globalization (i.e. Burbules & Torres 2000; Bok 2003; Noble 2003). As William Tabb (2001) has put it:

> When people think about globalization, most focus on sweatshop labor and the loss of manufacturing jobs overseas. It is easy to understand the race to the bottom that results as factory workers in one place face more intense competition from lower-cost labor on the other side of the world. College teachers would do well, however, to include their own future prospects as they consider the impact of globalization over the coming years. The university will be a very different place in another decade or two, and what it will look like depends to a large degree on what version of globalization wins out.

Broadly speaking, higher education seems to be in crisis at least in terms of economics, structural matters, demographics, epistemology, and pedagogy. These crises have different faces in different academic and other contexts, and they vary between countries, but common

characteristics have to do with economics and accountability, and also with the idea of knowledge as a commodity. These are variants of recent capitalist tendencies in global economics, in national public sectors, and in universities as "diploma mills." Corporate capitalism has set itself inside academia in the form of a "neoliberal model of education."

Critical scholars have feared that traditional values of Western autonomous academia will be replaced by elements of the neoliberal model: "making the provision of education more cost-efficient by commodifying the product; testing performance by standardizing the experience in a way that allows for multiple-choice testing of results; and focusing on marketable skills" (Tabb 2001). As Tabb (ibid.) further notes, at the moment these neoliberal principles are manifested as "cutbacks in the public sector, closing 'inefficient' programs that don't directly meet business needs for a trained workforce," and in higher education courses and degrees being sold and packaged for delivery over the Internet. As many scholars have suggested, universities have suffered major structural changes in the name of business-like efficiency that has had profound implications for critical inquiry (Huff 2006, 30). Furthermore, the priorities and principles of universities "are being subtly and not so subtly shifted by the exigencies of corporate capitalism" (ibid.). In addition to "diminished funding for higher education, proliferation of programs and new demands for student-oriented consumer services, there is a crisis of legitimacy that goes to the heart of the academic enterprise" (ibid.).

Part of the talk about crisis is nothing but right-wing gimmickry, another attempt to overrule more liberal and critical voices. But an important part of the discussion has to do with a question that we as critical scholars ought to be able to answer: In what sort of a world are we living, and in what kind of a world would we like to be? Or to put it in pedagogical language: What are our goals in teaching and learning? Part of the crisis critical scholars refers to is the fact that a blind drive for measurement, evaluation and accountability in academic work has

put these essential questions aside. And, who knows, maybe this has been the very purpose, or at least a hidden agenda, of various U.S.-based conservative think tanks. These along with conservative forces in academia push the standardization of learning and teaching forward, and want to run the university in "having mode" (Fromm 1963).

The Promise of Digital Social Creativity as Collaborative Learning

New digital information and communication technologies (ICTs) are, at least in the affluent West, creating a phenomenon called network sociality. It can be understood in contrast to the idea of community, which involves strong interaction and long-lasting ties as well as rich narratives of the collective. Conversely, network sociality is not based on a common narrative but on various informational acts. In network sociality, the social bond is created on a project-by-project basis. In pessimistic interpretations, this mode of sociality is seen as narrowing down people's possibilities for social and political interaction: sociality maintained via ICTs threatens to erode enduring relationships and alienate people from one another.

In more positive interpretations, it is suggested that with the new form of sociality, the learning process has been turned upside down. Children and young people are afforded the opportunity and the responsibility to teach their parents and teachers, to guide their elders. For example, when looking at explanations for Internet use, a person's generation surpasses factors such as income, education, and profession. In other words, cultural and social capital and material resources of the older generation do not mean everything.

Thus, the young are not just experiencing the new era but are also actively shaping the future with their digital practices. In the

"prefigurative age" of the information society, it is highly probable that the necessary social and technical skills are best achieved through diverse dialogues and interaction as ways of the multiple socialization: adolescents learn from their peers and teach their teachers and parents. In the following, we are suggesting that the world is turning doubly upside-down: first, the younger generations have an unusually strong role in creating the future and guiding their elders, and, second, informal education in peer-groups, be they virtual or not, is needed to give vital feedback to institutions of formal education.

Media and educational researchers Colin Lankshear and Michele Knobel (2006) have characterized the new digital age in various dimensions in two different mindsets, or attitudes. In mindset 1, emphasis is on business-as-usual way of looking at the world, whereas mindset 2 tries to find new concepts, vocabularies, and practices in capturing the reality of social digital creativity (see Table 3).

The qualitatively new features of this upside-down world of learning are digital tools used for open collaboration. It is important to note that these tools are an amalgam of social and technological innovation. For instance, something like the free encyclopedia, Wikipedia, needs both technological innovation (wiki-software, the Internet, a server park, etc.) and new socio-cultural practices (a certain "hacker" relation to information, an attitude of anti-vandalism, informal hierarchies and division of labour, etc.) in order to function. This emerging and rapidly expanding amalgam is the petri-dish for open collaboration and so-called social media, be it in the form of the various types of wikis (Wikipedia, Wikibooks, Wikimedia, etc.), open content production and distribution, social bookmarking, folksonomy, free/open source software, the blogosphere and so on.

Table 3: Two Mindsets (Adapted from Lankshear & Knobel 2006)

Mindset 1	Mindset 2
The world is much the same as before, only now it is more technologised, or technologised in more sophisticated ways.	*The world is very different from before and largely as a result of the emergence and uptake of digital electronic inter-networked technologies.*
• The world is appropriately interpreted, understood and responded to in broadly physical-industrial terms	*• The world cannot adequately be interpreted, understood and responded to in physical-industrial terms only*
• Value is a function of scarcity	*• Value is a function of dispersion*
• An 'industrial' view of production *o Products as material artifacts* *o A focus on infrastructure and production units*	*• A 'post-industrial' view of production* *o Products as enabling services.* *o A focus on leverage and non finite participation*
• Focus on individual intelligence	*• Focus on collective intelligence*
• Expertise and authority 'located' in individuals and institutions	*• Expertise and authority are distributed and collective; hybrid experts*
• Social relations of 'bookspace'; a stable 'textual order'	*• Social relations of emerging 'digital media space'; texts in change*

Open collaboration with digital tools is potentially global, transgressing national, racial and economical boundaries. This in itself is already a big challenge for systems of formal education. While the rhetoric of equality, interaction and active citizenship typically dominates the official educational agenda, open collaboration with digital tools is most often part of children's and adolescents' informal education, and, more often than not, also something that seems alien if not threatening from the institutional point of view. Consequently, a growing gap of credibility is created between the world-view and sociality experienced through peer-induced informal learning and the world-view offered through institutional formal education.

From the point of view of open digital social creativity it would be desirable to see these two realms – formal and informal learning – in tight interaction with each other in terms of teaching and assessment. One way to make this to happen would be to open up more possibilities to collaborative methods of teaching and learning. This is essential for students of today so that they no longer act as passive recipients, "empty vessels into which we pour our pearls of sociological wisdom, but as active citizens, capable of absorbing a rich lived experience, participants of in public debates they carry beyond the classroom" (Burawoy 2006). In changing our pedagogical habits we need to learn collaborative teaching methods, and in the process learn to "share our toys" (Bruffee 1995). Using John Dewey's terminology, we should substitute individualistic life for "associated life." This might gradually change the way we think, and eventually change the world. The question is, of course, are we ready to change, and further, why bother? Kenneth Bruffee (1981) has summed up more reasons from the academic point of view:

> Interest in collaborative learning is motivated also by recent challenges to our understanding of what knowledge is. This challenge is being felt throughout the academic disciplines. That is, collaborative learning is related to the

> social constructionist views promulgated by, among others, the philosopher Richard Rorty (*Philosophy and the Mirror of Nature*) and the anthropologist Clifford Geertz. These writers say (as Geertz puts it in his recent book, *Local Knowledge*) that 'the way we think now' differs in essential ways from the way we thought in the past. Social constructionists tend to assume that knowledge is a social construct and that, as the historian of science Thomas Kuhn has put it, all knowledge, including scientific knowledge, 'is intrinsically the common property of a group or else nothing at all.'

Consider, for instance, the epistemology of the Wikipedia. Though some recent comparisons suggest that Wikipedia articles in English in general are comparable to those of the *Encyclopedia Britannica* (Giles 2005), the really revolutionary part of Wikipedia is not connected to peer-group generated reliability. Rather, first and foremost the fact that articles can be written on almost any topic provides a wide folk-o-pedia with a scope far outstripping that of traditional encyclopedias. And, in addition, a Wikipedia article always comes with its history and the connected discussions. This "genealogical" stratum gives it an epistemologically different status from a *Britannica* article. And, as Bruffee (1981) maintains, collaborative learning "is related to these conceptual changes by virtue of the fact that it assumes learning occurs among persons rather than between a person and things".

In reflecting on these questions, we should focus on the structures and processes of teaching and learning in the university classroom and ask, are students' superficial attitudes deriving from the teaching methods, and how they are treated in the classroom? Are they kept as objects of teaching, or as co-thinkers and agents who are able to create their own world with their teachers and peers? In answering these questions honestly we have had to admit that our teaching has often

been based on what Paulo Freire has referred to as the "banking method" (Freire 2005). In the banking method, students become alienated and lose interest in learning, for as Freire put it in his *Pedagogy of the Oppressed* (2005, Ch. 2), it is the omnipotent teacher who knows and students who digest by listening.

> In the banking concept of education, knowledge is a gift bestowed by those who consider themselves knowledge-able upon those whom they consider to know nothing. Projecting an absolute ignorance onto others, a characteristic of the ideology of oppression, negates education and knowledge as processes of inquiry. The teacher presents himself to his students as their necessary opposite; by considering their ignorance absolute, he justifies his own existence. The students, alienated like the slave in the Hegelian dialectic, accept their ignorance as justifying the teacher's existence – but, unlike the slave, they never discover that they educate the teacher.

And, as Freire continues: "The *raison d'etre* of libertarian education, on the other hand, lies in its drive towards reconciliation. Education must begin with the solution of the teacher-student contradiction, by reconciling the poles of the contradiction so that both are simultaneously teachers and students." (Ibid.) Alternatives for the banking method are diverse student-student and student–teacher collaborations and encounters.

In collaborative learning, students learn by working with each other on focused, open-ended tasks, discussing issues face to face in small groups. Collaborative learning taps higher education's most powerful, yet repeatedly underdeveloped resource: peer group influence. According to Bruffee (1981, 745) the "primary aim of collaborative learning is to help students test the quality and value of what they know

by trying to make sense of it to other people like themselves – their peers."

In addition, collaborative learning is a viable way to get to know each other in a face-to-face setting, study some of the basic theories, methods, concepts and contents of a given field, learn how to do things together ("share our toys"), develop trust in an open atmosphere, build "transgressive," multidisciplinary competencies (Nowotny 2000) needed in various professional practices, learn how to learn professional interdependence when the stakes are low, and create a democratic idea of knowledge and research work. By using collaboration, students are introduced to methods of learning, problem-solving, and task efficiency that they can later employ in the workplace. Here we are inclined to think like Lyotard (1984, 52):

> If education must not only provide for the reproduction of skills, but also for their progress, then it follows that the transformission of knowledge should not be limited to the transmission of information, but should include training in all of the procedures that can increase one's ability to connect the fields jealously guarded from one another by the traditional organization of knowledge.

Let us again think of Wikipedia as an example of this sort of mixing professions and often tightly gated areas of professional knowledge. In writing Wikipedia text one can contribute and collaborate anonymously without anticipation of academic or other glory.

In this sense digital social creativity as collaborative learning is an argument against capitalist higher education that trains students to individual obedience and reproduction of an organized stock of established knowledge in order to succeed. It is also a statement against the system’s continuous emphasis on individualism, relentless competition, and accountability creating an ethos of hatred, envy and

suspiciousness. The collective history of a Wikipedia article and the social interaction on which it is based show quite clearly how individualism and malevolent suspicion can be overcome with openness and collective responsibility. This does not mean, however, that criticism is to be precluded: the easy modification of a Wikipedia article promotes a critical and necessary distance for the 'extended' creation of new information and reproduction of old.

The problem is, of course, that usually teaching is not seen as an important or rewarding part of academic life, but is rather considered a fairly unfulfilling and laborious task to be executed – a task far less important than research and writing. This is unfortunate, for "faculty members may play the single-most important role in student learning" (Umbach & Wawrzynski 2005, 176). Along with personal supervision and mentoring, teaching is the only official way to interact with the younger generation within the university. Maybe for that reason alone we should take the words of Henry Giroux to heart:

> I believe that intellectuals who inhabit our nation's universities should represent the conscience of a society not only because they shape the conditions under which future generations learn about themselves and their relations to others and the outside world, but also because they engage pedagogical practices that are by their very nature moral and political, rather than simply technical. And at its best, such pedagogy bears witness to the ethical and political dilemmas that animate the broader social landscape. Such pedagogical approaches are important because they provide spaces that are both comforting and unsettling, spaces that both disturb and enlighten. Pedagogy in this instance not only works to shift how students think about the issues affecting their lives and the world at large, but also potentially energizes them to seize

> such moments as possibilities for acting on the world, engaging it as a matter of politics, power, and social justice. (Giroux 2003, 194-195.)

Uneasy Relationship between Formal Education and Collaborative Learning

In our view, there are two major roots for the uneasy relationship between institutions of formal education and the digital environments of open collaboration. First, open collaboration creates a seismic epistemological and ontological shift in the production and legitimation of knowledge. The claim to truth, knowledge and enlightenment that content produced in open collaboration makes is not created through authority, certainty and legitimacy, but through dialogue, perspectivity and pragmatic value in 'imaginative' groups and minds whether in the universities or elsewhere. For example, the trustworthiness of an entry in the Wikipedia is best evaluated by analyzing its history, the amount of criticism and alternative viewpoints that it has endured and incorporated, and the benefits for the reader.

Wikipedia is a paradigmatic example of the epistemological challenge, because it explicitly deals with knowledge and information, but the same effect is felt in various degrees throughout the field of content distributed and produced through open collaboration. The world-view and "hidden" messages contained in collaboratively created audio or video content raises the same epistemological questions. A bricolage created by "rippin' and mixin'" existing content often self-consciously challenges the presuppositions of classical epistemologies, such as finality, authorship, and assent. Teamwork and craftsmanship

gain new importance as works of open collaboration resemble the works of Renaissance painters: the whole shop of disciples of various levels of talent and areas of expertise is involved in the production, more or less closely overseen by a "master". Despite their rhetorical commitment to collaborative and interactive learning, institutions of formal education are having a hard time dealing with this epistemological shift.

Second, and not unrelated to the first point, open collaboration and social media emphasize non-informational uses of the ICTs. Think about a teenager creating fan fiction: most likely, she will be multitasking with instant messaging, Internet relay chat, blogs related to the theme and other possible tasks (such as SMS-messaging with friends, listening to music, doing homework) all the time. Most of these activities are more readily categorized as social and communicative – having to do with identity, pleasure, entertainment – than as informative or educational. However, the experienced and convivially constructed world in which our fictive author of fan fiction operates, is most intimately also the world in which she needs the skills and possibilities of literacy, criticism and autonomous creation.

Together these two features, the dialogical nature of knowledge and the emphasis on social interaction, create a tremendous opportunity for education. The platforms of open collaboration are fulfilling several goals of the convivial information society, like those of community and cooperation as key elements of democracy, freedom, openness and transparency, and active participation. However, we need a framework for bridging the gap between informal collaborative learning and formal education, so that they do not, in the worst case, work against each other.

By envisioning a world in which the Wikipedia and various forks of it – for instance, Wikipedias with different partisan points of view – have existed for decades, we can gain an insight into the shape and function into which formal education should be molding itself. All experts can be challenged in the blink of an eye by access to the

wikipedias. Expertise will transform into the skills of grasping wholes and seeing connections, and, most importantly, being able to participate in meaningful and rewarding collaborative work. This transformation, the beginnings of which we are already feeling when constructing curricula and choosing lecture material, is not well served by the tendency of restricting access to information and collaboration, be it in the name of safety, control or protecting intellectual property.

The problem of the credibility gap translates into a concrete question: how to secure the freedom of knowledge creation and learning in the institutions of formal education? But the answer is simple: practice what you preach. Many teachers and educators use open content, such as Wikipedia, regularly, and participate in open collaboration through the Internet. The next step is to get involved in the collaborative projects and forms of social media that the students are already immersed in. This could mean getting involved in the world of digital games, manga, fan fiction or something similar, or it could mean producing a neighborhood wikipedia or a local podcast.

The attitude that is necessary for not ending up with closed teaching machines is well summarized by the Net pioneer John Perry Barlow (in Beckedahl 2006):

> If you wanna share something – share it. If you wanna use something – use it. Try to do so ethically in the sense of don't take things without attribution, attribute. Make sure that the people who did create actually have the opportunity to get some enhanced reputation and, thereby, you know, greater economic return. But … pay no attention to these people when it comes to being creative. Go ahead and do the stuff that Larry showed in the beginning of his talks and do a lot of it. And every time they put a lock on – break it. And every time they pass a new law – break that…

The key is to focus on the content that is actual and relevant, so that the institutional involvement does not happen for its own sake in an academic vacuum thus promoting alienation. Institutional involvement can overcome the credibility gap and become a partner in the dialogical epistemology, if and when it has a grounded point of view and a real stake in building convivial information society for all. Institutions of formal education should be the hubs of open collaboration, instead of turning into gated communities of further segmentation and deepening digital divides. The system logic of formal education needs to be nourished by the logic of collaboration and sharing evident in informal peer-to-peer interaction of the digital world. Hence we cannot but agree with Noam Chomsky's view on the role of the students in learning, a view which echoes Dewey, another master thinker of the 20th century. Chomsky (2000, 21) is worth quoting at length:

> One should seek out an audience that matters. In teaching, it is the students. They should not be seen merely as an audience but as a part of a community of common concern in which one hopes to participate constructively. We should be speaking not *to* but *with*. That is second nature to any good teacher, and it should be to any writer and intellectual as well. A good teacher knows that the best way to help students learn is to allow them to find the truth by themselves. Students don't learn by a mere transfer of knowledge, consumed through rote memorization and later regurgitated. True learning comes about through the discovery of truth, not through the imposition of an an official truth. That never leads to the development of independent and critical thought. It is the obligation of any teacher to help students discover the truth and not to suppress information and insights that may be

> embarrassing to the wealthy and powerful people who create, design, and make policies about schools.

But, what, then, is the proper pedagogy of helping students to search for truth, and learn freely in the Wikiworlds? At least two tenets must be met when dealing with truly liberatory and transformative pedagogy in higher education. First, it is necessary to build educational activities from below, or "from the ground upward in a democratic way, with students and teachers as codesigners of the process" (Brookfield 1995, 136). This provides them with a needed "sense of connectedness" and as democratic experience in learning creates democratic sentiment. Second, this democratization of the educational situation is indivisible, for partial democracy is as possible as partial pregnancy – it does not exist. Third, a certain leap of faith is needed in teaching democratically. As Brookfield puts it,

> Once you commit to working democratically, you have to take the leap of faith that says that people will make informed choices. And you must trust that if they don't make the choices that you think in the short term are the best ones for them (like attending every class), in the long run, the experience of being in control will make them more responsible the next time they are able to exercise power. (Brookfield 1995, 137.)

Viagra and Active Citizenship

If meaningfulness in life has more or less disappeared, a replacement is found in material, consumerist dreams. And there is no lack of those who offer them. A multitude of industries rake in profits from this, with art also trying to get its share more and more often. The dream society tells of minds yearning to be elsewhere. Meaninglessness must be compensated with maximal experience of dreams of a better, meaningful life. The Hollywood dream factory has always known how to capitalize on this human desire for what is missing in everyday life: a rich, exciting and meaningful existence. But as Richard Dyer, a scholar of popular culture, has observed, Hollywood provides a feeling of what utopia might be like, but it does not realize that utopia. The dream will remain unfulfilled, but you can always buy a new one.

Contemporary culture is often described as visual culture, implying the visibility of cultural signs and messages and the emergence of visual forms of narrative in all areas of communication. Marketing and other messages attracting our attention and guiding us toward consumption have inundated our everyday lives with garish colors and temptations steering our behavior. Our visual environment is filled with messages in which a strange voice is speaking. Is this the kind of environment we fancy? What if we would like to say something ourselves, tell about our own experiences in our own voice, and with our own visual messages?

The visual environment in which we live should be everyone's shared area of residence and life, a comfortable home. It is, however, often the case that the townscape, for example, is influenced most by other actors, ones for whom the city is primarily a domain for business, and not the living environment of human beings. The city, however, marks the individual and is located in him or her, as part of personal identity, the live world and meaningfulness. The notorious makers of graffiti have often tried to make the townscape present alternative

messages, albeit with poor results. They are regarded as visual troublemakers and terrorists, while a beer ad on fence is part of the normal townscape. Something is also reflected by the fact that we are prepared to pay for things such as advertising text printed on t-shirts and to serve as walking advertisements. But what if the T-shirt is a means of personal expression, for stating one's own ideas?

Identity has become a central quest in the dream society. We no longer necessarily know who we are, for we seek meaning in our lives by looking for a new script, and perhaps changing roles and sequels. The pedagogue Thomas Ziehe has noted that in contemporary society it is easy to hope that one is someone else and to expect and imagine more of oneself. One can always want more, and consider how things could be. Unlike in traditional rural societies, where the path of one's ancestor had to be followed, life is not preordained. But the above-mentioned 'more' also generates conflict: "How one could be while not being: what one expected but did not receive, what one wants yet does not want; what one does and therefore cannot do otherwise." We can always make comparisons, dream, want more or desire something else. Identities are at stake, changing and moving.

Already in the late 1920s, Martin Heidegger wrote perceptively in his *Being and Time* (translation from 1962) about the fundamental form of human existence that he described as the life of *das Man* or 'the one'. It is a life not quite one's own, but instead one of drifting with a crowd – a crowd that is now being increasingly steered by the media and entertainment industry: life depends on the thickness of the wallet. Heidegger writes of actors living just like anyone else, seeing the same art exhibitions as anyone else and even standing out from the crowd just like anyone else. *Das Man* is not quite himself, not finding his own direction in life nor choosing it. Instead, he constructs his identity through forms of existence externally defined, from other people and the models of the media industry. Heidegger's message, however, can only be grasped through personal experience – when one has sunk so deep

into the mundane law-like regularities of everyday life that one wakes to the uncomfortable feeling of not being quite present in one's own life, not living one's own unique and ultimately brief life, but seeing instead how one is pulled by the current and wondering for whose benefit one is actually acting and what sense there is to any of this. For Heidegger, this experience and this awakening are the voice of conscience, a voice not accusing or blaming, but instead seeking a meaning for life, wishing to find something of permanence and value.

Who is the "active citizen" or "entrepreneur" that is the ideal in liberal democracies? The person who takes part in politics, civil society and the economy both locally and globally, using all the mechanisms and channels provided by representative democracy, new media and empowerment initiatives? Is it not *das Man*, the tasteless unit of production and policing, who shuns both passion and ideology and all other politically incorrect behaviors in order not to be labeled a Nazi of this or that kind? Is it not *das Man* who actively takes part in working life and leisure activities modeled on necrophilia? Making love to a dead body does not initiate two-way passions or responsibilities. You can leave the body and it does not call back, does not betray you or make fun of the desire you have confessed (Žižek 2004c). The supporting male-intellectual-hedonistic fantasy of the information society is a cocktail of forced-voluntary solitude, silence, drinking, content-production, interaction and love-making with a partner that you do not need to face after the act however kinky (see Beigbeder 2004, 76). When the other does not say no and you do not yourself get committed, the fantasy is never traversed. While the modern subject saw itself as responsible for its life, the postmodern subject is always a victim of circumstance. Hence the rule: minimize ulteriority, ironize interiority.

The tolerance of liberal democracies and consumerist capitalism cushions the subject from the brute force of the outside world. A description of the everyday of an active citizen can run like this: "I worked, downloaded porn, masturbated to the usual heteroflicks, even

though I didn't find S/M strange in an age where the humiliation and control of people has been made into a cardinal virtual and a official almost constitutional doctrine, I studied, did not throw bombs yet, not even creamcakes." (Seppälä 2004, 23). And the work in content production turns into endless "seminars, centres of excellence, incubators, research, fact-finding, desing and development projects, planning and coordination meetings, working groups, steering committees, best practice hunting trips, third sector collaborations, e-learning environment enhancements, project pilots, investment plans, quality control assessments" (ibid., 11). Liberal democracy is its own enemy. It sadistically suffocates resistance while at the same time masochistically proliferating it by ironizing, demonizing, fencing, thanking, prizing. The Truman Show is a telling allegory of the sadomasochistic pursuit of happiness and of the leaks at the edges. The Truman Show can be felt in various situations: the nausea felt at supermarkets and malls, being bounced from one help-desk to the next, the locks on the door of the retrirement homes, two planes in a scyscraper, …

The market is ripe for enjoyment without friction, cream without fat, coffee without caffeine, beer without alcohol and sex without a partner (other than the dataglove). Wars are also without dead (on our side), and politics is without ideologies. As Žižek (2004c) points out, the injunction is to enjoy even more and without guilt: if by eating too much chocolate you get constipated, there is a laxative chocolate for you! Nothing is too little or too much, we have everything to choose from and on top of everything sits "morality, the police, and a condom" (Varto 1995, 60). While education used to aim for a golden middle and moderation, now we should consume (eat, drink, fuck, surf) as much as we can!

Does not the term "information society" itself rely on the virtual nature of "information"? The information society tolerates everything that proliferates discussion and inclusion. There is no outside, only the

growing logistics of information-material-desire. The reflexive modern, the risk society, the information society are all mystifications of the "freedom of choice". What you choose governs who you are, what your world will be like, what is offered to consumers, how much CO^2 is produced, etc. The other side of consumption is hidden: what you want and the diversity offered are both produced by advertisement. The news in your daily or on your rss feed-reader is not there because it is important; it is important because it is in the news. The freedom of choice and our independence from others ("There is no such thing as society") is created in the world of ad-fantasies, where you buy in order to be free and are free in order to buy. The car, the lipstick, the toothbrush, the hedge fund all promise liberty, real freedom. As Finnish novelist Juha Seppälä defines it: "a social democrat is someone who wants freedom in order to get money." (Seppälä 2004, 23). The flow of information is closed: we need money in order to buy freedom to make money in order to… When Marx claims that the workers in capitalism are not the subjects of their productive activity, Karantani continues: "If workers can be subjects at all, then as consumers" (cited in Žižek 2004b, 124). But you cannot eat your way to the end of this sausage: We produce what we consume, and the material cycle is mirrored in the circular fantasy of money-freedom-money. This is why we have to ask: freedom for whom? Freedom to what? And, more particularly: information society for whom, and for what?

The image of information society is directly linked with new digital media. There the node of "interactivity" ties together the fantasies of democratic potential, freedom, active citizenship, lifelong learning, new economy, and so on. But interactivity has its shadow, too. First, interactivity, like active citizenship, easily turns into a forced choice ("if you can, you must") of interaction. Interactivity is the Viagra of the information society – because participation is technologically possible, it must work! And like Viagra recreates sexual guilt ("You can, so you must") (Žižek 1999b), interaction recreates socio-political guilt. This

guilt masks a genuine need for interpassivity. In Robert Pfaller's (2000) definition, interpassivity denotes phenomena where an emotionally or cognitively charged task is outsourced to somebody or something else. For example, a prayer mill can keep on praying for me, liberating my subjectivity from the tasking interaction. Likewise, the true motivation for readymade laughter in tv comedies is interpassivity: I don't have to engage in recognizing, symphathizing with and interpreting the drama.

However, the need for interpassivity may change into its negative when illusory interactivity produces passivity. Interactive media has its own logic that curtails the functioning of the user even while at the same time creating an illusion of participation. Žižek's (1999a) favorite example is an elevator, where you can push a button to speed up the closing of the doors – without any results. No matter what you do, the doors close in the same pace. Is this not the experience of representative democracy expressed by a majority of voters, including the non-voters? The interactivity of the information society is of the same kind: you can keep pushing all the buttons and, for instance, keep writing about anything; you can say, confess, do anything, as long as what happens is what was going to happen anyway. Everything can be criticized, even "resisted," as long as the political consensus is not disturbed. All of this happens under a *Denkverbot*, where everything is allowed – except taking ideological stands seriously. The hegemonic coordinates embrace and include also the myriad social movements, NGOs and aid organizations – from M's sans frontiers to Greenpeace and Red Crescent. These organizations are not only tolerated, but also even encouraged by the media. Here interpassivity is political: you keep on doing something in order not to rock the boat. The fervent activity of the multitasking agent of an information society in aggressive growth is, to use a metaphor from Arthur Miller, standing still like a hummingbird. The real effects of our fervent activity are outsourced and subjectivity immobilized by the split.

While Žižek (2004e) is worried over the new form of racism born in the West with the dividing line not drawn along racial or cultural distinctions but on the basis of a brazen economical division into two, Jean Baudrillard emphasises the spectral-virtual dimension. In his view the question concerns the balance of psychology of terror. He sees that global capitalist exploitation is only a medium and an alibi for another, much more harsh moral deprivation. Baudrillard writes that almost contrary to Marxist analysis material exploitation only exists as a pretext for spiritual exploitation so that the weight of the nations could be dig up. The weight of the nations is used to psychologically feed the richest parts of the world. "Fourth world" is valued as a catastrophe deposit, and the West is purified in dealing with another world as garbage. (Baudrillard 1995, 83-84.)

On one hand the split corresponds to technological utopias of information society and, on the other hand, to televised humanitarian spectacles. The interactivity promised by the twins means the endless shuffling of menus on the Net or on your mobile. The matrix is given, now wade through it. When the matrix is detected and expected, interactivity turns into interpassivity. The production of interpassivity has its micro-level implementation in various media devices and its macro-level structure in the information society. The assumption of the logic of networks and a nomadic identity does not entail "activity" or "creativity", but the genuinely passive and reactive choice from a menu.

The closed circle includes also the research on information society. For instance, research on "children and ICT" is a morally and socially loaded landmark pointing to a "life in the information society". It may happen, for instance, that at the same time as we notice that children move in the new media as "fish in the water", the politics and economy of information society have already been forgotten. Is there not a similarity to the research topic "children and war"? When we notice in the study that despite the war the kids keep on playing and singing on the ruins of their homes, relativization and internalization may begin.

Cannot research on the information society likewise produce an interpretation where life in the information society gets more tolerable after every chart and survey?

The still beating heart of an interactive renaissance through information society development is dependent on actual freedom in the sense of "reconfiguring the coordinates of the possible". This utopia must be contrasted to interactivity in a hegemonic matrix where interactivity equals interpassivity. Should we not pay attention to the non-voters message? What if their claim that in the act of voting the how (participating in the formal act of interactivity) overshadows the what (who you vote for)? What if even leaving a blank vote means agreeing with the formal conditions of the "interactivity"? Finnish critical sociologist Antti Eskola gave the following answer in the late 1960's: "In the totalitarian society there is hope for it is quite likely that the repressive system eventually collapses for there is no mechanisms for adjusting the political pressures which try to change the system. Thus the pressures accumulate. So-called democratic society is much more dangerous also in this respect. Contradictions, discontent, the experience of inequality and other pressures trying to change the system are cleverly adjusted, dissolved, made ineffective and finally directed to harmless targets. Apparent competition on political power assures the status quo." (Eskola 1968, 130.)

6. Stages of Freedom

From Social to Socialist Media

Behind the veil of a multitude of resistances and critiques, we should see the shape of certain "unmoved movers" (*proton kinun*). Capitalism is one of them; the particularities of the fight of developing countries against prohibitive tolls and tariffs, of the fight of Indian rice farmers against RiceTec and its patents, of the fight against privatization of water, of the fight against liberating markets by armed force, constitute, in fact, a generality: the generality of a capitalist mode of production. And do not even the current ethnic conflicts point to the same: the decline and destruction of local cultures is a continuation of the colonisation that swallowed Finland in the 13th century and many other "peripheries" a lot later. These are not a series of isolated aggressions, but a direct consequence of a sustained Western impulse for trade and conquest.

The other unmoved mover is the West itself. As noted by Chomsky (2001, 20): India never attacked England, Congo Belgium, Ethiopia Italy or Algeria France. This is also why he insists in his book *9/11* that the remarkable thing about 9/11 was that it was a hit by the colonized on the colonist's ground. For the same reason he thinks we should identify the attacks in spatial terms (New York, Washington, London, etc.), not in temporal ones (9/11, 7/7, etc.). The crucial thing is where the attacks happened, not when. Research on information society should remember this: there are structural similarities in the various information society

developments, generalities among particularities. Is not the technological control of the globe one with a specific model of society, namely Western capitalism? Or do we really have modes of technological modernity that are different from the hegemonic Anglo-Saxon one? And does not the information society promise unprecedented technological control? We have to ask, how open or malleable is the capitalist Western information society?

Let us take an example. If digital technology and information are ever more important resources and end-results of production, the distribution of technology and information becomes an essential indicator of global equality (either you take part in the networks, or not!). Again, no one is openly promoting a view that digital technologies should profit only the first world, but still the digital divide between the north and the south keeps on growing, despite all the initiatives, leap-froggings, projects and programmes (Suoranta 2003). What structures in the world have, in fact, become more malleable, programmable? And what are the structures that are even more rigid and pre-determined?

Jean Baudrillard sees a logical conclusion in the trend of westernization. The premise: the West sees the rest of the world as a resource, as the natural producer of commodities. The last in the long chain of commodities is catastrophe, and the accompanying catastrophe aid industry. At least here, says Baudrillard, Marxist analysis holds perfectly true for moral victory's part. Misery is reproduced as symbolic source, a necessary fuel for the Western moral and sentimental balance. We are the consumers of this spectacle, and the whole West feeds like cannibals on catastrophe mediated by news broadcasting in their cynical tone and our humanitarian help in a moralistic mode. Baudrillard insists that we are just as dependent on this drug, produced by the developing countries, as other drugs. (Baudrillard 1995, 84-85.) The irony is that global capitalism is strong, dynamic and perverse enough to both produce the drugs it needs and to outsource the misery to the others.

A snippet from the op-ed section of the youth section of our local newspaper, written by pseudonym "Pessi" (2004): "I'm bored. Totally helplessly fed up. Bored of the starvation, of Iraq, suicides, racism and Matti Nykänen [the once famous Finnish ski-jumper turned into an alcoholic frequently in tabloids]. … I'm fed up with perfection, eating disorders, pop-stardom, single mothers, family violence and chewing gum on the chairs in the cinema. I'm bored with being bored and bored with the feeling that everything that happens, happens at the wrong time and to the wrong person." Is this not a succinct description of the Baudrillardian produced catastrophe, the continual media massage? Is this not the zeitgeist of liberal democracies? Is it not also an extreme experience, where the measure and ratio of all things is dissolved? Is not this existence the allegory of a run-of-the-mill news program and the information society as a whole?

But Baudrillard goes on and claims that global capitalism has a rotten core containing the semen of its own destruction. The market for catastrophe will face a crisis with the inevitability that all markets crash. The outsourced catastrophes will finish, which means that the catastrophe has to be produced domestically, since the desire for spectacle and greed for the symbolic is even more natural than gluttony. Baudrillard predicts that the big symbolic crash will be the product of our Western generosity but it will arrive only after we cannot feed ourselves anymore with hallucinative suffering coming from abroad. (Ibid., 85.)

The crash seems to be far off, however. The disaster-show produced by the hybrid White House-Hollywood and shot in the third and fourth worlds goes on. The underdeveloped countries lead the developed countries in the drama of misery by 6-0. The victims of New York, Madrid and the coalition of the willing are in the thousands, while the civilian victims in Iraq, both post- and during Saddam, are in the hundreds of thousands. But Baudrillard insists that the controlled and produced disaster of the West is more spectacular. As Baudrillard insists, we are haunted by overload, boredom, abundance of possibilities,

neurosis and psychodrama of crack of enlargement – a drama born out of too many means compared to reasonable aims – and this always beats the drama of poverty, deprivation and misery. This is according to Baudrillard the primary reason for the possibility of immediate catastrophe in the societies without empty spaces. (Ibid., 87).

The current status in the race towards misery is the leakage or explosion of outsourced disaster back to the West. The spectacle is smuggled back to the trains and planes taking the middle class from work to home. The message-boys and -girls of produced disaster – Euro-MPs and local politicians – work in the mode of *l'homme machine* by speaking of terrorism as some sort of metaphysical random evil that is able to strike anywhere anytime in the name of "curtailing the possibility of the Western democracies to take initiative in solving the problems of the world" (Kauppi & Stubb 2004). What this view fails to see is that terrorism is a feedback loop in capitalism itself; the calculated re-import of a Western logic and export. Al Qaida, if anything, is the prime example of a network of networks, embedded in the cash flows produced by oil and drug addiction. Like Jacques Derrida points out, Osama bin Laden stands on the same power-capitalistic grounds as the WTC towers (Borradori 2003, 95-115).

Terrorism and the security society inspired by it are the hermeneutic reverse side of the five hundred biggest global companies and the global solidarity and concern over digital divides sponsored by them. Not only do the "chickens come home to roost"; the state terror of "security" and of globally outsourced misery are always already linked. As Žižek (2004a, 185) has put it: "More than ever, capital is the 'concrete universal' of our historical epoch. What this means is that, while it remains a particular formation, it overdetermines all alternative formations, as well as all noneconomic strata of social life." One is quickly reminded of the Western countries that Ted Honderich (2003, 110-115) calls "hierarchical democracies": in these societies the richest 10% of the population earns (and owns) thousands of times more than

the lowest decile, or the poorest 1/10th of the population, and there is every reason to suppose that the best-off people have more political power, respectively.

Let us think about the famous slogan (in Finland) "Connecting People". Here the promise of information technology is the conquest of isolation, the reunification of persons. The first thing to note is how the distance-communication of information societies puts people farther from each other. A call from a mobile may be better than no call at all, but how often does a call replace a direct contact? And is it not the distance produced by capitalism in the first place? Distance education is better than no education at all, but what if distance education replaces contact education in a situation where we are made to believe that it is too expensive? The worst is the belief in the pedagogical supremacy of virtual education, when, in fact, the whole trend is produced by the logic of capitalism. Notions like "cell-phone father" point out that a connective device always also disconnects. Technology "just works", but not in the name of a Marxian "paradise on earth"; it works by making people work like technology in order to pace up the market and the profits. Every toaster and phone is a computer; are we ourselves not, too? But the calculative logic of presence over a distance always fails: "We are told that, given its new way of linking and accessing information, the Internet will bring a new era of economic prosperity, lead to the development of intelligent search engines that will deliver to us just the information we desire, solve the problems of mass education, put us in touch with all of reality, allow us to have even more flexible identities … But, compared with the relative success of e-commerce, the other areas where a new and more fulfilling form of life has been promised have produced a great deal of talk but few happy results" (Dreyfus 2001, 2).

The dangers of connecting people over great distances (where, why?), though great, are only part of the issue. Another question arising from the logic of symbolic capitalism is this: Who are those people who

are connected by ICTs produced by telecommunication corporations? And what are their relationships? Are not they the biggest economic winners of the Westernized information society? As a company, Nokia connects, for instance, Asian and Finnish workers to US and Finnish owners. What kind of connections are these and what kind of information society do they represent? One side of this question is the outsourcing of jobs to China, India and other Asian countries with lower salaries and with lax environmental and social laws and rigid worker control. When the IT subcontractor Elcoteq relocated from Finland to China, it was reported that its workers in China had job contracts for a maximum two weeks at a time. If and when the new racism of the West is characterised by economic divisions, securing the stability of the existing division, it is good to pay attention to how information societies are protected from those seeking a better living. When confronted with the unfairness of its relocation from Finland to China, the CEO of Elcoteq, Antti Piippo, responded by pointing out that the company sees its global responsibility in "Mexico, Hungary and Estonia", rather than only or mainly in Finland (The Finnish News Agency, March 19, 2004). Does not the responsibility of Finnish companies lie primarily with their workers in the developing countries? And is it not, like Žižek (1998, 1999a) and others have pointed out, especially the workers of the first world who are sensitive over the question of foreign labour and quick to defend the borders? Should not the Christian word of love or the leftist solidarity be directed to people who for one reason or another have left their homes? The global citizenship advocated by Hardt and Negri (2000, 396-400) is a necessary consequence.

Information society "for all" promises a lot – freedom and servitude at the same time. "We" will be freed from fixed, formal identities locked in the structures of old bureaucracies of the nation states, from the old models of one-way broadcasting, from the supremacy of the power centres. But simultaneously this same freedom becomes a constraint: "there is no alternative" to economic globalization, perpetual

networking, or interactivity. This form of freedom has very little to do with actual freedom; many times it is a mere façade for formal freedom, that is, freedom to choose from the ready made alternatives. Furthermore, it seems as if we were already living in a time "beyond formal freedom." In many countries, workplace democracy is long gone if it ever was a functional practice. Participation in a never-ending chain of short-term projects is the name of the game. At the same time, economic decision making has become ever more non-transparent, and that's why Hardt and Negri's demand for global citizenship appears to be another utopia among others. As Žižek (2004a, 195) reminds us, global capitalism is structurally – not only empirically – immune to representational democracy, because the decisive institutions like IMF and WTO do not even pretend to stand in need of representative legitimacy.

Global governance happens in different boards and councils in an *ad hoc* manner, and usually there is no democratic election to these institutions. The US uses its voice and power in many of these organizations, among them G8, World Bank, IMF, NATO, OECD, NAFTA, APEC, and ASEM, which hold their meetings in the gated areas or secured "green zones" so that the effect of interactivity/passivity is perfect. It is hard to imagine a system in which we could vote for representatives for IMF in a global ballot. The same holds true for information society theories and analysis: researchers need to move in a rapidly changing field almost without any firm conceptual positions, without a rigidness of authenticity and fundamental objectivity, always ready to change their viewpoint. Information society lets all the flowers bloom as long as they are information society flowers. Thus the dilemma of these theories is in their concurrent unity and diversity: The net of information theories as well as information society itself allows plurality, but in reality it acts as totality.

Isn't it however possible that this dilemma is not defined correctly? For the logic and ideas of liberalism and many single-issue social movements were founded in the same historical junction as many of the

nation states and their centralized democracy. Globalized liberal capitalism needs both the pluralistic markets in which anything can be sold *and* a universal medium; the apparently smooth regime governed by state legislation and its structural power. Maybe what is needed is a fresh universalism and more pluralism in building new life forms and new practices – a new Leviathan? Isn't it precisely this dilemmatic dualism that catapults global capitalism to new heights and new victories as it displays itself at the same time as a catalyst and a protector of cultural pluralism (cf. Žižek 2004a, Hardt & Negri 2000) as it destroys that pluralism (cf. Klein 2002)?

Pluralism is something that information societies and the global capital needs, at the same time as it is, according to writers like Klein, Deleuze and Hardt & Negri, the most important form of resistance. Is Žižek (2004a, 185) not right in criticizing Klein by pointing out that when Klein attacks capitalism as a homogenizing and unifying power, she criticizes an old form, not the new informational capitalism? The rhizome described by Deleuze *is* the logic of digital capitalism: "diversify, devolve power, try to mobilize local creativity and self-organisation" (ibid.) We need a sharper analysis: Žižek is right when he criticizes the naive belief in revolutionary diversity, but wrong in believing that any and all diversity can be digested by capitalism. Is not the plurality of the information society the familiar plurality of brands of cereal: There is a brand for all tastes and identities but all boxes contain the same merchandise – post-gene modification literally the same. For instance, the network logic of information societies makes handicraft or subsistence-based local communities impossible, as Finnish independent researcher Olli Tammilehto (2003, 44–45) points out: "Local communities and poor sub-communities are integrated into the national and global economy. The prices of the products of craftsmen and small farmers drop to the world market level, which is often low simply because of the subsidies in rich countries. At the same time, the prices of raw material and farm inputs may rise because in other countries there

are richer and better paying customers. This makes it impossible for the small producers to continue." Terrorism can be commodified as McTerrorism, but still the chances of non-Western local communities are gone. The choice between a Western technological life style and a traditional local lifestyle is another interpassive choice: you may choose freely, as long as you pick the Western choice.

The Deleuzian-Castellsian-(Žižekian?)-cyber-communist idea that the information society as a society is somehow more "spectral", "malleable", "virtual" than the previous crudely economical societies conceals the question of what types of pluralities and local communities it favors. There is little or no evidence, for instance, that the information society would not speed up the death of languages or cultures. The leveling out and unification of local cultures may also take the form of pluralisation; indeed, often the disappearance of local merchandise from the shop happens at the same time as an explosion of different brands. At the same time the virtual-spectral level of the networks forgets the question of people: the wall separating those under the umbrella of human rights from those not so protected (Žižek 2004a) is at the same time the wall separating relative economic welfare from poverty. Like Ted Honderich (2003, 6) points out, when we look at the average life expectancy figures around the globe, "the average lifetimes of seventy-eight and forty could suggest to someone overhearing this talk of life-times, but not knowing exactly our subject, that we are concerned with two different species." The group of people whose human rights are "virtual" can expect roughly a half-life, to use the term coined by Honderich, compared to rich Western people.

Is there a connection between human rights and the gap in average life spans? And does the logic of the virtual networks of information society have something to offer when trying to understand this connection? Does not the rhetoric of nodes, positions, mobility, risks, possibilities rather work as an obstacle for understanding by emphasizing the determinative plurality of *divide et impera*? The free

movement of information is accompanied by the ever stricter control of the movement of people – that is, of the economically excluded people. At the same time, economic inequality is getting more and more protected. The situation is simple: the affluent West has to be protected simply because the late-capitalist happiness-through-commodities can not be universalized. Every place on the planet cannot become California. This is why "information society" is simply not a concept in the same category as "feudalism" or "capitalism" (Žižek 2004a, 193): as long as the cyber-communists and workers of immaterial production are not wholly spectral, they have to eat food and die a death. Digital technology gives the possibility of removing scarcity of informational commodities; but this logic does not extend to the world of material goods. The interactive/passive age of the information society demands that we are ideologically and politically awake so that we do not mix the loss of freedom with the proliferation of freedoms and do "*not confuse the ruling ideology with ideology that* seems *to dominate*." (Žižek 2002a, 545, italics in original)

Social, Socialized, Socialist Media

The term "social media" can be taken to mean the online platforms and software people use in order to collaborate, share experiences, views, and so on, and to create their social identity. Correspondingly, "socialized media" would mean, in this context, such tools when they are owned, maintained and managed by the community of users itself. Examples of this kind of self-management are many inside the hacker community. There are even cases of actively socializing previously private media. For instance, hackers have collected money in order to purchase the source code of computer programs in order to develop

them freely and to release them from the commodified world. The most famous example of this kind of commercial "socialization" is the 3D-animation software Blender (see http://en.wikipedia.org/wiki /Blender_%28software%29) that was bought free in 2002 from the company that originally developed the software, and has continued as an open source project maintained by the Blender Foundation (The sum of 100 000 euros was collected in 7 weeks; now Blender code is released under the GNU General Public License). Wikipedia itself has largely collected the money needed for its server park through fund raising from its users.

But are these means enough in facilitating peoples' skills and opportunities to participate in the digitalized world, to be in dialogue with each other by using social media? And, more importantly, are these means themselves digital? It would not be hard to believe the contention, forwarded, i.e., by Žižek (2002a, 544), that dialogue both in its traditional forms and in the form of social media, takes us only to the gates of authentic and substantial democracy, or what Žižek after Lenin refers to as 'actual freedom' which undermines the very coordinates of the existing power relations. Maybe we thus must start to organize strategies to take the hacker ideology of Free/Libre Open Source Software (FLOSS) to its next logical step, that of "socialist media," where 'socialist' refers to shared ownership, use and administration of a given media. As Žižek (2002b) puts it in his view of 'cybercommunism':

> Is there not also an explosive potential for capitalism itself in the world wide web? Is not the lesson of the Microsoft monopoly precisely the Leninist one: instead of fighting its monopoly through the state apparatus (recall the court-ordered split of the Microsoft corporation), would it not be more 'logical' just to socialize it, rendering it freely accessible? Today one is thus tempted to paraphrase Lenin's well-known motto, 'Socialism = electrification +

> the power of the soviets': 'Socialism = free access to internet + the power of the soviets.'

As the true believers of new technologies claim, echoing the old axiom of technological determinism, anything that can be presented as digital code, as a series of ones and zeroes, can and will be copied with very little cost and no loss to the original. After the needed infrastructure is in place, digital information is not a scarce resource anymore. Consequently, a cornucopian digital economy supposedly transcends the physical limitations of traditional economies.

Correspondingly, on the social level the digital world has been seen as the first seed of new forms of organization that will have radical political effects. Volunteer hacker organizations and the various civil society activities organized with the help of the Internet have been seen, on one hand, as providing fresh blood for the Habermasian ideal of democratic communication and, on the other hand, as completely new forms of civic self-organization and self-management (for theories on hacker communities, see Castells 1996, Himanen 2000). For instance, while looking for examples of the new multitudes that they advocate as the basic self-organizing models of future politics, Michael Hardt and Antonio Negri (2004, pp. 301ff) turn to free and open source software communities and related activities. When the self-organizational nature of hacker communities is combined with the observation that digital code is not a scarce resource, we approach a cybercommunist utopia where volunteer organizations and communities of non-alienated labor manage themselves in a post-scarcity economy (see, e.g., Žižek 2002b, 2006b, Merten 2000).

One of the crucial consequences of digitalization has to do with the very conditions of material capitalist economy if compared to the "second economy" brought forth by the digital sphere. A whole school of writers (for an overview, see Lessig 2004) has argued that in addition to the capitalist economy, there exists another economy, variously

called, e.g., amateur economy, sharing economy, social production economy, non-commercial economy, participatory economy, p2p economy, or even gift economy. The problem these thinkers want to point out is that the "second economy" works with its own principles and that an attempt to force it into the mode of the capitalist economy cannot hold and would be disastrous to the ideology of FOSS.

Is the sometimes violent process of socializing the answer? Would not it be better if we could take another logical step – a quantum leap, or perhaps, a leap of faith – from there, and start from the outset to talk about and invent what we would like to call – just for the sake of it – socialist media, instead of social, and socialized media? What would the world be like if there were exemplars of socialist media? And what would those examples be like? Can we thus consider Wikipedia an example of socialist media? Do we have other examples? To answer this question, we need to answer the following one: What are the definitive presumptions and characteristics of a socialist media?

Technical and Political Conditions

Besides the obvious technological infrastructure (servers, computers, and other devices) which is needed in organizing and using social media, basic energy – electricity, food – is rudimentary in the use of social media as it is to the idea of progress and the modern world. But the crucial question is, who owns and provides energy? An answer to this basic question takes us from the digital realm to the realm of material production, and to the core of critical political economy.

The sad fact is that majority of the energy resources are owned by private international corporations. They are in many ways key players in the arena of international politics directing foreign policies, and making

decisions about war and peace. But there is also a different idea of the ownership of such resources as energy. It is called "common wealth". The term comes from Latin "res publica" meaning "common things" and by extension "a democratic republic". In the theory of critical political economy, energy is considered to be a central part of common wealth, and it should not be owned by profit-making private companies, but by the state and the people. Unfortunately or not, this is the definitive precondition for social media ever to be a truly revolutionary force. Thus in this sense 'social' and 'political' still rules the 'digital', for, imitating Žižek's 'Leninist' formula, free access to the Internet still demands an electrical supply.

This demand assumes quite straightforwardly that the state and the people take back their common wealth from the global players. Without this logical step, all efforts and activity towards open access is freedom without freedom. For without this ultimate and logical step – to overcome private ownership of material resources – the ideology of FOSS remains as another one-issue social movement without an authentic political aspect. But quite the reverse has been happening: "A substantial part of the Russian electricity sector created by Lenin to modernise the new Soviet economy is to be privatised with a series of floats expected on the London stock exchange," reported *Guardian* in July 2006 (Macalister 2006). Lenin kept electricity and oil as key aspects of global imperial capitalism, and tried to make a case against these imperial powers, and their bourgeois defenders, which acted as cartels and monopolies. In his *Imperialism, the Highest Stage of Capitalism* (1916) Lenin stated that certain reactionary writers

> have expressed the opinion that international cartels, being one of the most striking expressions of the internationalisation of capital, give the hope of peace among nations under capitalism. Theoretically, this opinion is absolutely absurd, while in practice it is sophistry and a dishonest

> defense of the worst opportunism. International cartels show to what point capitalist monopolies have developed, and the object of the struggle between the various capitalist associations. This last circumstance is the most important; it alone shows us the historico-economic meaning of what is taking place; for the forms of the struggle may and do constantly change in accordance with varying, relatively specific and temporary causes, but the the substance of the struggle, its class content, positively cannot change while classes exist.

That said, we must of course emphasize the contradiction between a Leninist point of view – an idea of the role of a vanguard party leading the masses –, and the obvious fact that in the Wikiworld there is no center, not to mention the vanguards in controlling digital development. This contradiction includes another one, that of ownership of natural resources by states or corporations, and intellectual resources of the people. Quite the contrary to the Leninist idea, the key to emancipation in the sphere of social media and its sociopolitical consequences could be "oscillation and plurality … in the plurality and complexity of 'voices': an emancipation consisting in disorientation which is, at the same time, a liberation of dialect, local differences, and rationalities, each with its own distinctive grammar and syntax" (Peters & Lankshear 1996, 60).

But we must add that simultaneously there may be some glimpse of hope in developments pointing away from internationalization of capital. As an example let us consider the case of Venezuela and its "Bolivarian revolution," and a new trend for nationalization of natural resources. Venezuela not only has large natural resources of oil but also the political leadership and will to use those resources for the peoples' well-being, and not for the benefit of foreign investors. The same holds true in some other Latin American countries like Chile and Bolivia. In

this instance it is worth mentioning that the government of Venezuela has launched their own 'Bolivarian computers' with the open-source Linux operating system, for President Chávez's aim is to "promote technological development" and help "reach technological independence" (Carlson 2007).

And speaking of the República Bolivariana de Venezuela, the Bolivarian Republic of Venezuela, President Chávez has chosen a totally different route than in i.e. former Social Democracies such as Finland and Sweden, where previously state owned companies in such basic branches of the state's infrastructure as energy, transportation and postal services has been privatized and taken to the world market via stock exchange. As Žižek (2007) has put it in comparing Venezuela with reformist, third way Left, and Subcomandante Marcos in Chiapas, Mexico (and at the same time covertly criticizing John Holloway's 2005 book *Change the World Without TakingPower*):

> It is striking that the course on which Hugo Chávez has embarked since 2006 is the exact opposite of the one chosen by the postmodern Left: far from resisting state power, he grabbed it (first by an attempted coup, then democratically), ruthlessly using the Venezuelan state apparatuses to promote his goals. Furthermore, he is militarising the barrios, and organising the training of armed units there. And, the ultimate scare: now that he is feeling the economic effects of capital's 'resistance' to his rule (temporary shortages of some goods in the state-subsidised supermarkets), he has announced plans to consolidate the 24 parties that support him into a single party. Even some of his allies are sceptical about this move: will it come at the expense of the popular movements that have given the Venezuelan revolution its élan? However, this choice, though risky, should be fully endorsed: the task is

> to make the new party function not as a typical state socialist (or Peronist) party, but as a vehicle for the mobilisation of new forms of politics (like the grass roots slum committees). What should we say to someone like Chávez? 'No, do not grab state power, just withdraw, leave the state and the current situation in place'? Chávez is often dismissed as a clown – but wouldn't such a withdrawal just reduce him to a version of Subcomandante Marcos, whom many Mexican leftists now refer to as 'Subcomediante Marcos'? Today, it is the great capitalists – Bill Gates, corporate polluters, fox hunters – who 'resist' the state. The lesson here is that the truly subversive thing is not to insist on 'infinite' demands we know those in power cannot fulfill. Since they know that we know it, such an 'infinitely demanding' attitude presents no problem for those in power: 'So wonderful that, with your critical demands, you remind us what kind of world we would all like to live in. Unfortunately, we live in the real world, where we have to make do with what is possible.' The thing to do is, on the contrary, to bombard those in power with strategically well-selected, precise, finite demands, which can't be met with the same excuse.

Social and Individual Conditions

The physical energy – electricity – needed for running social media sites is one condition. Another is the less tangible energy and free time needed in order for individuals to contribute. For instance, the crown

jewel of FOSS, the GNU/Linux operating system, still receives more contributions from the U.S. and Europe than anywhere else. This bias that can be seen in many major open collaboration projects, including Wikipedia, should direct our attention to the different possibilities that present themselves to individuals in different geopolitical and socio-economic settings. Also, the fact that cases like Blender and Wikipedia need substantial donations points to the importance of relative affluence.

Linus Torvalds, an inventor of a Linux operating system, was at the time of starting the Linux-project a student at the University of Helsinki (Finland), and consequently enjoyed the common benefits of the Finnish welfare state, including tuition-free access to the university and its resources. In addition, the Linux code was initially hosted by the Finnish University Network (FUNET). All of this points to the fact that non-alienated knowledge work in the Internet does seem to need a certain basis of affluence and public educational and social infrastructure (sometimes referred to as safety-nets) before it takes off. However, it seems that often competences built in the free and public educational system will primarily go to the use of corporations like mobile phone company Nokia, and not to the service of the public sector. Even so, these economic mega-players, exploiting the work force and sucking from the state, dare to claim that the state does not support their business enough in terms of radical tax-cuts. What thus is needed is a counter-move to free people's minds and intellectual resources from the slavery of the corporation as well as from the slavery of the state and its marketized educational system.

Actually in the Nordic countries we already have many cultural and social characteristics which allow counter-moves and actual freedoms. These include a progressive taxation-supported schooling system from kindergarten to higher education, libraries, cultural institutions such as museums and so forth. Indeed, the step from a media constrained by liberal communism to socialist media needs not only basic welfare but also actual control of life-goals and non-physical needs. Paradoxically or

not, the road to the latter runs through the collective or common control of the production of basic welfare (including things like electricity). In addition such welfare strategies or innovations as a social wage, citizenship income, or unconditional basic income would pave the way to the socialist media, and structurally enhanced universal well-being. Or, as Hardt and Negri put it in their *Empire* (2000, 403):

> The demand for a social wage extends to the entire population the demand that all activity necessary for the production of capital be recognized with an equal compensation such that a social wage is really a guaranteed income. Once citizenship is extended to all, we could call this guaranteed income a citizenship income, due each as a member of society.

Educationally speaking there is a need for an altogether new social mentality and an ideology of a shared ownership. In many schools, children are taught to do their own work, not to collaborate or use pre-existing materials in their own learning practices. An urgent task of critical educators is to strengthen a sense of community and solidarity as well as curiosity for different point of views. In this sense social media has a revolutionary potential for increasing global understanding of difference and overcoming a capitalist drift of commodification and unification of the world.

There are several expressions of different forms of socialism, as Peters reminds us. They "revolve around the international labour movement and invoke new imperialism struggles based on the movements of indigenous and racialised peoples" (Peters 2004). A starting point for the social condition of socialist media could be built around the concept of "knowledge socialism." This refers to the politics of knowledge, on one hand to the question of information domination and its means, and on the other hand issues pertaining to intellectual

property rights and intellectual resources in general including questions of expert knowledge versus amateur knowledge as explicated by Peters (2004):

> In these discussions, issues of freedom and control reassert themselves at all levels: at those of content, code and information. This issue of freedom/control concerns the ideation and codification of knowledge and the new 'soft' technologies that take the notion of 'practice' as the new desideratum: practitioner knowledge, communities of practice, and different forms of organisational learning adopted and adapted as part of corporate practice. Indeed, now we face the politics of the learning economy and the economics of forgetting that insists new ideas have only a short shelf life. … These questions are also tied up with larger questions concerning disciplinary versus informal knowledge, the formalisation of the disciplines, the development of the informal knowledge economy, and the pervasiveness of informal education. Informal knowledge and education based on free exchange is still a good model for civil society in the age of knowledge capitalism.

In building socialist or participatory media, a presumption that the mode of production shapes the context in which psychological and social processes take place, and consciousness is formed, should be taken into account (Youngman 1986, 101). Thus the revolutionary potential of wikis. In the first place Wikipedia, or any other form of wiki, is not a technology but praxis, a collective activity. It involves purpose and intention, and in this sense "knowledge arises and deepens within a continuous process of activity, conceptualisation, and renewed activity" (ibid., 96). As knowledge can be defined in this instance as a social product, it always involves hegemonic battles over power to rule and

regulate. In a capitalist society, the ruling elite owns the media and thus sets the ruling ideas. But inside this capitalist realm there is the Wikiworld evolving as yet another hegemonic battleground marking the turning of the tide, for in the Wikiworld people have unprecedented powers.

The Wikiworld is not only a counter-hegemonic move but a serious, hard-to-stop mass activity. Wikipedia, and other wikis, are lived, educationally-laden social situations, and if "hegemony is the result of lived social relationships and not simply the dominance of ideas, then the experiences inherent in educational situations (i.e. the totality of knowledge, attitudes, values and relationships) is as significant as the purely intellectual content" (ibid., 105). In other words the mere process of being in and part of the development of Wikipedia and the like is a critical learning experience towards the birth of socialist media and the enfleshment of Marx's (1858) concept of general intellect.

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

Based on a close textual reading – 'short-circuiting' – of Lenin, Žižek refers to the idea of general intellect as a huge 'accounting apparatus' without which, says Lenin, socialism is impossible. In the words of Lenin, to make socialism happen is to make this massive apparatus "'even bigger, even more democratic, even more comprehensive. … This will be country-wide book-keeping, country-wide accounting of the

production and distribution of goods, this will be, so to speak, something in the nature of the skeleton of socialist society.'" (Žižek 2006a.) To Žižek this marks "the most radical expression of Marx's notion of the general intellect regulating all social life in a transparent way, of the post-political world in which 'administration of people is supplanted by the 'administration of things'" Žižek further notes that it is easy to criticize Lenin by referring to the horrors of the real socialist experiment in Soviet Union, especially Stalin's era, and the apparatus of social administrations which grow "even bigger." But as Žižek asks: "Are, however, things really so unambiguous? What if one replaces the (obviously dated) example of the central bank with the World Wide Web, today's perfect candidate for the General Intellect?" (Ibid.) What, indeed, if one replaces the example of World Wide Web with the Wikiworld, including the servers and the power plants?

As Kellner (2004) writes, the key question is not a moralistic one – whether social media are good or bad in the hands of critical educators. Rather it is a question of what critical educators can do with Wikipedia and other forms of social media in helping to create "a more democratic and egalitarian society and what their limitations are for producing more active and creative human beings and a more just society."

It goes without saying that Wikipedia and other wikis can be used in formal education. But the problem in these uses is a certain tardiness and conservatism of the educational system. This holds true throughout the whole system, all the way from the public sphere to the corridors of the Ministry of Education and to the privacy of a single classroom. In some countries like Finland the state has for years launched various campaigns and initiatives relating to the use of computers and new information and computer literacies and skills, but the problem with these is that as the goals have been set and campaigns started, the technologies and skills needed have already changed quite a few times. The system logic or the grip of the state educational apparatus does not hold in the Wikiworld. Thus it is not wrong to claim that in many

Western countries, not to mention some authoritarian regimes, the state has executed technocratic rationality in trying to govern and regulate the digital sphere educationally. It has acted as if it did not want people to liberate themselves in the area of digital literacy. Therefore, as Kellner and Kahn (2006) have stated in their critique of technoliteracy ruled from above, there must be another way:

> We cannot stress it enough: the project of reconstructing technoliteracy must take different forms in different contexts. In almost every cultural and social situation, however, a literacy of critique should be enhanced so that citizens can name the technological system, describe and grasp the technological changes occurring as defining features of the new global order, and learn to experimentally engage in critical and oppositional practices in the interests of democratization and progressive transformation. As part of a truly multicultural order, we need to encourage the growth and flourishing of numerous standpoints (Harding 2004) on technoliteracy, looking out for and legitimizing counter-hegemonic needs, values, and understandings. Such would be to propound multiple technoliteracies 'from below' as opposed to the largely functional, economistic, and technocratic technoliteracy 'from above' that is favored by many industries and states.

This emphasis on the 'from below' perspective reminds us of the end of Marx's Volume One of *Capital*, about one unhappy Mr. Peel. As Francis Wheen (2006) has put it, Marx's most remarkable anecdote in Capital One's last pages is about this Mr. Peel, who moved from England to Australia along with 50,000 in currency and 3,000 workers, but didn't take into account the fact that what he could carry with him in the

Colonies was "property in money, means of subsistence, machines, and other means of production" but not as their correlative the wage-worker who is ready to sell him- or herself of his or her own free-will. In Marx words Mr. Peel didn't understand that "capital is not a thing, but a social relation between persons" (Marx 1867). Thus, writes Marx: "Unhappy Mr. Peel who provided for everything except the export of English modes of production to Swan River!" (ibid.). Just as the wage-workers discovered the freedom in the seemingly boundless land of West Australia to build their own life and economies, we are now witnessing more and more people discovering their freedom in the borderlands of information technologies, given that they do not fall into a corporate trap, that is, that they not only acknowledge business interests and new modes in capitalist commodification around social media (i.e. technology firms' aim to use consumers and users as co-creators of their products) but that they are also able to detach capitalist tendencies from authentic voluntary work, work for fun or work just for the sake of it.

Let us summarize here the needed principles of a socialist media in the Wikiworld using Project Oekonux's ideals. These are the absence of alienation which results from the direct needs of those involved; self-organization; and voluntary participation, including voluntary taking over of responsibility, or *Selbstentfaltung* in the project's terminology (as responsibility and autonomy-in-interdependence). In addition it is maintained that freedom has a triple meaning: freedom is result of the process, pre-condition of the process and it enables the freedom of others (http://en.wiki.oekonux.org/Oekonux/Introduction/). In our thinking these principles sound like socialism or "cybercommunism."

It is of course always a threat that the promise of evolving socialist principles of the Wikiworld mentioned above will be reduced into such principles as "if it's not fun, why do it" (as a corny motto of Linux-people goes). Yes, this can work as people's motivator in a certain Western, relatively high level of income circumstances. But in a Žižekian tone we could reply that this principle is for nerds and

consumerists only, and shout that there is nothing fun in the Wikiworld if it is created for real reasons and real aims, that is, if its purpose is to pay the way for overcoming the gritty realities of capitalist forms of production. But is it reasonable to believe that people of the West could see all the problems capitalism is creating? Is it reasonable to think that there could be an overall wake up call for economical, social and individual change in the current context of spin, when advertising, manipulation, and manufacturing of consent are so large-scale?

Besides the growing use of FLOSS based ICT's there are at least two tendencies that increase hope for a more just world. One is the now evident fact of climate change, which forces us to re-evaluate and check our consuming habits and overuse of natural resources. The other is what Andre Gorz terms as the lost magic of work- or wage-based society (Gorz 1999). In modern times, Taylorian work never offered enough social coherence, but instead created abstract and weak social bonds between people. The basic idea behind the construction of socialist media is people's need for a personal and mutually shared narrative, for a mental and emotional anchor that helps them gain respect and a sense of solidarity in a situation where working life deprives people of experiencing narrative continuum and planning long-term. In short, what we need is a culture (Sennett 2006, 183), a common culture, and in that respect socialist media is a means to fulfill that vital goal.

New rules for the use of energy and habits of consuming along with the use of social media in its socialist form can at its best make a great change not only in people's mind and behavior but also in the very forms of production. So, in sum, we get the equation "socialist media = basic welfare + common servers + the power of the soviets." Of course, the order of the ingredients or the components in the formula can be different, in other words, there can be different orders of the free and open world without scarcity (i.e. basic welfare = electricity + the power of the soviets + socialist media).

Freedom, More Freedom!

An alternative way of conceptualizing the transition from social to socialist media is to think about the freedoms involved. The read-only culture proposed by ultra-commoditized and mechanized life-styles can be seen both from the perspective of media and education. In one extreme, a totalitarian state like Plato's utopia in *The Republic*, will want to control education, reserving true knowledge for the philosopher-kings and telling a "royal lie" to the working classes in order to keep them at bay. Plato would have known exactly why the party and movement calling for the abolition of copyrights is called the Pirate Party (for instance, in Sweden: http://www.piratpartiet.se). The Platonist closed-source approach is strictly correlative with media as a private profit-making business where information first and foremost has an exchange value.

As we move toward more free modes of media and education, we first encounter social media and education as entrepreneurship, where the subjects are "empowered" by active participation in economically constrained activities. This is the first order of freedom where you have free speech inside the confines of formal freedom (as explained by Žižek 2004c): you are free in so far as you do not rock the boat. Strangely enough, the road to more freedom goes through realizing that the economic constraints of liberal, multicultural capitalism are not nearly strict enough. Only when the ghost of exchange value is stripped off is the persistent and non-symbolic use-value, or value in itself, revealed. In terms of media, this means Linux or Wikipedia, which do not have any exchange value but have a tremendous utility. But even that is not enough in terms of taking economics seriously: the *oikos* humanity is facing is the planet and its resources. Native skills (education) and indigenous information need a sustainable material lifestyle, which is something the West has not been able to devise so far.

Neither has it been able to eliminate the old traces of triple-freedom, or the semi-paradoxical seeds of triple-freedom inside civilization itself.

Thus the last two modes of freedom are linked to an emergence of changes in the modes of production, governance and property. These changes will occur through the following three processes: They will "produce use-value through the free cooperation of producers who have access to distributed capital": this is what is called as "the P2P production mode", or a "third mode of production" which differs from capitalist "anything for-profit standard", or from public production by state-owned enterprises common to welfare states. The product and purpose of the P2P production mode is not to produce useless commodities or "exchange value for a market, but use-value for a community of users." The changes will also be "governed by the community of producers themselves, and not by market allocation or corporate hierarchy: this is the P2P governance mode, or third mode of governance." In addition they "make use-value freely accessible on a universal basis, through new common property regimes. This is its distribution or 'peer property mode': a 'third mode of ownership,' different from private property or public (state) property." (Bauwens 2005.)

The last two modes of freedom in particular bring us to the ideas which we see among the fundamental epistemological changes in how future generations will cope with the world. The first has to do with radical openness in the very media people use. It allows or demands that they to participate and collaborate with each other. And it also allows them to actually see how knowledge is constructed – as in Wikipedia and other wikis – in which creation and negotiation processes can be tracked very concretely by clicking the "history" and "discussion" buttons.

Table 4. Levels of Freedom

	Characteristics	Media	Education
Closed	*Exchange value*	*Media as corporate business*	*Education as an ideological state apparatus*
	Vehicle and content controlled	*Economic utility, control of content (business logic)*	*Economic utility, control of content (educational policy)*
	Commoditization		*Learning as having*
	"*Crowdsourcing*"		*Prolonged exchange value of well-educated citizens*
First stage of freedom	*Economical utility, limited collaboration*	*Web 2.0*	*Educational content business*
	Market sphere, entrepreneurship, multicultural capitalism, liberal communism	*YouTube, Google, CitizenTV, Adbusters, etc.*	*Teachers and students as commodified semi-objects (knowledge creators, consumers)*
	Limited autonomy of content		
	"*Sharing*"	"*Produsers*"	

	Characteristics	Media	Education
Double-Free	*Use value/value in itself*	*Media as collaboration*	*Education as collaboration*
	Full autonomy of content, limited autonomy of vehicle	*Wikis, Linux, P2P*	*Freire, Selbstentfaltung*
	"Commonist"	*"Access to the Internet + power of the soviets"*	*Learning as being*
			Reflective uncertainty
Triple-Free	*Value inseparable from the world, Aristotelian finalities*	*Immediate media practices*	"Deschooling Society"
	Full autonomy of content and vehicle	*Wikipedia + ecological autonomy + control of resources*	*Learning by doing, native skills*
	Promoting other than materially-driven life forms		*Students and teachers as human beings, "life-long learners" in an existential sense*
	"Communist"	*"Electricity + access to the Internet + power of the soviets"*	*Education as commons*

The second idea, that of reflective uncertainty, is linked to this: An ability to track these changes leads to a world in which people begin to take for granted that many areas of human conduct and knowledge are based on processes of negotiations and meaning-making both in virtual and other spaces. And perhaps more than that, they will eventually decide to become ever more responsible for the world, as agents of history, by abolishing the division between those who know and do, and those who consume and obey. They will question pedagogical myth claiming "that there is an inferior intelligence and a superior one" (Ranciére 1991, 7).

In this respect, a special character of the Wikiworld is its radical openness and anti-Cartesian uncertainty. The reliability of Wikipedia is dependent on us; that is, it is not only dependent on you or me as individuals, but on us as the community comprising the various skills and literacies that we share as members of the community. The difference is clear when compared with printed media, which in this sense is closed and relies on gated and copyrighted communities of expertise for authority. Respectively, the idea of reflective uncertainty has a family resemblance with the "learning as participation" metaphor that emphasizes participation in various cultural practices and shared learning activities (in kindergarten, at school, in university and various informal learning sites, workplaces and organizational activities). In this metaphor, knowledge and learning are situated and created in people's everyday life, or their life-worlds, and as part of their socio-cultural context which *existentially* includes the material means of subsistence or production.

Conclusion

During the 1990s, the world experienced a substantial increase in income inequality, polarization, poverty, and social exclusion. These maladies are even more accentuated among young people, as four out of five people under the age of 20 are living in developing countries. Though through their use of ICTs, young people are among the most active builders of the new world, a number of obstacles exist in the way of their prefigurative role as ambassadors of the digital era. In addition to the material and structural barriers preventing their voices from being heard through the Internet and other ICTs, there are a number of other obstacles deriving from their cultural and social position within the family and the surrounding society.

A long-lasting debate about the sustainability of Western values has taken place in both public and academic arenas. Over the years, many commentators have perceived it imperative to fundamentally rethink the Western values. One of the commentators has been Stephen Toulmin (1998), a noted philosopher, who has foreseen a gradual termination of the age of Enlightenment. He has thus suggested that the agenda of the Enlightenment would be experiencing a shift in emphasis from the written to the oral, from the universal to the particular, from the general to the local and from the timeless to the timely. Moreover, Toulmin has stressed that human beings need to learn to understand that they can never rule or control the world entirely. Both sociologists and philosophers have incorporated a shared vision about unregulated economic globalization not being able to guarantee welfare for all.

A number of political speakers have noted that if we don't embrace the idea of co-operation, the world can fall into destructive

unilateralism, a situation where the world would be ruled by one power structure in terms of economic-technological development, military power and knowledge production. The unfortunate situation would result in deepening digital, economic and cultural divides along with human suffering, cultural conflicts, and ecological catastrophes. This type of unilateralism would mean reinforcing the advantage of the North. There would be discussion on the elimination of obstacles of free trade, while the position of the better-off countries would no doubt remain secured, and new ICTs would be invented behind the digital divide. Furthermore, the North would use the South as a dump of old ICTs. This course of action has long and not-so-honorable traditions in the areas of other kinds of trade and so-called co-operation.

The other option would be multilateralism or internationalism where the guiding principle would be sustainable development and where high and low technologies would exist in balance, appropriately adapted to local circumstances. However, the fundamental question about how ICTs and the digital divide relate to the process of global development is not about technology, nor is it about politics. Instead, it concerns global politics and local practices. In sociological literature, this dualistic perception has been termed glocalization. In brief, glocalization means that the world is experienced as one place: the global is an aspect of the local, and *vice versa* (Beck 1999, 101). Young people in particular have a tendency to develop a glocal consciousness. In the field of global politics, when seeking to establish a global economy, we should also aim at global democratic structures and global legislation. It seems likely that international laws and regulations as well as a profound value change are all needed for people to grasp the ethical responsibility of the human being as *homo proteus*, a species that in a fundamental way creates its own environments.

The UN committee overseeing the execution of the International Convention on Economic, Social and Cultural Rights proposes three principles for politics to combat poverty (Robinson 2002). These

comprise equal rights, participation and inclusion. In our opinion, these principles might also prove useful in the discussion on participatory digital democracy and bridging the digital divide. However, these notions function only as ideological starting points, and their implementation in practice requires real local actions. Building digital democracy through ICTs is a vain attempt unless the normal administrative structures and channels of participation are operational in the society. As Malina (1999, 38) puts it, "where normative aspects and genuine democratic practice are absent, and where citizens are held in low regard or excluded by their representatives and other experts in the public sphere, outcomes for democratic autonomy, more participatory democracy and social cohesion will be gloomy".

Some hope can be found in the numerous local experiments making practical use of ICTs in various parts of the world as we speak. It is characteristic of this activity that ICTs are made to function as a part of the local circumstances. The adoption of ICTs on its own is not important: instead, the technologies are harnessed to solve a practical problem whether it be the transmission of information (distribution of weather or health related information) or a problem in need of a more technical solution (e.g. water pumps operating on solar energy). The second important characteristic of this type of development activity is the utilization of local knowledge that may not exist in a written form but constitutes orally transmitted information manifesting itself in local customs and activities. Third, it is typical of these experiments that new innovations are created through incorporating new technologies in old technical solutions that have perhaps been in use for a long time. Furthermore, it is crucial to grasp the importance of focusing on the use and development of technology that responds to the actual needs of the people a principle that is a welcome guideline for sustainable development in the field of information and communication technologies in general, as the field’s fascination with newness often seems beyond reasonable. As we all know, the owners never use half of

the finesses featured in the existing devices. Fourth, as researchers, it is crucial to emerge from our ivory towers and fancy laboratories and act as anthropologists, collecting data in the field and creating solutions in close co-operation with locals. All in all, experiments like these realize such positive and reformative values as sharing, listening and socio-diversity.

Amartya Sen (2002, 51), a Nobelist in economics, has brought forth the idea of sharing to help overcome the global maladies of the contemporary economic world order. Perceiving sharing as one of the central notions in the general culture of science, Sen argues that the organizing principles of sharing might have something valuable and substantial to offer in the seemingly endless battle against pervasive poverty, deprivation, and the ongoing conflicts that result from global confrontations between the economic elite and those who have nothing to loose but their chains. Aside from being an influential social institution, the market mechanism also functions as an organizational ideology, which leads to unpredictable and often poor social consequences. Sen contrasts the idea of sharing to the use of the market mechanism as a dominant ideology of the current era. For Sen, economic development is neither about the accumulation of capital nor the growth of gross national product but about a process of expanding human freedom through sharing the common good.

In the end, there are two opposing arguments concerning the overall meaning of ICTs. The first argument, maintained by ICT enthusiasts, proclaims that as vehicles for economy and knowledge production, new technologies will improve everyone's standard of living. For this reason, everyone should have access to information, and it is not necessary to wait for the more basic needs to be covered before moving on to the Internet age. The second argument, sustained by ICT critics, stresses the urgent need for making a difference in basic needs such as democratic governance, food resources, health care, social security and education before attending to problems such as the digital divide. Both arguments

are valid if we think that ICTs are not like lakes or rocks – natural resources – but human-made objects that can be used in a variety of ways. In the end, ICTs are technologies, but not only technologies. For we as people always maintain some kind of relationship to these technologies. We can use the ICT imperative as an excuse for our own thoughtlessness and apparent inability to make reasonable decisions. However, if we consider the matter logically, we will see that ICTs have no power over us. In this basic sense, ICTs may be good servants, but they are certainly bad masters. The emphasis should then be on how to use them, and to what end. One answer lies in the development and use of socialist media.

In furthering socialist media and its allied social inventions such as welfare structures (including basic income as a recent invention) it is vitally important to note that there is more wealth and prosperity in the world today than at any point in history, and yet economic, social and technological divisions run deeper than ever. In this situation, it would be important to focus on the terms on which ICTs will be applied in different parts of the world. ICTs cannot be thought of as simply a technology: They are loaded with cultural values and preferences, as well as desires for what tomorrow should look like. It is evident that the cultural values carried by ICTs are largely Western, with a particular emphasis on North America and its allies in consumer capitalism. Among the cultural values, there are many that are easy to subscribe to, such as everyone's right to a worthwhile existence and freedom of speech regardless of gender, age or ethnicity. Needless to say, the execution of these values is rare, even though they are among the implicit principles embedded in ICTs. However, the cultural values of ICTs also contain a number of less commendable ideas. The most central is the notion of commercial profit as the most important aim of the proliferation of ICTs. Yet, it is this particular aim that is given priority in an ICT industry dominated by a handful of media giants of overlapping ownership. It is in the interest of these corporations to act as

the ambassadors of goodwill until it is time to calculate profitability. The supply of goodwill only lasts as long as the investment is expected to generate profit. This is something that should also be remembered with regard to the operations of various official bodies (such as UN, UNICEF, and NGOs) advocating co-operation between private sector, public sector and civil society.

Moreover, making a profit is in many instances completely out of the question. If we consider sparsely populated regions outside of cities and population centres, it is certain that bridging the ICT gap to those areas will not be commercially profitable. At this point, we come down to a question of values: What kind of world do we want our children and youth to inhabit? Today, young people make up a fifth of the world's population, some 1.2 billion people. The importance of investing in their lives cannot be overestimated, as knowledge, skills and attitudes learned in youth often determine a person's faith later in life. It is our view that a world where young people, remaining in their own localities, can generate their own culture and be connected with youth in other parts of the globe to exchange ideas and learn from each other would be a global village worth living in.

As Alexander Bard and Jan Söderqvist (2002, xi-xii) remind us: "The WTC hijackers were very well educated and very much at home on the Net. These guys even booked their plane tickets online. They possessed the necessary financial means, but more importantly, the necessary networking skills, to make their plans work." But this is not the end of the story. We, too, as Westerners, have something to reflect on in our uses and misuses of education. For it can be argued that in the last decades of neoliberal rubbish we have failed in our educational policies to pose the most fundamental questions concerning the overall good of society and the world. We can even say that due to self-reinforcing processes of economic growth, population growth, technological expansion, arms races, and growing income inequality, humanity is in a state of crisis that cannot be solved with any imaginable quick fixes like

leaning on the promises of ICTs. It is actually quite shocking to realize – and this realization should shake us up as academics and teachers at the tertiary level – that people with higher degrees do the greatest harm when it comes to the above-mentioned problems. "This realisation arises from the observation that the vast majority of people in crucial decision-making positions have tertiary qualifications" (Lautensach & Lautensach 2008). And it is they who make the most ill-advised, short-sighted and self-serving decisions: "An empirical correlation appears evident between higher education and inadequate decision-making" (ibid.).

What are we actually learning? Should we again recall the distinction between data, information, knowledge, insight and wisdom in evaluating various educational policies at the national and international level as well as concrete classroom and lecture hall practices?

In conclusion we would like to suggest that in the future, instead of giving the power to the seemingly ignorant elite alone, the people – educators, students, activists, parents – should take the initiative and power for their participatory cooperation. Real advances in the area of digital literacy can be made only if the power to learn is given to educative communities that can contribute locally and connect globally. And actually, there is no institution which could grant such a permit. People are already working together beyond manufactured constrains like formal schooling system, official state bureaucracy, the authoritative state and so forth. No one knows what the consequences of this turn from public policy and from the state itself will be, and that, of course, can be frightening. It may be that all previous truths and certainties are more or less lost, but as John Holloway (2005, 215) reminds us, "the openness of uncertainty is central to revolution." Perhaps also for the state's institutional players this openness of uncertainty is their only chance of acting productively and doing their democratic share. Otherwise they do not have any role in the digital revolution. By giving their centralized power of defining the problems and solutions to the

communities of digital practices, they could make a strong case for furthering not only peoples' digital literacies, and technological competencies but also their self-regulated socio-political transformation. For, as Giroux (2004, 84) aptly puts it, "one imperative of a critical pedagogy is to offer students opportunities to become aware of their potential and responsibility as individual and social agents to expand, struggle over, and deepen democratic values, institutions, and identities. They must help students unlearn the presupposition that knowledge is unrelated to action, conception to implementation, and learning to social change. Knowledge in this case is more than understanding; it is also about the possibilities of self-determination, individual autonomy, and social agency."

Without such language of critique, hope and possibility it can be impossible to solve the most daunting challenge confronting us in the 21st century, that of a gap between our ability to act technologically correct, and our ability to morally and ethically master the enormity of our actions and technologies; the filling of this gap has been seen as the most daunting challenge confronting us in the years to come (Bauman 2002). Or is it just the opposite? Should we be ready to turn the question concerning information technology's moral and ethics into the question of how to act technologically and politically incorrect and dismantle technocratic "teaching machines"?

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