

Toward a Critical Theory of Education¹

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It is surely not difficult to see that our time is a time of birth and transition to a new period. The spirit has broken with what was hitherto the world of its existence and imagination and is about to submerge all this in the past; it is at work giving itself a new form. To be sure, the spirit is never at rest but always engaged in ever progressing motion.... the spirit that educates itself matures slowly and quietly toward the new form, dissolving one particle of the edifice of its previous world after the other,.... This gradual crumbling... is interrupted by the break of day that, like lightning, all at once reveals the edifice of the new world. Hegel, The Phenomenology of Spirit, 1807

As the new millennium unfolds, the human species is undergoing one of the most dramatic technological revolutions in history, one that is changing everything from the ways that people work to the ways that they communicate with each other and spend their leisure time. The technological revolution centers on computer, information, communication, and multimedia technologies, is often interpreted as the beginnings of an “information society,” and ascribes education a central role in every aspect of life. This Great Transformation poses tremendous challenges to educators to rethink their basic tenets, to deploy the emergent technologies in creative and productive ways, and to restructure education to respond constructively and progressively to the technological and social changes now encompassing the globe.

At the same time that technological revolution is underway, important demographic and socio-political changes are taking place throughout the world. Emigration patterns have brought an explosion of new peoples into various locations in recent decades, and many countries are now more racially and ethnically diverse, more multicultural, than ever before. This creates the challenge of providing people from diverse races, classes, and backgrounds with the tools and competencies to enable them to succeed and participate in an ever more complex and changing world.²

In this paper, I propose developing a critical theory of education for democratizing and reconstructing education to meet the challenges of a global and technological society. This involves articulating a metatheory for the philosophy of education and providing a historical genealogy and grounding of key themes of a democratic reconstruction of education which indicates what traditional aspects of education should be overcome and what alternative pedagogies and principles should reconstruct education in the present age. This latter project includes developing multiple literacies as a response to new technologies, developing alternative critical pedagogies to meet the challenges of globalization and multiculturalism, and promoting radical democratization to counter the trend toward the imposition of a neo-liberal business model on education. I argue that a democratic and multicultural reconstruction of education needs to build on and synthesize perspectives of classical philosophy of education, Deweyan radical pragmatism, Freirean critical pedagogy, poststructuralism, and various critical theories of

gender, race, class, and society while criticizing obsolete idealist, elitist and antidemocratic aspects of traditional concepts of education.

I am aware that in much of the world hunger, shelter, and basic literacy are burning requirements for survival, but would argue in a globalized world it is important to project normative visions for education and social transformation that could be used to criticize and reconstruct education in a variety of contexts. This project requires critical awareness that one is reflecting positions of a theorist in the overdeveloped world and that in different parts of the world education will be reconstructed in various ways depending on the exigencies of the system and possibilities for democratic transformation of education and society. Nonetheless, now is the time to reflect on the history of the philosophy of education, to consider what might be constructed as a critical theory of education, and to articulate a vision of how education could be reconstructed and democratized in the present age.

Critical Theory and Education: Metatheoretical Perspectives

In using the term “critical theory” I am referring to the Frankfurt School (Kellner 1989), but the critical theory that I am anticipating is broader than the version developed by the German-American exiles. In the context of theorizing and reconstructing education for the contemporary era, I would include the tradition of critical pedagogy, Deweyan pragmatism, and poststructuralism. My appropriation of the latter would encompass both the critiques of the subject, reason, and liberal democracy in especially French versions of “post” theory (see Best and Kellner 1991). But I would also engage the critical theories of gender, race, sexuality, and constructions of subjectivity that have developed from a broad range of theoretical formations over the past years. These themes can enrich critical pedagogy and help with the Deweyan project of democratizing and reconstruction education so that aims of social justice and progressive transformation can inform pedagogy and practice.

I use the metatheoretical concept of “critical theory” as a cover concept for this project to signify the critical dimension, the theoretical aspirations, and the political dynamics that will strive to link theory and practice. My conception of “critical” is synoptic and wide-ranging encompassing “critical” in the Greek sense of the verb *krinein*, which signifies to discern, reflect, and judge, and “theory” in the sense of the Greek noun *theoria* which refers to a way of seeing and contemplation. Greek critique is rooted in everyday life and exemplified in the Socratic practice of examining social life, its institutions, values, and dominant ideas, as well as one’s own thought and action.

Critique became central to the Enlightenment project of criticizing authority and legitimating one’s intellectual and political positions. The Kantian sense of critique, for example, required putting in question all the ideas of reason, morality, religion, aesthetics, and other dominant ideas to see if they could be well-grounded and legitimated. Kantian critique aims at autonomy from prejudice and ill-grounded ideas and requires rigorous reflection on one’s presuppositions and basic positions and argumentation to support one’s positions.

Critical theory builds on a Hegelian concept of critique as well by criticizing one-sided positions (such as technophobia vs. technophilia) and developing more complex dialectical

perspectives that reject and neglect oppressive or false features of a position, while appropriating positive and emancipatory aspects. Critical theory adopts a Hegelian concept of theory by developing holistic theories that attempt to conceptualize the totality of a given field, but that importantly make connections and articulate contradictions, overcoming idealist or reductive theories of the whole.

A critical theory of education also draws on Marxian critique, stressing the importance of critique of ideology and situating analysis of a topic like education within the dominant social relations and system of political economy. The Marxian project systematically criticized the assumptions of an established hegemonic discipline, as in Marx's critique of political economy, and constructed an alternative theory and practice to overcome the limitations and oppressive features of established institutions and systems of production. Marxian critique involves radical examination of existing ideologies and practices of education and the need for pedagogical and social transformation to free individuals from the fetters of consumer capitalism and to help make possible a free, more democratic and human culture and society. Marxian theorists like Gramsci (1971) criticized the ways that Italian education and culture reproduced ideologies of the bourgeoisie and then fascism and called for a counterhegemonic cultural project that would encompass alternative institutions from schooling to theater to journalism to help construct a socialist and democratic society. In our time, as Charles Reitz has demonstrated (2000), Herbert Marcuse carried out sustained criticisms of the existing system of education as a mode of reproducing the existing system of domination and oppression and called for counter-institutions and pedagogies to promote democratic social transformation and the full development of individuals.

Building on this tradition, I will argue in a critical Hegelian spirit that classical philosophies of education can aid in the project of reconstructing and democratizing education and society but that certain idealist, elitist, and oppressive elements of classical and contemporary pedagogy must be rejected. A critical theory of education has a normative and even utopian dimension, attempting to theorize how education and life construct alternatives to what is. Developing a model of education that promotes the good life and the good society could be aided by normative reflection on classical philosophy of education from the Greeks through John Dewey and critics of classical Western education like Ivan Illich and Paulo Freire. For the Greeks, philosophy signified love of wisdom (*philo-sophia*) and the practice of philosophy involved *Paideia*, the shaping, formation, and development of human beings and citizens (Jaeger, 1965). For the Greeks, it was language and communication that created human beings and philosophical dialogue involved the search for wisdom and the good life. Using the light of reason, the philosopher was to discover concepts for human life and society that would enable the educator to create more fully developed human beings and citizens able to participate in their society.

Thus, for the classical Greek philosophy of education, proper education involved the search for the good life and the good society. Of course, Greek society was built on slavery so only the upper class, and mostly men, could dedicate themselves to education and becoming citizens. In later appropriations of Greek notions of *Paideia*, such as are evident in Werner Jaeger's classical study (1965), the Greek notion of education was idealized and essentialized, leading to idealist notions of culture from the Romantics, Matthew Arnold, to those of current conservative elitists who fetishize

idealized aspects of culture, elevate the mind over the body, the superior individual over the masses, and thus undermine democracy, citizenship, and the project of developing a just society.³

While the Greeks developed a primarily aristocratic conception of education, for the Romans education was shaped to meet the needs of Empire and to expand a universalized conception of culture and citizenship grounded in Roman ideals that provided the basis for the Western conception of *Humanitas*. For Roman civilization, education involved transmission of basic skills and literacy training for the plebs, more advanced schooling for the administrative class of the imperial society, and a form of classically-oriented tutoring for the patrician class in the codes and manners of Roman aristocracy. Education, then, for the Romans involved *educatio* and *instructio*, in which the teacher was to train children much as the horticulturist cultivated plants and the animal trainer molded animals, even as it aspired to mimic Platonic notions of education within its highest ranks.

Following the Latin roots, the early English conceptions of education involved bringing up and rearing young people from childhood to teach them good manners, habits, and to cultivate the qualities of personality and thought. Curiously, the Latin roots of the English term *education* and *educate* were used to signify the training and discipline of both animals and humans, connotations that lasted into the 19th century when more idealized notions of culture gained currency. By the late 19th century, both classicist educational conservatives and progressives like Dewey harked back to the Latin term *eductio*, to enrich and legitimate their pedagogical projects. However, as E.D. Hirsch (1988) and Ivan Illich (1981) have both noted, modern progressives made an unfortunate conflation of the term *eductio* (signifying a moving out, emigration, or stretching forth) with the Roman pedagogical term *educio*, which meant either nourishment or training. The result was an idealized version of Western education in which the teachers were to draw out or educe innate human potentials, a tradition pointing back towards Plato and the Greeks.

The classical ideals of education remain important insofar as they aim at the forming of more developed human beings and what Cicero conceived of as the citizen and "political philosopher." The latter embodied and disseminated humane values and tolerance, and whose wide ranging knowledge was directed towards the regulation and construction of a public space that accorded with those values and not towards the ivory tower of theoretical abstraction. To the degree that classical ideals of education articulated a vision of humanity as being that which is capable of transcending itself and reshaping itself and its world is a positive heritage, as is the emphasis on the cultivation of unrealized human potentials, a utopian dimension later brought out by the philosopher Ernst Bloch (1986). The classical ideals also speak to the ethical duty that any citizen has toward its community and notions of political virtue that would later influence Rousseau and Enlightenment figures. Hence, to the extent that classical education develops pedagogic practices that allow for the greatest release of human potential and cultivation of citizens who will produce a just society, and counter education contrived to fit students into the existing social system and reduce schooling to an instrument of social reproduction, then they remain important for a contemporary critical theory of education.

Yet we should recall the elitist and idealist roots of classical education and that *Paideia* and *Humanitas* were used to legitimate slave societies and in the case of the Romans to promote Empire. Indeed, a study of the classical ideals also underlines for us the ways in which previous

models of education have been produced within and as discourses of power and domination. Hence, a radically historicist approach to the philosophy of education does not superficially (or mistakenly) draw upon and reproduce theoretical positions that would otherwise prove problematical, but in the spirit of Ernst Bloch and Walter Benjamin's "redemptive criticism" appropriates and reconstructs ideas from the past to produce critical theories of the present and visions of a better future.

A similar dialectical approach is relevant for reflection on the idealist notion of education encoded in the German *Bildung* tradition, itself connected to an idealized version of Greek *Paideia*, which intended education to shape and form more fully realized human beings. Both Hegel and Marx shared this tradition, with Hegel stressing the formation and development of spirit as a historical and educational process that properly formed students needed to work through and appropriate tradition as one's own, while criticizing and moving beyond it. Marx, however, was inspired by a vision of socialism as producing more realized many-sided human beings and envisaged in his early writings, a la Schiller, the education of all the senses as an important dimension of becoming a human being (Marx and Engels 1978: 88ff).

In their 1848 "Communist Manifesto," Marx and Engels made liberation of the working class from bourgeois education and expanded public education for the working class one of their major demands, offering as a key measure to constructing socialism: "Public education of all children free of charge. Elimination of children's factory labor in its present form. Combination of education with material production, etc. etc." (Marx and Engels 1978: 490). Of course, the infamous "etc. etc." signals the Marxist philosophy of education that was never fully developed, but it is clear that free public education was a key demand of Marxian socialism. Crucially, Marx and Engels wanted to "rescue education from the influence of the ruling class" (1978: 487), arguing that education currently reproduces capitalist-bourgeois societies and must be completely reconfigured to produce alternative ones. In the famous "Theses on Feuerbach," the young Marx wrote: "The materialist doctrine that humans are products of circumstances and upbringing, and that, therefore changed humans are products of other circumstances and changed upbringing, forgets that it is humans who change circumstances and that it is essential to educate the educator" (1978: 144).

As the twentieth century unfolded, it was John Dewey who developed the most sustained reflections on progressive education, linking education and democracy. Dewey insisted that one could not have a democratic society without education, that everyone should have access to education for democracy to work, and that education was the key to democracy and thus to the good life and good society. Dewey was a proponent of strong democracy, of an egalitarian and participatory democracy, where everyone takes part in social and political life. For Dewey, education was the key to making democracy work since in order to intelligently participate in social and political life, one had to be informed and educated to be able to be a good citizen and competent actor in democratic life.

Dewey, like Rousseau, and even more so, was experimental, pragmatic, and saw education as an evolving and experiential process in which one would learn by doing. The term "pragmatism" is associated with Dewey, and in one of its meanings signifies that theory should emerge from practice, that education should be practical, aimed at improving everyday life and society, and that

by using the method of trial and error, one could learn important life skills, and gradually improve democratic society and education.

From similar pedagogical perspectives yet from a different historical location of Brazil in the 1960s and following, often in exile, Paulo Freire argued that the oppressed, the underclasses, have not equally shared or received the benefits of education and they should not expect it as a gift from the ruling classes, but should educate themselves, developing a “pedagogy of the oppressed” (1972; 2000). For Freire, emancipatory education involves subverting the Hegelian master/slave dialectic, in which oppressed individuals undertake a transformation from object to subject, and thus properly become a subject and more fully developed human beings. Responding to the situation of colonization and oppression, Freire’s pedagogy of the oppressed involved a type of decolonization, a consciousness-raising (*conscientizacao*), and allowed the educated the right to thematize issues of study, to engage in dialogue with teachers, and to fully participate in the educational process.

Developing a “pedagogy of the oppressed” requires the creation of learning-processes that will really help individuals better themselves and create a better life through social transformation and empowerment, rather than conforming to dominant views and values. Freire is also famous for his critique of “banking” education and development of a dialogical pedagogy. Freire perceived that education is often a form of indoctrination, of enforcing conformity to dominant values, and of social reproduction in which one is tutored into submission and acceptance of an oppressed and subordinate status. Therefore pedagogy of the oppressed must oppose dominant conceptions of education and schooling and develop more critical and emancipatory pedagogies aiming at radical social transformation.

It is interesting that all the classical philosophers of education that I have discussed, as well as Marx and Freire, assume that education is of central importance to creating better and more fully-realized individuals, as well as a good society, and therefore that philosophy of education is a key aspect of social critique and transformation. Critical philosophies of education provide radical critique of the existing models of education in the so-called Western democracies and provide progressive alternative models, still relevant to our contemporary situation. Many of these philosophies of education, however, work with questionable conceptions of reason, subjectivity, and democracy, and neglect the importance of the body, gender, race, sexuality, the natural environment, and other dimensions of human life that some modern theories failed to adequately address.⁴ Consequently, the poststructuralist critique of modern theory provides important tools for a critical theory of education in the present age.

Poststructuralist theories emphasize the importance of difference, marginality, heterogeneity, and multiculturalism, calling attention to dimensions of experiences, groups and voices that have been suppressed in the modern tradition. They develop new critical theories of multicultural otherness and difference, which includes engagement with class, gender, race, sexuality, and other important components of identity and life that many modern pedagogies neglect or ignore. Poststructuralists also call for situated reason and knowledges, stressing the importance of context and the social construction of reality that allows constant reconstruction. A critical poststructuralism also radicalizes the reflexive turn found in some critical modern thinkers, requiring individuals involved in education and politics to reflect upon their own

subject-position and biases, privileges, and limitations, forcing theorists to constantly criticize and rethink their own assumptions, positions, subject-positions, and practices, in a constant process of reflection and self-criticism (Best and Kellner 1991 and 1997).

Poststructuralist theories have empowered women, people of color, gays and lesbians, and others excluded from modern theory and educational institutions. Yet feminist theories of education can draw upon classical feminism, as well as poststructuralist critique. Mary Wollstonecraft (1988), for example, rethought education after the French revolution as a way to realize the program of the Enlightenment and to make individual freedom, equality, and democracy a reality for men and women. Education in Wollstonecraft's conception involved the restructuring of society, enabling women to participate in business, politics, and cultural life, extending the privileges of education to women (although she tended to neglect the need to educate and uplift working-class men and women). Radicalizing Enlightenment positions, Wollstonecraft argued that women, like men, are human beings who have reason, and are thus capable of education. Moreover, she argued that education is the only way for women to better themselves, that if women do not pursue education they cannot be emancipated, they cannot be participants in society, they cannot be equal to men, and thus the Enlightenment project cannot be realized.

More recent feminists, influenced by poststructuralism and multiculturalism, like bell hooks (1994), have stressed the importance of gaining agency and voice for oppressed groups and individuals who have traditionally been marginalized in educational practice and social life. Giving a voice within education and society to individuals in oppressed groups marked by race and ethnicity, sexuality, or class articulates well with the perspectives of Paulo Freire, although he himself did not bring in these domains until his later work. Freire's eventual turn toward more inclusive and articulated gender and multicultural perspectives was in part a response to critique from feminists, critical race theory, gays and lesbians, and other oppressed groups, and in part a development of his theory as he interacted with more groups and individuals.

Building on these perspectives enables a philosophy of education to develop more inclusive philosophical vision and to connect education directly to democratization and the changing of social relations in the direction of equality and social justice. Since social conditions and life are constantly changing, a critical theory of education must be radically historicist, attempting to reconstruct education as social conditions evolve and to create pedagogical alternatives in terms of the needs, problems, and possibilities of specific groups of people in concrete situations. Yet philosophical and normative insight and critique is also needed, driving efforts at reconstructing education and society by visions of what education and human life could be and what are their specific limitations in existing societies.

Hence, a critical theory of education involves conceiving of what education could be, in how radicalizing education could help change society. In this section, I have proposed a comprehensive metatheory that draws on both classical and contemporary sources to comprehend and reconstruct education. The classical critical theory of the Frankfurt School while rigorously engaging in the critique of ideology always drew on the more progressive elements of the most advanced theories of the day, developing dialectical appropriations, for instance, of Nietzsche, Freud, and Weber. Many other Marxian theorists or groups, by contrast, would just be dismissive and rejecting of these "bourgeois ideologies." In the same spirit, I

would argue that a critical theory of education should draw on the radical democratic tradition of John Dewey's pragmatism, poststructuralism, and other contemporary critical theories.

Yet a critical theory of education must be rooted in a critical theory of society that conceptualizes the specific features of actually existing capitalist societies, and their relations of domination and subordination, contradictions and openings for progressive social change, and transformative practices that will create what the theory projects as a better life and society. A critical theory signifies a way of seeing and conceptualizing, a constructing of categories, making connections, mapping, and engaging in the practice of theory-construction, and relating theory to practice. In the next section, I will accordingly deploy a critical theory framework to suggest some transformations in the situation of youth today and the need to reconstruct education and promote multiple literacies appropriate to the novel material conditions, transformations, and subjectivities emerging in the contemporary era. Theorizing important changes in the contemporary moment requires, I would argue, broad-ranging and robust reconstructive theories in order to grasp the changing social and psychological conditions of life in a globalized, high-tech, digitized, multicultural, and highly conflicted world with its intense challenges, problems, and potential. I argue that in this situation of dramatic change, radical transformations of education are necessary to create subjects and practices appropriate to an expanding global society, digitized culture, and world of novel identities, social relations, cultural forms, and social movements and struggles.

The discourse of the postmodern can be useful in signaling changes and transformations in the current social situation, novelties, and new challenges for theory and practice (see Best and Kellner 1997 and 2001), but postmodern positions can also be misused and abused. Hence, while certain forms of postmodern theory derived from Lyotard, Baudrillard, and others reject the very theoretical resources needed to analyze the "postmodern condition" that postmodern theorists evoke, I would argue that a critical and global metatheoretical model and approach is necessary to theorize the magnitude of the changes in the economy, polity, society, everyday life, and subjectivity of the present era. For a too radical postmodern theory fetishizes breaks and differences (i.e. Baudrillard), whereas more dialectical theories can present continuities and discontinuities, theorizing ruptures and novel conditions as well as connections with the past.

Of course, some versions of the Hegelian-Marxian critical theory are excessively totalizing, reductive, teleological and ideological, but one can avoid these pitfalls by mediating Hegelian/Marxian/modern conceptions with poststructuralist epistemologies and analyses of emergent postmodern conditions that put in question previous pedagogies and educational philosophies. Moreover, to democratize and reconstruct education, one can combine modern and postmodern perspectives, theory and practice, as I attempt to do in this paper.

A critical theory is interdisciplinary, involving a critique of academic disciplines and fragmentation, and transdisciplinary connecting material from different domains to craft a multiperspectival optic on contemporary society. Critical theory is boundary-crossing and mediating, bringing together various dimensions of social life in a comprehensive normative and historical thinking. Its metatheory thus itself contains a model of more holistic education, that brings together various subject matter that constitute the present age, rather than separating material into disciplinary knowledge.

My remarks will address salient dimensions of what I take to be important sets of changes in the contemporary world that are significant for rethinking and reconstructing education today: 1) Articulating changing life conditions, subjectivities, and identities of youth; 2) cultivating multiple literacies to respond to fast-developing and mutating technologies and the challenges of globalization; and 3) on the basis of these analyses to propose a radical restructuring and democratization of education.⁵

Changing Life Conditions, Subjectivities, and Identities

Allan and Carmen Luke have argued that current educational systems, curricula, and pedagogies were designed for the production of a laboring subject who has become an “endangered species” in the current economic, social, and cultural system. Modern education was constructed to develop a compliant work force which would gain skills of print literacy and discipline that would enable them to function in modern corporations and a corporate economy based on rational accounting, commercial organization, and discursive communicative practices, supported by manual labor and service jobs. The life trajectory for a laboring modern subject was assumed to be stable and mappable, progressing through K-12 schooling, to Universities and perhaps onto professional schools or higher degrees, to well-paying jobs that would themselves offer life-time employment, a stable career, and solid identities.

All of this has changed in a global economy marked by constant restructuring, flux and rapid change, and novel material conditions and subjectivities. Students coming into schools have been shaped by years of computer and video games, television, a variety of music technologies and forms, and new spheres of multimedia and interactive cyberculture. Moreover, the steady jobs that were waiting for well-disciplined and performing students of the previous generation are disappearing, while new jobs are appearing in the high-tech sector, itself subject to frenzied booms, busts, and restructuring. And as the September 11 terrorist attacks on the U.S. and their chaotic aftermath have demonstrated, life in a high-tech and global society is much more complicated, fragile, and subject to dramatic disruptions and transformations than was previously perceived.

There is thus a fundamental misfit between youth life-experience and schooling, the expectations of an older generation concerning labor and new work conditions, and the previous print-based and organizational economy and culture in contrast to the new digital and multimedia based culture and hybridized global economy. Postmodern theorists have amassed cultural capital theorizing such breaks and ruptures, but have had few positive recommendations on how to restructure institutions like schooling (although there are stacks of books, generally of little worth, on how to succeed in the new economy).⁶ Indeed, in the current conjuncture, advocates of neo-liberal business models for education have used the obviously transformative technological revolution to legitimate technology as the panacea and magic cure for problems of education today and to sell corporate technologies and business models as the solution to educational problems.

One of the major challenges for democratizing education today is thus to draw the consequences for restructuring education and democratizing society from reflection on changing

life conditions, experiences, and subjectivities in the context of technological revolution and globalization that envisages using technology to democratically reconstruct education and promote progressive social and political change without promoting neo-liberal and capitalist agendas. This task is advanced, I believe, by drawing on the radical critique of schooling and proposals for transforming education and learning found in the work of the late Ivan Illich, who was one of the chief educational gurus of the 1970s and most radical critic of schooling whose work has fallen from view but is still important and should be re-engaged in the present situation.⁷

The late Ivan Illich's postindustrial model of education contains a radical critique of existing schooling and alternative notions like webs of learning, tools for conviviality, and radically reconstructing education to promote learning, democracy, and social and communal life, thus providing salient alternatives to modern systems (1971, 1973). Illich analyses in detail how modern schooling prepares students for the modern industrial system and how its "hidden curriculum" promotes conformity, bureaucracy, instrumental rationality, hierarchy, competition, and other features of existing social organization. For Illich, modern systems of schooling are no longer appropriate for postindustrial conditions and require radical restructuring of education and rethinking pedagogy. But unlike many of his contemporaries, Illich had a powerful, explicit and, prescient analysis of the limits and possibilities of technologies and those strange institutions called 'schools'.

Illich's "learning webs" (1971) and "tools for conviviality" (1973) anticipate the Internet and how it might provide resources, interactivity, and communities that could help revolutionize education. For Illich, science and technology can either serve as instruments of domination or progressive ends. Hence, whereas big systems of computers promote modern bureaucracy and industry, personalized computers made accessible to the public might be constructed to provide tools that can be used to enhance learning. Thus, Illich was aware of how technologies like computers could either enhance or distort education depending on how they were fit into a well-balanced ecology of learning.

"Tools of conviviality" for Illich are appropriate, congenial, and promote learning, sociality, and community (1973). They are tools in which ends dictate means and individuals are not overpowered or controlled by their technologies (as say, with assembly lines, nuclear power plants, or giant computer systems). Convivial tools produce a democratic and convivial society in which individuals communicate, debate, participate in social and political life, and help make decisions. Convivial tools free individuals from dependency and cultivate autonomy and sociality. They provide individuals and society with the challenge of producing convivial tools and pedagogies that will create better modes of learning and social life.

Conviviality for Illich involves "autonomous and creative intercourse among persons, and the intercourse of persons with their environment" (1973: 27). Illich proposes a normative dimension to critique existing systems and construct alternative ones using values of "survival, justice, and self-defined work" as positive norms (1973: 13). These criteria could guide a reconstruction of education to serve the needs of varied communities, to promote democracy and social justice, and to redefine learning and work to promote creativity, community, and an ecological balance between people and the Earth. Indeed, Illich was one of the few critics

working within radical pedagogy in his period who took seriously ecological issues and critically appraised institutions like schooling, medicine, transportation, and other key elements of industrial society within a broad social, political, economic, and ecological framework. His goal was nothing less than a critique of industrial civilization and a project of envisaging postindustrial institutions of learning, democratization, and social justice.

At a time when many were enamoured of the autonomous power and emancipatory potential of the school, Illich insisted on seeing schools as part and parcel of industrial society and one of the major instruments of its social reproduction. One of Illich's enduring contributions is to see relationships between modern industrial institutions like schooling, production, medicine, transportation and other major sectors of industrial society. In order to engage with how what goes on in educational institutions we must have far better and more critical self-understandings of what a specific institutions like schooling do in their institutional structure within the broader society, their hidden curriculum and how they engage in social reproduction. Understanding schooling beyond its institutional sites also requires grasping its dialectical relationships to the public pedagogies of media and the street, and the networked civic and social space of the Internet, as well as how schooling relates to the oppressions and operations of workplaces, government institutions, and corporations.

Illich thus provides concrete analyses and a critique of how schooling reproduces the existing social order and is flawed and debased by the defects and horrors of the industrial system. Illich also recognizes that postindustrial society requires certain competencies and that a major challenge is to construct convivial technologies that will improve both education and social life. While he resolutely opposed neo-liberal agendas and was critical of encroaching corporate domination of the Internet and information technologies, Illich's notion of "webs of learning" and "tools of conviviality" can be appropriated for projects of the radical reconstruction of education and learning in the contemporary era. Within this framework, let us consider how the expanding social roles of information and communication technologies require multiple literacies and how focusing on the current technological revolution can lead us to rethink learning and reconstruct educational theory and practice.

Expanding Technologies/Multiple Literacies

Schooling in the modern era has been largely organized around the transmission of print literacies and segregated academic knowledges based on a modern division of disciplines into such things as social science, literature, or physical education. Schooling authorities have been in a moral panic throughout the world by declining literacy test scores and have recommended correctives such as early intervention to help produce stronger print literacy skills at younger ages (Luke and Luke 2002). For the Lukes, such projects are misguided because they fail to take account of the rapidly expanding technologies of information and communication, mutating subjectivities and cultural forms, and the demands of a networked society culture that require multiple literacies, more flexible subjects, and inventive skills and capabilities. The solution, they suggest, is to cultivate in the sphere of education multiple literacies, such as media, computer, and information literacies that will respond to emergent technologies and cultural conditions and empower students to participate in the expanding high-tech culture and networked society (see also Kellner 2000 and 2002b).

In this context, the Lukes argue that early print literacy intervention strategies fail to adequately prepare students with the literacies they need to navigate and negotiate the emergent economy and culture, and may perpetuate obsolete forms of schooling and culture. I would add here that the increasing emphasis on testing and quantitative scoring that is the basis of the Bush administration and conservative educational philosophy in the U.S. and elsewhere is also woefully flawed and already obsolete as it is rolled out, as are the SAT and most tests that measure student capabilities. These tests are educational technologies with genealogies in an earlier era marked by different social and economic imperatives, cognitive skills necessary for the economy and culture, and different subjectivities. The tests are thus now seriously outdated and in need of change to respond to the challenge of technological revolution and the current era of globalization.

Hence, the constant development and mutation of information and communication technologies and new forms of culture, economy, and everyday life require a careful rethinking of education and literacy in response to novel challenges that will involve an era of Deweyan experimental education, trial and error, and research and discovery. Yet a critical theory of education will reject pedagogies and literacies that merely aim at the reproduction of existing capitalist societies and creating capabilities aimed primarily at providing cultural capital put in the service of the reproduction of global capitalism. A critical theory of education could draw on the reconstruction of Marxian, Deweyan, and Freirean critical pedagogies and attempt to develop Illichian tools and communities of conviviality and genuine learning that would promote democracy, social justice, and cultivate conceptions of the good life and society for all.

This requires teaching traditional literacies as well as multiple forms of computer, information, and communication literacies that will empower students to develop their potentials, create communities of learning, and work toward democratizing society. In many parts of the world, there are the equivalent of early intervention print projects in the realm of computers, in which computers are put in children's hands at an ever earlier age in the hopes of developing multiple computer literacies. There is a raging debate, however, concerning the proper age to expose children to computers and cultivate computer literacy, just as there have been and still are debates over the proper time to begin cultivating print literacy in children.

In the Hegelian concept of Geist, the subject develops through mediations of culture and society in specific historical ways, but encounters contradictions and blockages which are overcome by sublation or Aufhebung, i.e. overcoming obsolete or oppressive conditions that are transcended. In a contemporary version of the Hegelian dialectic, the emergent technologies and conditions of postmodern life are producing novel experiences and subjectivities that come into conflict with schooling, itself based on earlier historical subjectivities and congealed institutions, discourses, and practices, modeled on the industrial factory system (i.e. time-parceled segments, staying immobile at a specific site to perform labor, submitting to the discipline of bosses). The optimistic Hegelian scenario is that this conflict can be overcome through an Aufhebung that sublates (i.e. negates, preserves, takes to higher stage) the positivities in the conflict and negates the obsolete aspects. Put more concretely: when there are contradictions between, say, a print-based curriculum and evolving subjectivities mediated by multimedia, then resolving the contradiction requires going to a higher level; e.g. restructuring

schooling to preserve, for instance, the importance of print-based culture and literacy. Yet restructuring schooling to meet challenges of expanding technologies and emergent social and cultural conditions requires cultivation of multiple literacies, tools, and pedagogies to respond to, mediate, and develop in pedagogically progressive ways the technologies and global conditions that help make possible democratized forms of education and culture.

An Hegelian critique would thus perceive some forms of life, such as schooling, as obsolete, as too print based in the conception of literacy, and as exhibiting moral panic in the face of new literacies and experiences. In Hegelian terms, schooling is seen as out of phase with the most advanced aspects of the culture and society, and must be transformed to harmonize with the networked society and multimedia culture. In the 1960s, Marshall McLuhan made the argument that there was a misfit between education and children's subjectivities largely because of TV and pop culture-based experience of kids perceptions and subjectivities in terms of mosaics, patterns, oral culture, and images (1964). In Hegelian (world-historical) terms, however, I don't think you could justify a restructuring of education on the basis of children's immersion in television and media culture. McLuhan's critique overburdens the allegedly transformative effects of television and popular culture on '60s youth. Moreover, the McLuhan vision arguably exaggerates the role of oral and tribal culture in the construction of novel subjectivities in contemporary youth, in addition to deploying problematic distinctions between hot and cool media and making a host of hyperbolic claims.

However, I believe that by substituting computers and multimedia technology for television and the media of McLuhan's day, one can argue that there are now significant transformations of the economy and culture that lend more credence to sweeping McLuhanesque proclamations concerning the obsolescence of modern education institutions. For one thing, the economic and cultural global restructuring going on in the world today is done on the basis of the most advanced sector of the new economy and culture (i.e. information and multimedia technology) penetrating ever more realms of life from entertainment to labor to schooling. Thus, the reconstruction of education on the grounds that socio-economic, cultural, and the material conditions of everyday life and labor are changing is a reasonable response to the great transformations now underway.

There are, however, several caveats necessary in pursuing this argument. First, one needs to take seriously the Hegelian notion of *Aufhebung*, or sublation, in relation to print literacy since the ability to read and write linguistic texts and communication is arguably more important than ever in the new multimedia environment which is still significantly text-based (i.e. e-mail, chat rooms, list-serves, even much of the world wide Web- consists of text-based archives). To be sure, new multimedia and computer literacies are necessary, but they need to be articulated with print literacy, in which multiple literacies enable students and citizens to negotiate word, image, graphics, video, and multimedia digitized culture.

Moreover, although, following the calls of some neo-McLuhanites and the digerati, education must be transformed to meet the challenges of technological revolution, we must recognize that a globalized world is fraught with growing inequalities, conflicts and dangers, so to make education relevant to the contemporary situation it must address these problems. Globalization has been creating growing divisions between haves and have nots, and to

economic inequality there now emerge growing information inequalities and gaps in cultural and social capital as well as a growing divide between rich and poor. A transformed democratic education must address these challenges and make education for social justice part of a radical pedagogy, as envisaged by theorists like Illich and Freire.

But in a post-September 11 world marked by growing political and cultural conflict and Terror War, education must also address the problems of war and conflict and make peace education and solving conflicts through mediation an important part of a democratic curriculum. Growing cultural conflict makes it all the more important to gain empathy and understanding of the other and to see how liberal values of tolerance and Enlightenment proposals for peace and justice can be reconfigured in the contemporary situation. Critical pedagogy must engage the difficult issue of overcoming differences, understanding cultures very dissimilar from one's own, and developing a more inconclusive democracy that will incorporate marginalized groups and resolve conflicts between diverse groups and cultures.

Crucially, a critical theory seeks to reconstruct education not to fulfill the agenda of capital and the high-tech industries, but to radically democratize education in order to advance the goals of progressive educators like Dewey, Freire, and Illich in cultivating learning that will promote the development of individuality, citizenship and community, social justice, and the strengthening of democratic participation in all modes of life. Over the past decades, there has been sustained efforts to impose a neo-liberal agenda on education, reorganizing schools on a business model, imposing standardized curriculum, and making testing the goal of pedagogy. This agenda is disastrously wrong and a critical theory of education needs to both critique the neo-liberal restructuring of education and to propose alternatives conceptions and practices.

Globalization and technological revolution have been used to legitimate a radical restructuring of schooling and provide radical educators with openings to propose their own models of pedagogy and reconstruction of education to serve democracy and progressive social change. There is no question but that technological revolution is destabilizing traditional education and creating openings for change. Although one needs to fiercely criticize the neo-liberal model, it is also important to propose alternatives. Thus, one needs to accompany demands for new literacies and a restructuring of education with a program of the democratization of education, as I suggest in my concluding remarks.

Toward a Radical Reconstruction and Democratization of Education

In calling for the democratic reconstruction of education to promote multiple literacies as a response to emergent technologies and globalization, one encounters the problem of the "digital divide." It has been well documented that some communities, or individuals in privileged groups, are exposed to more advanced technologies and given access to more high-tech skills and cultural capital than those in less privileged communities. One way to overcome the divide, and thus a whole new set of inequalities that mirror or supplement modern divides of class, gender, race, and education, is to restructure education so that all students have access to new technologies and new literacies, so that education is democratized, and the very learning process and relation between student and teacher is rethought.

The Hegelian Master/Slave dialectic can help characterize relations between students and teachers today in which teachers force their curricula and agendas onto students in a situation in which there may be a mismatch between generational cultural and social experiences and even subjectivities. Educators, students, and citizens must recognize this generational divide and work to overcome conflicts and make differences more productive. That is, many students may be more technologically skilled than teachers and can themselves be important pedagogical resources. I know that much of what I've learned about how to use computers I've learned from students, and continue to draw upon them both in and out of class to help me navigate the new high-tech culture and to devise productive pedagogies and practices for the contemporary era.⁸

In general, democratizing education can be enhanced by more interactive and participatory forms of education such as developing convivial list-serves, the collective building of Web-sites, on-line discussion, and collaborative computer-based research projects. But the restructuring of education also requires cultivating literacy concerning limitations of Internet-based knowledge and the need for library inquiry and accessing books as important pedagogical resources. For learning and teaching, books and print-based materials and multimedia Web--based materials should be seen as supplementary and not as oppositional, in which one is uncritically favored over the other, as some traditionalists privilege print literacy and book culture, while some of our contemporaries excessively celebrate the Internet and cyberculture.

In addition, a critical theory of education would envisage merging class-based Socratic discussion with computer research and projects that would combine oral, written, and multimedia cultural forms in the process of education without privileging one or the other. Some educators still insist that face-to-face dialogue in the classroom is the alpha and omega of good education and while there are times that classroom dialogue is extremely productive, it is a mistake, I believe, to fetishize face-to-face conversation, books and print media, or new multimedia. Rather the challenge is to draw upon in an experimental and supplemental way all of these dimensions of the educational process to restructure and democratize education.

Finally, I would suggest that since concrete reconstructions of education will take place in specific local and national contexts, the mix between classroom pedagogy, books and reading print-material, and multimedia and Internet-based education will vary according to locale, age, and the needs and interests of students and teachers. The idea behind multiple literacies is that diverse and multimodal forms of culture blend in lived experience to form new subjectivities (Kellner 2000 and 2002b), and the challenge for a radical pedagogy is to cultivate subjectivities that seek justice, more harmonious social relations, and transformed relations with the natural world. Ivan Illich called for education to take ecological problems into account (1971 and 1973) and as Richard Kahn argues (2003), the extent of current ecological crisis is such that environmental collapse and disaster faces the current generation if ecological issues are not addressed.

A glaring problem with contemporary educational institutions is that they become fixed in monomodal instruction with homogenized lesson plans, curricula, and pedagogy, and neglect to address novel political, cultural, or ecological problems. The development of tools of conviviality and radical pedagogies enable teachers and students to break with these models and to engage in Deweyan experimental education. A reconstruction of education could help create

subjects better able to negotiate the complexities of emergent forms of everyday life, labor, and culture, as contemporary life becomes more complex and dangerous. More cooperative, dialogical and interactive social relations in learning situations can promote cooperation, democracy, and positive social values, as well as fulfill needs for communication, esteem, and learning. Whereas modern mass education tended to see life in a linear fashion based on print models and developed pedagogies which broke experience into discrete moments and behavioral bits, critical pedagogies could produce skills that enable individuals to better navigate the multiple realms and challenges of contemporary life. Deweyan education focused on problem solving, goal-seeking projects, and the courage to be experimental, while Freire developed alternative pedagogies and Illich oppositional conceptions of education and learning and critiques of schooling. It is this sort of critical spirit and vision to reconstruct education and society that can help produce new pedagogies, tools for learning, and social justice for the present age.

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Notes

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² Studies reveal that women, minorities, and immigrants now constitute roughly 85 percent of the

growth in the labor force, while these groups represent about 60 percent of all workers; see Duderstadt 1999-2000: 38. In the past decade, the number of Hispanics in the United States increased by 35 percent and Asians by more than 40 percent. Since 1991, California has had no single ethnic or racial minority and almost half of the high school students in the state are African-American or Latino. Meanwhile, a "tidal wave" of children of baby boomers are about to enter college; see Atkinson 1999-2000: 49-50. Obviously, I am writing this study from a U.S. perspective, but would suggest that my arguments have broader reference in an increasingly globalized society marked by a networked economy, increasing migration and multiculturalism, and a proliferating Internet-based cyberculture.

³ For a critique of the Greek concept of *Paedeia* and how it plays out in subsequent philosophies of education, see Kahn 2003.

⁴ For a critique of modern theories of the subject and reason from postmodern perspectives, see Best and Kellner 1991 and 1997; for a critique of modern pedagogy neglecting the body, environment, and cosmos, see Kahn 2003.

⁵ The following section was influenced by commentary that I did on a study by Allan and Carmen Luke of the new conditions of youth and need for new literacies (2002b) so I want to signal the importance of their work and our conversations over the years to the project of reconstructing education that I sketch out below.

⁶ See the critique of now to succeed in the new economy books in Best and Kellner 2001.

⁷ While reviewing Illich's work for a memorial for him sponsored by the UCLA Paulo Freire Institute, I discovered that much of Illich's work, including his major books, has been preserved on websites; see, for example, <http://www.preservenet.com/theory/Illich.html>.

⁸ For examples of how new technology can be used to enhance education, see my Web-sites for philosophy of education, technology and society, and cultural studies seminars at UCLA, accessible from my home page at <http://www.gseis.ucla.edu/faculty/kellner/kellner.html>.