THE UNBEARABLE LIGHTNESS OF NEW MEDIA EDUCATION
NOTES ON TEACHING, TECHNOLOGY, AND ART

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My students and I are crammed in a small computer lab, waiting. We are always waiting: for computers to restart, for computers to recover, for projects to load, and in some cases, not load. I have learned that these interruptions are not wasteful, but precious; they are the only moments when I can devote myself entirely to teaching, instead of troubleshooting. If the time spent in front of a functioning computer counts as the waking time of a class, I imagine the time spent between the crashes and recoveries as the sleeping time, so the conversations and exchanges that occur, whether they are casual or curricular, can inform the class like a dream.

We are waiting to look at a final art project by a student we will call Postmodernity(1). She launches her project on the computer. A square of white light, centered and small, appears. I won't describe the whole project, but I will give you the highlights; a young couple walks on a deserted beach (the appearance of a beach signifies love); a camera spinning violently in circles in a busy city intersection (a favourite metaphor of hers that refers to the general confusion of contemporary life); a collection of flat shapes bouncing across the screen (telling me she has mastered the animation software we have in the computer lab); finally, large white type that reads, Postmodernity, copyright nineteen ninety seven.

Her piece looked technically impressive and very familiar. Postmodernity's pieces always do. The class creeps into a critique session. Before long, a student tells me the reason behind my lingering sense of familiarity with the piece: Postmodernity had made it last semester, in my Digital Video I class, only now it is a quarter of its original size. Incredulous (and slightly embarrassed that I didn't recognize it sooner), I ask her why she did not make something new. Postmodernity replied shyly and sincerely, Because everything is been done. There is nothing new anymore.

Of course I blamed myself. Time is precious in any classroom or studio. I failed to balance the allure of learning new technology with a curriculum reorganized and reconstituted their experience with the technology into something more meaningful. But I am not the only one at fault; I blame Avid for making propriety video software that is not compatible with other software; I blame Adobe, for making their applications increasingly less user-friendly; I blame Macromedia for upgrading their applications every six months; I blame that Cisco ethernet router for having network problems on days that I teach; I blame Microsoft, for being Microsoft; I blame Apple, for not evaluating third party software that run on their operating systems in order to minimize the amount of computer crashes. There's plenty of blame around.(2)

In the United States, colleges and universities are buckling under the weight of the new digital economy. (3) The need for skilled workers in all levels of the Internet and new media workforce, coupled with the demand of students to learn and keep pace with the rapidly changing technology, have driven institutions of higher learning into a desperate race for capital to finance hardware, software, facilities, and a labor pool of teachers and technicians to deal with this burgeoning academic enterprise.

In visual arts education, the need to stay relevant with the technological fields fueling this global shift in business, communication, and culture has been particularly taxing. On the

one hand, an arts education has never been more relevant: the Internet and emerging interactive tele-visual fields like broadband and mobile communication networks all demand a high level of aesthetic mediation in order to be effective. A visual arts education provides a language and a practice that can articulate the content of the technology into forms that can become useful, profitable, and sometimes even beautiful.

On the other hand, the continuing development of new technology that reshapes the different media into more and more complex modes of organization and distribution has made it increasingly difficult for teachers to keep up with and balance the teaching of the technology with an arts curriculum. I believe this is because a visual arts education, working within the milieu of these technological fields, or what I will now call new media arts education, is inextricably accountable to the rapidly changing technology that made the education relevant in the first place. So the aim of the education always betrays a particular bent toward these technological fields, which is essentially a set of techno-industries, rather than being more accountable toward, say, a history of production within the field, or the interpretation and reformulation of ideas and practices that result from the play between technological content and artistic form. In essence, the education's relevancy its weight doesn't come from itself, but from how that education accommodates and articulates the technology.

Can a balance be struck between the demands of technology and the aims of education? American philosopher and educator John Dewey believed it was possible. Dewey's Democracy and Education, written in 1916, outlined a pedagogy that rendered inseparable an education for citizenship and culture with an education for practical skills in the service of industrial needs.(4) His philosophy of progressive education, among other things, sought a convergence between the aims of a growing American industrial economy and the need for a new educational method to prepare people for the changing social and technological landscape. For Dewey, this is accomplished by identifying occupation as an educational method, and situating it between the narrowly practical confines of job training and the pursuit of purely contemplative knowledge generally associated with a liberal education. Dewey writes, an occupation is a continuous activity having a purpose. Education through occupations consequently combines within itself more of the factors conducive to habits into play; it is a foe to passive receptivity. It has an end in view; results are to be accomplished. Hence it appeals to thought; it demands that an idea of an end be steadily maintained, so that activity cannot be either routine or capricious. Since the movement of activity must be progressive, leading from one stage to another, observation and ingenuity are required at each stage to overcome obstacles and to discover and readapt means of execution.(5)

Dewey imagined a progressive education that worked through technology could benefit both the industry and the individual, since he believed the technology of his day took into account so many different sectors of knowledge that learning to use it amounted to a type of education that would perpetuate itself, like a liberal education, into self knowledge, and consequently, self-transformation. The same holds true now, albeit with computers, instead of factories. By using technology as a tool to shape industry, we in turn shape our society and ourselves.

The metaphor of technology as tool has resonated throughout the field of education for the past two decades like a sirenís call. Schools have diverted funding and raised capital for the purchase of computers and computer networks in hopes of using the technology to raise the standards of learning and transform the fundamentals of education into a field of knowledge that can cope with this new digital landscape.(6) Techno-industries, in turn, have courted schools by discounting and at times giving away hardware and software in hopes of solidifying the connection between industry and education. (7) For the arts, this has meant a retooling of virtually every media based curriculum, studio, and classroom to

accommodate the myriad possibilities of digital production. The toll of the retooling has yet to be adequately researched. But informal interviews conducted with media arts teachers in New York, Chicago, and Los Angeles suggests that even though the technology has opened the possibilities of art production, the quality of the class experience is unsatisfactory. Teachers complain about the computer problems distracting class time, a lack of proper technical support for labs and classrooms, and a general dissatisfaction with the low level of discourse.

Are the problems simply a matter of poor curricular planning or a lack of funding to properly fuel the technology? The problem, for me, lies deeper than both. It is the fundamental conception of technology as a tool that is at the root of the problem. Or rather, the view that technology is simply a tool, like a pencil or paintbrush, to be used as a part of the curricular discourse without taking into account the social connectedness that contextualizes and creates this tool. The industry producing the technologies that mediate our connections to each other through the new global networks is a multi-billion dollar business.(8) Applications like Adobe Photoshop and Macromedia Director, to name two, connect to each other in form, function, and production that reflect the connectedness of the industry that produced them. We must realize that as our digital content is launched, color-corrected, exported, rendered and saved, the contracts and transactions that take place between our content and the software we use commit our art practices to a flow of circuitry that can be characterized as the political economy of new media.(9) The aesthetic horizon of our new media art practices is shaped by this political economy, which is itself informed and shaped by a larger network of economies and technological infrastructures. The shifting of the horizon, in the development of new tele-interactivities, new software releases, and hardware and network upgrades has little to do with the need to expand that horizon. Rather, it is dictated by the need for profits and returns by the industries that are now inextricably connected to, and shaped by, each other.(10) Technology taught in classes without this understanding becomes unbearably light, because the weight of the technology, as a complex system of methodologies connected to drives outside of its own purview of utility, is freed from critique, responsibility, and ultimately, transformation. We are left, in the end, with only the utilitarian aspects of technology, which robs us the possibility of understanding technology not only as a tool for artmaking, but as a system of interconnected products selling us the image of a future shaped by the utility of its own presence.

Will a new media arts curriculum that takes this systems approach to technology produce better new media artists? It is unlikely. The lack of weight I see in technology articulated in new media education is shadowed by a similar lightness in its discourse on art. In Aesthetic Theory, Theodor Adorno warns: "The growing relevance of technology in artworks must not become a motive for subordinating them to that type of reason that produced technology and finds its continuation in it." (11) For Adorno, the pursuit of science in the service of capital is what gives birth to modern technology, and art informed by technology has already compromised its potential force to make concrete "the unsolved antagonisms of reality" that is embodied through the artwork's articulation of form.(12) The compromise is not complete. Art and technology can combine to create works of aesthetic value, Adorno suggests, but only at the cost of diminishing art's utopian aspect as the embodiment of a space outside of this world, a space exempt from the mechanism of social process of production and reproduction that signifies the domination of technology in society.(13) For art to speak significantly art must be as abstract as social relations have in truth become, or art risks saying nothing at all.

It is no surprise that Adorno championed art that reflected his totalizing aesthetic: the music of Arnold Schoenberg and the work of Samuel Beckett to name two. And it is also no surprise that new media art, as it exists now in interactive installations, tele-visual sculptures, websites, and CD-ROMs nary even hint at the existence of such works, not to

speak of the modernist aesthetic that informed their sensibilities. The times and the technologies have changed. The aesthetic of new media art draws from a history that makes no distinction between high art and low, and finds its resources from a cultural space totally saturated with the image, whether it comes from advertising, communications media, or the new techno-global networks. New media art is now as interconnected and fragmentary as our cultural relations have in fact become.

Frederic Jameson characterizes postmodernity, among other things, as the leveling of social and cultural difference that blasts the aesthetic experience into the everyday, in an expansion of culture that not only made the idea of an individual work of art problematic, but has made hollow the notion of aesthetic autonomy, thereby rendering anything that aims to exist in a properly aesthetic sphere as thoroughly obsolete.(14)

For me, it is the notion of obsolescence, or rather, the need to escape the grip of obsolescence, that binds art and technology today as it is practiced in new media artmaking; the pursuit to render forms that rise above the base aesthetic aligns itself with the pursuit to generate profit through innovation. It is no coincidence that computer companies have begun sponsoring new media art exhibitions and the tha tele-communication industry have invested capital into museums and fine art institutions worldwide to build ìdigital museums.(15) Nor is it a coincidence that new media artworks exhibited and institutionalized function like beta-forms of technologies that act as down payments on products yet to be marketed.

If obsolescence is what binds art and technology, it is also perhaps the key to transforming their relations. For Walter Benjamin, every technological process is invested with a structure in which two opposing forms of equivalence converge: negative and positive, like an object and its shadow. Benjamin called this dialectical condition within the structure the ambivalence between its utopian and its cynical elements.(16) That the cynical element rises above the fray goes without saying. But Benjamin believed that at the birth of a given technological process the utopian element was present and that it is precisely at the point of its own obsolescence that the technology releases that element once again, like the last flash of a dying star. For obsolescence, the very law of commodity production, both frees the obsolete process from the bonds of utility and reveals the hollow promise of that law. (17)

It is through the perspective of obsolescence, then, that opens the possibility for redemption, in art as well as education. By teaching technology against the grain, the possibility of a pedagogical space immune to the anxiety of progress opens. This imaginary space gives student artists and artist teachers the room to re-imagine the place of technology in their practice, reformulate its tools to suit a critical aesthetic, and reshape the horizon of new media as they see fit.

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