Teaching Critical Practice for Future Technologies

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What are the issues when faculty wishes to teach art students critical or alternative practices with newer technologies not yet widely available to the public? Can one teach alternative practices that consider social or personal contexts when the technologies are not yet publicly available?

What other issues are involved when teaching art students to do fine art with such technologies, and when not training artists to do commercial work for the communications industry or mainstream media? What does it mean for the art student who wants to use these technologies for fine art to have ideas for their use, but with no access to them?

Clearly many answers to these questions will be better understood in hindsight, when the said technologies are in place and questions around their social and cultural use have clear examples to study. I will use a class I am currently teaching on art and mobile technologies as an example from which to draw conclusions to some of the questions raised here. Other answers however, may be sought outside of the classroom, but within the infrastructures surrounding the classroom.

Infrastructures

In teaching contemporary art practice using new technologies (i.e., 'new media'[1]), certain factors related to the vision of the department regarding technology and the resulting infrastructure can enhance or problematize whether the faculty is able to teach in alternative or critical practices for new or future technologies.

One factor is tied to the department's vision of what role technology has in their curriculum. Is technology in the arts a major and what emphasis does this major have? Does the curriculum have a focus on fine art practice using technology or is their focus on training for computer-related culture industries such as communications or popular culture. Does the department have a relationship to departments of engineering or science as part of the curriculum (i.e., shared courses or faculty)? These may influence whether these departments have relationships outside of the school that bring in scholarship money for students, donated equipment, student internships, and visiting speakers and faculty who are active in the artworld or in technology or culture-related industry.

Three other influential factors related to the departmental curricular focus are: 1) the presence of faculty members who understand and work with existing technologies and practice in new media. This requires faculty who are aware of previous and existing art practices outside of new media, but who will approach new media with its own specific considerations; 2) the existence of adequate related courses in art and media history that consider technology in relation to culture; and 3) whether the department has adequate funding for purchasing and maintaining hardware and software.

The four factors cited above tend to be the typical issues one faces

in teaching any existing practice in new media, and determine whether in fact faculty have a supportive environment in which to teach 'new' media as opposed to teaching 'old' approaches using new technology. This is not to say however that even when these four factors are supportive, that 'new media' is necessarily taught in a 'new' way.

Certain other factors also will determine whether the classroom environment is ready for new media alternative practices to be considered as part of a curriculum.

A further important factor is if the department fits within an art-school model of arts innovation and experimentation, where faculty and curriculum may be oriented towards more innovative strategies that focus on specificities of the media itself (as can be seen in the history of video art). However, this can also be a problem if the school cannot truly embrace 'new media' such as programming as an art practice that produces software as art rather than programming or software to produce works related more to previous artforms. To accept this really does require a mental shift on the part of those in the arts who see programming as the realm of technologists and not of artists.

Student Awareness of New Media Practices

While on the one hand, the department must create a supportive environment for students to work critically or alternatively in new media, on the other hand, students are not necessarily prepared to do so themselves. Many students arrive to their first new media class without any sophisticated knowledge of art history or contemporary art, let alone having knowledge of 'new media' art practice as a separate discipline. In fact, most students arrive to new media classes imagining that creating art using technology must mean either using the computer to do older art practices (i.e., image-making, 3-D modeling, animation, or special effects for film) more efficiently, or to do computer-related

communications media such as websites. Those wishing to do the latter normally have very mainstream media knowledge of web-art practices.

Clearly students are not being taught about contemporary alternative art practices using technology before they enter college. Since museum acceptance of these media is fairly recent, students may also not have had any exposure to artists' work in this media.[2]This limits what students generally expect from the term 'new media.' Despite the term, frequently they expect what they also expect of 'computer' courses: pop-culture or mainstream culture expression and approaches, mainstream political perspectives, and training for these. Any alternatives they have in mind tend to be based on practices of particular subcultures, such as those within game culture.

This situation is further complicated if any students have had limited exposure to working with technology due to histories of economic, geographic or other disadvantages that place them beyond the so-called 'digital divide.' Such students often also have limited or no exposure to contemporary art practice, including new media. While this lack of experience can be overcome and needs to be addressed by the teacher, it does set such students apart from those who have prior (and privileged) experience and knowledge and creates an uneven situation in terms of skills and knowledge at the beginning of the class.

Finally, another limitation and the one that I will focus on in the remainder of this paper, is that of teaching new media practice for technologies that are not currently available. Can this be done? How can this be done? What is to be learned if one cannot actually 'practice' within the medium being studied because that media is not yet easily available?

Teaching Beyond Limitations: An Example

I am now reaching the end of the term teaching an upper-division undergraduate seminar/production class I designed titled "Pace/Place/Interface" on art and mobile technologies in the Department of Visual Arts at University of California, San Diego. In the context of this course, mobile technologies are portable devices that utilize technology and are designed for use while being portable. Examples of these devices are cellphones, laptops, PDAs (Personal Digital Assistants), MP3 Players, portable audio and video players and recorders, pagers, portable digital cameras, portable game systems, as well as wearable devices and chip implants. Many of the newer mobile devices I was considering can employ wireless technology and thus be used as communications or transfer devices.

When I designed this course, I expected that some students would not have had any experience using more recent wireless mobile technologies. However, I was surprised to find that many students did not even own a cellphone or digital camera, and that they tended to own particular devices only due to a specific area of interest (i.e., portable games) or skill (photography). I was faced with my own prejudice that the younger generation of students whom I was teaching were all "techno-savvy," using PDAs to connect to the web at every moment, passing along SMS messages to each other several times an hour. Indeed many students were Interdisciplinary Computing in the Arts (ICAM) or Media majors and had a range of technical skills, but my misconception failed to acknowledge a major factor in the life of an art student: economics. While very few of my students would be considered from a low-economic background, the educational costs students currently face in the U.S.A. is extremely high and many of my students work at more than one part-time job. Expensive gadgets (as is currently the case) that have no direct application to their lives

and work are simply beyond their means, and in art departments with no industry-research link, free access to these are few and far between. My class met in a lab that had many desktop computers, but we had no mobile technologies as part of the course. Were the class to be offered again, I would consider reaching out to industry for temporary donations for the course.

With most students having little or no experience using these devices, they would have two battles: first, their minimal experience as users meant they would be less familiar with physical, behavioural, technical and cultural intricacies entailed in use; and second, they would have no previous technical or aesthetic experience and knowledge in creating art for or with these devices.

To complicate matters further, I knew that many things we would discuss in class had few supporting materials: few artworks had been created using many of the devices we would discuss, we would have no opportunity of experiencing those artworks first-hand, little serious critique had been written about the works that had been produced, and most related writing outside of the field of art seemed to be either very technical or very commercial.

Despite these complications and limitations, the course seemed timely and important. I was certain that we could turn the situation to our favour, and that I could lend my own personal experience working in this and related areas of art practice. As it turned out, we had more than enough content and too little time to adequately discuss it before turning to practice.

Working Within These Complications and Limitations

The key factor of students not having first-hand experience using many of the devices or of viewing artworks ulizing mobile technology was not as much of an obstacle as expected. I first introduced students to "Speakers Corner," a work using cellphones that offered a new kind of space for public speech based on the model of free speech in traditional 'speakers corners' in the UK. The work was discussed in relation to two related articles on the online journal Horizon Zero[3], particularly Matt Locke's article "Speakers Corner: Wireless Culture Performs in the Temporary Intimate Zone" which discussed the concept of the "Temporary Intimate Zone", a behavioural space created in the use of cellphones. I assembled the students into groups to read the article and and to answer some of my own questions around the reading, as well as to engage with the piece via the Internet. As the work was created in the UK, we could not participate with our cellphones.

Since most students had used cellphones and all had opinions about public cellphone behaviour, an active discussion ensued and students were able to grasp the issues related to public or private speech and behaviour posed by both the artwork and the article. However few seemed to grasp the spatial issues posed by the concept of the TIZ. Many seemed to interpret the space being discussed as a space of distraction, rather than an actual or metaphorical space that is formed by communication with another via a network, and that there could be an attempt by users to replicate the 'intimate' space of communication had when both parties are together in a shared physical space.[4] In later discussions it became clear to me that many students had little understanding of sculptural concepts of space or of sculptural works in public space, as well as concepts of 'networked space' as discussed by Manuel Castells[5] that would have helped to expand on and contextualize these ideas. Clearly these are important readings to

add to this course in the future.

The following week's reading and discussion focused on space and the terms 'psychogeography' and 'derivé' (drift). Both terms originate from the French political/cultural group known as the Situationists who had two main periods of activity between the late 1950s to the late 1960s, and whose critical writings and activities on "unitary urbanism" have been influential for artists and architects doing work related to public space. Guy Debord, who had led the *Lettrist International* and was a founder of the Situationists, wrote in 1958 "Psychogeography could set for itself the study of the precise laws and specific effects of the geographical environment, consciously organized or not, on the emotions and behavior of individuals. The adjective psychogeographical, retaining a rather pleasing vagueness, can thus be applied to the findings arrived at by this type of investigation, to their influence on human feelings, and even more generally to any situation or conduct that seems to reflect the same spirit of discovery."[6]

The term 'derivé' was defined in the June 1958 publication of the *Internationale Situationaiste* as "An experimental mode of behavior linked to the conditions of urban society: a technique for hastily passing through varied environments,"[7] describing an activity where one approaches urban space in a random fashion in order to derive a new understanding of that space.

The rationale for discussing these terms was threefold: first, many of the works I intended to present to the students could be discussed in terms of psychogeography, and second, I intended to show a work by the contemporary British artists' group "Social Fiction," who are influenced by the situationists and design urban walks based on algorithms. Finally, it was important that students began to understand mobile technologies not only in terms of the technical possibilities of

the device, but also in terms of being engaged in social space, and to situate their use culturally in a history of public art.

I followed the readings on psychogeography and the walk with an introduction to a range of artists' works related to expeditions and walks, from the 19th century practice of European artist-treks in Asia and Africa [coinciding with European colonization of these lands] to more recent practices by artists that use walks to discuss issues related to borders, ecology, transformation, or mass-culture, for instance in the works of Heath Bunting, Francis Alys, Richard Long, the group Social Fiction, or the artist Janet Cardiff.

To give these examples and our readings some grounding in an actual work, we then had a close reading of the work "The Missing Voice" by artist Janet Cardiff. As with other of Cardiff's audio walks, the piece is a narrative using binaural sound designed for headphones. The user plays the piece and is guided by the audio text and sound through several locations in London, England. The work is influenced by Cardiff's reaction to being a female alone in a strange, bustling urban space and situates her response to the spaces she guides you through in a film-noirish narrative. After listening to the entire work (albeit not in situ) and discussing it after, students were assigned readings based on Cardiff's work or the work of other artists using the form of the 'walk' and asked to look at the work in relation to psychogeography. At this point, I felt that the class had the beginnings of a critical and theoretical framework from which to look at mobile technologies themselves and various works using them.

Students spent the next two weeks giving team presentations based on a list of topics I gave them, such as "The Tagged Body,"

"Sound Art and the Cellphone," "Surveillance and Mobile Technology," and "Subcultures and SMS." To my disappointment, many students still did not approach topics critically and/or within an art-historical framework. One the one hand, this is due to infrastructure—the students have had few history and theory courses that address new technologies and frame them in a critical art practice. Students had little exposure to this kind of work and little practice in discussing it critically—prior to the class they were used to discussing the mobile devices themselves rather than cultural practices, especially critical or alternative ones, using mobile technologies. However, I also had to take responsibility for this in not realizing how much the ubiquitous marketing hype surrounding ubiquitous technologies displaces critical public dialogues that take into account an understanding of shared histories rather than marketable efficiencies. Without dampening enthusiasm for the genuinely exciting possibilities that some of these technologies offer the artist, follow-up commentary linking back to our earlier readings became an important part of students learning that they must be critical and conscious subjects as opposed to passive consumers when working in and discussing this media.

This created the ideal situation to follow up with a critical evaluation of the work of artists using alternative and critical strategies in art using mobile technologies. The following week we used Gert Lovink's and David Garcia's article "The ABCs of Tactical Media,"[8] as the framework to analyze both historical critical media art as well current approaches by artists and communities to using mobile technology for critical art practice and to reach to communities who have previously had little access to technology.

According to Lovink and Garcia, "Tactical Media are what

happens when the cheap 'do it yourself' media, made possible by the revolution in consumer electronics and expanded forms of distribution (from public access cable to the internet) are exploited by groups and individuals who feel aggrieved by or excluded from the wider culture. Tactical media do not just report events, as they are never impartial they always participate and it is this that more than anything separates them from mainstream media." Key components of tactical media are that they are "do-it-yourself", they "demonstrate a political use of the technology," and they demonstrate a "bottom-up struggle against power centers." Another underlying current in much tactical media work is humour, such as the exchanging of Barbie and Ken voiceboxes in the work of the "Barbie Liberation Organization" supported by the group (r)Tmark or many projects on the Bureau of Inverse Technology (B.I.T.) website.[9]

After a close reading of Lovink and Garcia's text with the entire class, students then assembled in groups to analyze the work of several artists' groups such as the Bureau of Inverse Technology (B.I.T.), Insitute for Applied Autonomy (I.A.A.), and (r)Tmark, all of whom work in the realm of tactical media.

Students were asked to focus on a work from one of these groups and discuss it in relation to Lovink and Garcia's terms for tactical media, and to write an argument whether or not the work was successful as tactical media and whether it could have been done using older artforms or technology. This assignment also meant to reinforce that critical or alternative practices can arise from specific possibilities or constraints (i.e., contexts) of media, technology, society and culture.

From Theory to Practice

By this time in the quarter, students had begun the initial phases of their final projects—writing up concepts and creating sketches for works they would execute and present to the class at the end of the quarter. The following two weeks were spent with close individual critiques and discussions of project ideas and feasability.

Additionally, we had two out-of-class exposures to current practices in mobile technology. The first was a visit to the UCSD Department of Engineering where we were given two presentations—an overview from Dr. Lawrence Larson, the Director of the Center for Wireless Communications on the future of wireless technology, and a student presentation on research using wireless and surveillance technology at the Computer Vision and Robotics Research Lab. In both cases, students were made aware of some directions that wireless is going in terms of research and development, had scientific terminology explained to them in a clear and nonspecialized manner, and were exposed to the ties that scientific and engineering research departments have to government and industry who support their research. As art students, they were both awed by the material support these departments had, but also relieved that they did not have to confine their own research to these outside interests. The visit was inspiring in terms of suggesting possibilities and broadening their understanding of wireless history, terms, and the goals and constraints of current scientific research. Simply seeing some of the equipment brought out the do-it-yourself tactics of artists (perhaps also inspired by the Tactical Media reading), as students were trying to figure out how they could make cheap and simple versions of equipment we saw to be used in artworks.

The second exposure to current practice was a guest lecture by

artist/architect Kati Rubinyi about her artwork "The Gambit,"[10] a site-specific narrative for PDA, headphones and digital compass that took place at the Bonaventure Hotel in Los Angeles. The work references film and architecture in its structure and tells the story of a worker at the hotel. In presenting the work, Rubinyi emphasized the importance of 'site' on artworks taking place in public space, referring to earlier site-specific works by Gordon Matta-Clark and Robert Smithson, as well as to how the circular design of the hotel and other factors such as time-based media (i.e., film) influenced the design of the work and how the audience would move with it through space.

Both visits were advantageous in presenting the students with first-person accounts of practices that were relevent to artists working in this media. Clearly, hearing Rubinyi speak not only emphasized the earlier points of psychogeography and Temporary Intimate Zone, but also made clear how the artists' process was so thoroughly influenced by place and our experiences with technology rather than simply on technical aspects of the media.

At the time of this writing, students are finishing their projects to present next week. The works range from conceptual pieces that utilize the cellphone for performance drawing, or PDAs for algorithm walks that use swarming as a means of forming collective memory, to narrative works for Disk players, PDAs and Laptops to documentary works on SMS or game cultures, and an installation on gender amd surveillance. In most cases, relations between body, technology, and physical or social space have become paramount in the works. The range of media being used and my emphasis on meaning and critical approaches has meant that students have focused on content and aesthetic issues and less on treating the class as a means of 'training' in software. Clearly, several students are limited by current states of technology and market (i.e., inexpensive cellphones not yet available to do an MMS project, or few

low-cost, camera-equipped wireless PDAs at this time), and many are limited by their lack of programming skills, or by the constant tweaking and bugs when programming.

Overcoming these last points are the ones that can determine whether a student entering into the realm of 'new media' practice will push the media in a critical or alternative direction, even when they do not have optimum conditions of access, or the skills acquired over long-term practice with the media.

Even in this case, some disadvantages do remain. Students don't always get to see things in situ, to see their project through as they imagine it. Having to work with proxies and prototypes means they may not have the necessary critical experience of the work or understand fully the social/experential/aesthetic aspects of project ideas. Furthermore, financial constraints mean they don't get the fancy toys to experiment with, or the funded time and mileu to pursue their research.

In this course we found that the limitations of not having available low-cost media (and low-cost related services such as SMS—another situation created by U.S. markets that raised comparisons with Europe and Japan) can be offset for art students by critical and close readings of related practices—either of works done in that media elsewhere, of historical and current artworks that address similar issues, of critical readings about those works, and by providing critical contexts through related theory.

Additional relevent knowledge can be gained from looking at current related practices and research in science and technology. Clearly new media departments need to make links to science/engineering so students can a) see what is being developed and consequently will

have some public form in the next decade; b) establish contacts with scientists and engineers; c) possibly contribute to design processes with aesthetic/critical POV; and d) understand technology in a more hands-on, do-it-yourself fashion rather than as consumers/users of commercially available media.

This should allow students to think outside of the box as well as to think ahead of what is readily available to them via existing infrastructures and markets and to be aware of current research outside of their immediate field that will eventually have an impact on their own thinking and practice.

Notes

1. The term 'New Media' will be used in this paper to refer to an art practice using technology (programming, computer hardware and software) to create and present work, for instance as the term is described in Lev Manovich's book, *The Language of New Media* (Cambridge, Mass: MIT Press, 2001).

2. For instance, the Walker Art Center's Gallery 9, one of the first museum-supported online art exhibition areas in North America, is less than ten years old. See http://www.walkerart.org/gallery9/

3. Locke, Matt. "Speakers Corner: Wireless Culture Performs in the Temporary Intimate Zone" Horizon Zero; Issue 04. Horizon Zero is an online journal published by the Banff Centre, Banff, Alberta, Canada. It is not uncommon to use serious critical online texts as teaching tools for new media. Very often this is not only the most current place to find these texts, several online journals and lists (i.e., Ctheory or Nettime) are considered appropriate critical resources for academic study of new media

4. I have since found a text titled Heidegger, Habermas and the

Mobile Phone by George Myerson that I would contrast with Locke's TIZ. Myerson does not seem to be able to accept that mobile technologies could have such a space; in part I believe that this is because his argument is based on the speech of advertisng and media around mobile communciation and m-commerce rather than on a reading of the actual practices, behaviour, experiences, and conversations of mobile phone users, as does Locke. Were Myerson to do a reading of users' behaviours, dialogues and experience, he may find that they symbolically create a space, such as the TIZ, where they can replicate the experience of F2F communication, and that such a space has validity as a meaningful communicative space.

5. See Castells, Manuel. *Network Society*, 2nd Edition (Oxford, UK: Blackwell Publishers, 1996/2000).

6. Debord, Guy, "Toward a Situationist International," June, 1957. In *Situationist International Anthology*. Edited and trans. Ken Knabb (Bureau of Public Secrets, 1981).

7. "Definitions", Internationale Situationiste No 1, June 1958. In *Situationist International Anthology*. Edited and trans. Ken Knabb (Bureau of Public Secrets, 1981).

8. Garcia and Lovink, "The ABCs of Tactical Media", first presented online on Nettime. The text is archived online at http://www.ljudmila.org/nettime/zkp4/74.htm

9. BLO can be found online at http://www.rtmark.com/blo.html, The BIT website is http://www.bureauit.org/

10. See http://www.datsun.net/kati/gambit/