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Mobile Mapping for Everyday Spaces

"Viewed epistemologically, the medium is like a tool through which the artist may probe the aesthetic issues which claim his or her interest. There is a relationship between a form of thought and what can be thought. Built into each medium are limitations which cannot be conceived of until a particular vision is explored or until new conceptual systems arise which make us aware of the confines of the medium itself. The relationship is similar to the way in which a model in physics may help to explore and understand certain aspects of the physical world, but not others." [1]

–Ed Levine artist/educator

In the spring of 2006, Kevin Hamilton and Nick Brown organized a symposium at the University of Illinois at Urbana-Champaign (UIUC) that examined walking as a cultural practice. Walking as Knowing as Making (*www.walkinginplace.org/converge/*) brought artists, writers, theorists, activists and philosophers together over a series of sessions to consider how walking as a medium or generative model of investigation might illuminate the critical and aesthetic terrain between an embodied self and the ever articulating sense of place. The participants, collectively, asked what could be learned by walking in the shoes of the peripatetic philosophers? What kind of cultural production might evolve from rethinking the meanderings of the Situationists? What have newer spatial practitioners added to the discourse? Could walking be a potential site of resistance within today's car loving culture? And ultimately is there any thing really radical about exploring walking?

What emerged almost a year later, as a direct result of these sessions, was a collaborative art project named Mobile Mapping for Everyday Spaces (MMES). Our project built on the assumption that within the spatial aesthetics of mobility, a committed dialogue and

platform for embodied learning could be in and of itself, a relational artwork. Working and walking within different fields of knowledge, it explored in theory and practice transdisciplinary walks that merged art and science and expanded the notion of collaboration as a dialogical, pedagogical, and perambulating practice. As a commissioned artwork, MMES was formally initiated by the Departments of Computer Science and Art and Design under the direction of Kevin Hamilton, who invited artists Laurie Long and M. Simon Levin (two of the original symposium presenters), to create a site-specific work for the Siebel Center for Computer Science, a new research and teaching facility. Conceived as a "living laboratory," the Center encouraged and supported students and researchers to integrate academic study with everyday life through the operations of the building, deploying prototype applications with the building's inhabitants as "users."

Our project was an exciting next step for each of us in expanding our individual research and artistic practices. For Long and Levin, MMES continued an exploration of collaborative configurations that began in an earlier project, the Center for S.A.L.T. Expression. For this work, Long and Levin embedded themselves within a small Western Australian wheat belt town, where they created a fictional landcare centre. From this faux-institutional base, they played with social and institutional structures to redirect power and agency within the community, with the goal of generating and documenting dialogues about space and place.

Long and Levin's initial visits to the UIUC campus brought to light coinciding but disconnected areas of research within different departments; they discovered walking on the minds of a variety of researchers. They responded to this with a proposal for a new peripatetic artwork. Long and Levin imagined an artwork in the form of an academic course, a foot-bridge between departments that were separated by overly bureaucratized barriers. Through the course they imagined that parallel conversations at UIUC might converge and transform into embodied and applied knowledge. As in their work in Australia, the pair envisioned multiple entry points and adaptable outcomes. They hoped to facilitate theoretical and innovative projects that moved all participants both literally and figuratively out of the classroom and walking into the world.

To further extend our collaboration, Long and Levin invited Hamilton (a spatial practitioner and multi-disciplinary researcher), who in turn invited Piotr Adamczyk, a graduate student from Human-Computer-Interaction (HCI) and Library Sciences and an avid walker, to co-lead the new "walking course." With a cohort of 16 graduate and senior undergraduate students from Art and Design, Computer Science, Electrical Engineering, and Music, the course took as its subject four content areas: Walking, Mapping, Collaboration and Locative

Media. Students worked in four teams of four, with the course's four instructors as the "fifth team," experiencing and embodying the same struggles with collaboration.

Our team presented the course as potentially yielding a variety of outcomes for a variety of fields. As an academic project, the effort might produce research and position papers within the fields of Human Factors, Computer Science, Engineering, Art Education, and Kinesiology. As an artwork, the course could be documented, exhibited, and performed, contributing to expanded notions of new media, psychogeography, and relational aesthetics. As an open, inter-connective form of art-making, the project stood to re-configure modes of reception by promoting cultural participation and social transformation over considerations of reification, representation, and contemplation.

This multi-form production was the result of organizing a project around common embodied experiences from disparate positions and differing subjectivities. Our group consisted of students and professors, of artists and scientists, of some based in academia and some from outside. Our mission was not to merge or even to negotiate difference, but to better understand a practice so common to all as to seem absurdly obvious—that of walking.

With walking as the focus of the research, production, and conversation, we aimed for a literally moving target; this process preserved difference and illuminated the limits of our practices. The avant-gardes of art and science traditionally work with narrow problems to instrumentally solve, or they work without any problem defined at all, in order to preserve spaces of privileged speculation. We avoided either of these choices, making our "problem" both ludicrously simple and endlessly variant. As one can see from a rich history of homages in poetry, song, philosophy, art, dance, anthropology, film, and architecture, walking is a simple yet revelational practice, well suited to prolonged examination of experiences held in common and outlooks never anticipated.

By incorporating participatory production and embodied engagement into our project we addressed issues of pedagogy, authorship, and participation. As we walked and talked together, we discussed our forebears in "walking studies," such as Michel de Certeau, Kevin Lynch, or Rebecca Solnit. Yet, despite what we learned from them and what we learned from ourselves as able-bodied people with a lifetime of walking experience, we were not able to reach a consensus about the instrumentality of walking. We did discover that walking constitutes a shifting mode of engagement with the world, one in which avid walkers are collectively and variously driven to fulfill economic as well as fitness needs. We also learned what walking could be—a meditative or spiritual pursuit, an act of resistance, and a call to political action, among others.

Walking was, therefore, a way of making and knowing that empowered differentiated production within a group project. Other research or educational efforts might have assumed a common destination, a goal of definitively answering the hermeneutic questions of "why walk?" or "to what end." Instead, we assumed the heterogeneous nature of such answers, exploited it to produce a field of research for learning and a platform for a pedagogical practice. Through the course, we discovered in walking a common, non-hierarchical space and interconnectivity between participants. Walking, in all its disparate functions, facilitated knowledge exchange not despite disciplinary differences, but in fact because of difference. Where standard classroom contexts divide according to difference, organizing students according to disciplinary or professional goals, ours preserved and celebrated it.

By definition, walking involves a somatic approach that we acknowledged and emphasized in the course. For instance, we used earplugs to block out all ambient sounds while we walked, hearing only through our senses of touch, therefore, hearing only what our bodies felt. A kinesiologist demonstrated to us the cyclical play between pronation and supination within the mechanics of a step, recalling Eadweard Muybridge's photo series from the early 20th century. We wondered how a series of falls and recoveries of the body, propelling a person through space, could ever be critical.[2]

We constructed our own dérives and other Situationist propositions, navigating present geographies according to the mapped anecdotal specifics of distant sites; we purposefully tried to get lost in spaces grown far too familiar. With Étienne-Jules Marey, we explored how invented technologies might afford new insights into a walk. With theorists of space, we wondered which manner of walking might shed light on the experience of place. Throughout all of this, we looked to collaboration as our primary mode of learning and discovering.

For the academic requirement of the course, students worked in teams to create technologically augmented walks, which left a record or map of their spatial meanderings. In order to facilitate equal exploration of technical and conceptual perspectives on the subject matter, we chose a medium for our first assignment that was new to most everyone—analog electronics. We gave each team an article on "hardware hacking"[3] and a kit of cheap interactive toys and electronic components. The teams had two weeks to "reverse engineer" these pop culture curios into a bricolage of cheap technology that engaged all four themes of the course. It gave the project groups a chance to bond and establish working patterns. It also helped them to move beyond a singular and discrete object or discipline to approach the assignment. Among the participants, differing definitions of "purpose" or "function" arose when considering the technical and symbolic aspects of proposed projects.

Walkitrockit: This project was designed as a MP3 playing backpack with GPS technology, which links listening histories to specific locations and records this information, ultimately allowing other users to play back the same music or audio when walking along the same trails. Moving through the audio trail of strangers, the user experiences a layering of time in space, or adds her own audio track to the space-time mash-up.

The products and processes that each team generated with this first assignment compelled us to re-examine and restructure the remaining assignments. For instance, the students seemed to lack ways of externalizing decision-making; groups were unable to base decisions about design and content on anything other than individualized inclination or feeling. Moreover, they were too concerned with technological function in their design process, seeking fully operational solutions before completely understanding and anticipating the conceptual framework and impact behind their projects. Since they based the technical functionality of their projects on non-specific design rationales, which came too late in the process, they could not retroactively edit content.

Educators may recognize in this picture a familiar problem within experimental art curricula—students who forgo exploration through disciplinary, craft-based processes often end up producing theme or content-driven work that is neither conceptually nor materially strong. Even an uninspired student who follows traditional paths of material exploration can produce an object with some solidity and presence, whereas concept or content-driven artwork often lacks the iterative creative process that traditional crafts support. Students working on site-based projects for example, or socially-engaged forms, sometimes see the physical manifestation of their project for the first time at critique, whereas traditional craftspeople have been living with their artifact for weeks or months. In collaborative situations this disconnect of concept and material also produces inequitable and dysfunctional divisions of labor in which no one member ever has a sense of where the project is headed. More commonly, artists take charge of "the concept" and "the look" of a collaborative project while technologists are relegated to making sure the project functions.

Surprisingly, solutions to these problems came largely from the tools and methods of science. For instance, we introduced the students to methods of evaluation, documentation, and analysis borrowed from the field of Human-Computer Interaction. We also pointed out ways of realizing projects that did not require fully functioning technology or a deep knowledge of craft.

Backpackbeats: This project proposed an ensemble device, used by a group of performers, in which one person wore an amplified speaker and the others wore wireless sensors in their shoes.

Sensors would trigger sampled audio in the speaker, and the crew would wander through public spaces performing collaborative audio walks.

In order to encourage evaluation and critique throughout development, and not just at a project's conclusion, we required students to document their design process in detail. They utilized digital photography, journaling, and video through the use of Flickr, Del.icio.us. and blogging platforms We required public presentations on process as well as product, at both intermediary and final design stages. In response, the students challenged our assumptions and questioned the value of revealing projects in process, even requesting that our course wiki be locked down so as not to potentially damage their future options for employment. Thus, even our project's modes of communication became a site of negotiation. In this way evaluation and documentation reframed itself as critical discourse, allowing the participant's conflicting objectives and, interestingly, best practices to emerge.

Documentation of process only facilitates externalization of decision-making if there are criteria on which to base evaluative decisions. Consequently, we provided a critical framework for the evaluation of all projects through a system known in class as CFPA, an acronym standing for questions about the Context, Function, Process, and Audience of augmented walks designed by the students.

Velocigraph: This project allowed the user to create an audio recording while walking, to which a later user might listen to while walking the same trail. Through an analog tape-based system, the pace of each walker determined the rate of recording and playback, forcing listeners to speed up or slow down to hear their forebear's words in the correct time and pitch.

After the first project, we sought a methodology to encourage better material iteration. Here we borrowed liberally from techniques developed by Computer Science researchers in the Human-Computer Interaction (HCI) specialization. Adamczyk brought to our attention the need within such research to design solutions before committing time to actual software coding and hardware development. In the interest of resource and time management, these designs require user-testing before the engineering of functional prototypes, so researchers have developed a number of conceptual and physical investigative methodologies. Much like sketching for painters or model-construction for architects, HCI methods such as bodystorming, paper prototyping, scenario design, or the development of cultural probes seemed readily applicable to concept-based art practice. We introduced these methods through technical articles from Computer Science journals, and required each team to choose a method and apply it towards investigation of their final projects.

Through Mobile Mapping for Everyday Spaces, we were surprised to find an instance of reciprocal and complementary exchange of methodologies and evaluative criteria. We discovered a dearth of attention to methodology in Studio Art education, where other fields have emphasized methodology to an extent that can even over-determine process and inhibit collaboration. We wondered where and when students in Studio Art education receive training in methodology, in the evolution of ideas, in addition to training in the execution of craft, the imitation of "experts," or the performance of roles and personas.

Walking Score: This group devised a musical scoring system that correlated musical notes to walking pace and direction. Each score also included notations for capturing photographs and GPS waypoints. By this system, a composer creates a score, which a user then walks and, upon completion, uploads her digital data into a custom designed program. The final result is an animated map of montaged images, generated by a unique walk through a unique space and place. .

In his book *Critical Art Pedagogy* Richard Cary outlines a history of undergraduate Studio Art education in which a "hidden pedagogy" has slowly emerged to augment poorly articulated, qualitative means of evaluation. Students are taught material and compositional skills through the first two years of education, and then set out on their own for the remaining years to discover a "style" or voice. So little of this latter curricular stage is made explicit that education is relegated to a second, implicit level of action. Through studio and gallery visits, critique language, and art world literature, students are (often selectively) led through the rituals of the art academy without learning explicitly how to find their own style.[4]

Among the many objectionable aspects of this pedagogy is the way in which professional success inevitably falls to those students whose gender, class, and race are fashionable in or favored by particular educational institutions. Into this situation, Cary cautiously points to a need for more recognized and explicit "styles of research" in art and education. Stopping short of calling for a fully institutionalized set of methodologies, Cary sees attention to methodology as a means to a more discursive form of art. He imagines for art research, a space of choice between structured approaches, or the potential for explicit invention of new approaches. Where studio artists have traditionally eschewed methodology, other researchers have evaluated work based on successful adherence to established methodologies. Cary, an artist and educator, seeks a third way in which methodology is made more explicit but always open to contestation.

Through Mobile Mapping for Everyday Spaces, we willingly stumbled onto just such an extraordinary place of choice and possibility.

Through establishing clearer (if discursive) standards for critique, and through applying scientific methods of material research to the iteration of concept or content-based art practices, our group walked and talked ourselves through some possible solutions to recurrent pedagogical gaps in contemporary art education. We in turn have suggested possibilities for computer science education and proposed practical applications for kinesiology research.

Mobile Mapping for Everyday Spaces also revealed for us new richness in collaborative research. As a form or approach to art, collaboration offers the possibility of shared resolution that is not singular. As in a group walk, each actor carries her own resolution, selectively frames disparate meanings and perceptions within her view of the common landscape. As Stephen Wright points out in *The Delicate Essence of Artistic Collaboration* "... in order to avoid the performative pitfalls of art conventions on the one hand, and of co-optation by capital on the other—in order, that is, to bring about conditions that will make collaboration 'fruitful and necessary'—we need an almost pre-modern understanding of art, breaking with the institutionalised trinity of author-work-public; an understanding that grasps art in terms of its specific means and not its specific ends."[5] As a collaborative practice, MMES functioned as a form of resistance, critical of modern individualism and the notion of an expert auteur. Traversing the spaces in between disciplinary domains, the project resists being consumed or authored in any one way, critically mapping the generous potential and transformative process of walking together.

Viewed as a means to more creative or critical production by artists, collaboration is rarely examined for its impact and effect as a tool or medium. The limits of our media and models, the ways in which our choice of frame affects what we see and who we are, come into focus in the context of collaboration. Inefficient but potentially revelatory, collaboration is one of the few places where our frames and lexicons, the very nature of our tools, come into high relief.

Within our collaborative acts of walking and mapping, we experienced a powerful dialogical pedagogy. Under the banner of "convergent culture," interdisciplinary work is all too easily absorbed into projects that preach diversity but ignore difference. In this light, many choose to leave large institutions altogether (and we can hardly blame them). In our unexpected and surprising experience, however, we discovered instead a form of cross-disciplinary research and teaching that might thrive in the center of institutions or in the outskirts—one whose tools are founded on preserving differences, rather than transcending them.

COLLABORATIVE PROJECTS

Velocigraph: Josh Ippel, Young Joo Lee, Jacob Lee, Karin Hodgin Jones

Walkitrockit: Eric Gibson, Elodie Lesueur, Phil Orr, Philip Matesic

Backpackbeats: Mat Yapchaian, Ben Hilldore, Darren Stevenson, Al Fleming

Walking Score: Tony Bergstrom, Mike Fleming, Brian Collier, John Ritz

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1. Ed Levine, *Art Journal*, Vol. 42, No. 1, "The Education of Artists" (Spring, 1982).
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3. Usman Haque and Adam Somlai-Fischer, "*Low Tech Sensors and Actuators*," http://lowtech.propositions.org.uk/
4. Cary, Richard, *Critical Art Pedagogy,* Routledge. 1998.
5. Stephen Wright, *The Delicate Essence of Artistic Collaboration* in Third Text Vol 18 Issue 6, 2004.