

N52

On Art + Research at MIT

edited by jess wheelock

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MIT SCHOOL OF ARCHITECTURE + PLANNING

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A selection of conversations held by the 2010-11 alumni of the Program in Art, Culture and Technology with their colleagues at the Massachusetts Institute of Technology.

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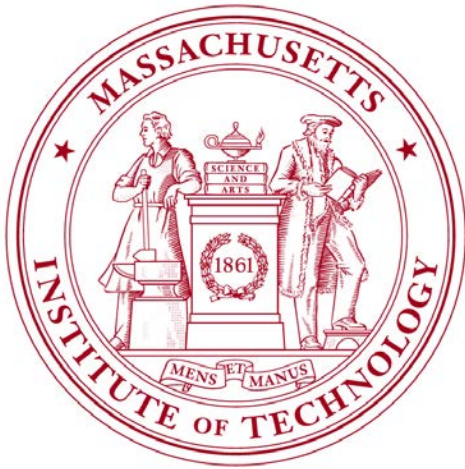


Figure 1. The Official MIT Seal. 1863.
Image courtesy of the Massachusetts Institute of Technology

Mens Et Manus (Mind and Hand)

Preface

People often ask me why I would go to MIT to learn about art. As an institution dedicated largely to engineering and science, MIT does not appear on the surface to be a natural home for an art program. The question brings to mind the official MIT seal. Adopted two years after the establishment of the institute, the seal features two figures from a vague historical past. One wields a book (the scholar) and the other a hammer (the worker). By design, the image symbolizes what founder William Barton Rogers envisioned for the institute, the union of scholastic knowledge with the mechanical or manual arts: mind and hand (*Mens et Manus*). The archetypes of the scholar and the worker are reminiscent of two straw men that appear often in conversations about art theory and art practice – the artist who thinks and the arts who makes. Mind and hand could be the unofficial motto for any institution dedicated to the production of art – which makes an art program at MIT seem less arbitrary than it may appear at first glance.

jess wheelock

As a group, the 2010-11 alumni of the Program in Art, Culture and Technology (ACT) at MIT conceived of this book as a way to address this classical division of mind and hand. As a collection of conversations with our peers at MIT, *N52* examines the diverse set of artistic practices developed by students of ACT within this institutional context. These conversations range from formal interviews to collaborations to playful games. The text offers a small sampling of the many debates and exchanges that have occurred during our time at the institute, both within our program, as well as with the larger community at MIT. These conversations have been incredibly provocative, inspirational, collaborative and challenging.

The idea of developing a text arose while planning the ACT student exhibition, *Something Like a Proposition*. Although we were interested in translating our

practices into an exhibition, we were eager to develop other possibilities for presenting our work, which was largely temporal, site-specific, process-oriented, and performative. We recognized the presence of MIT in our practices, both overtly – as source material, subject matter, a site of intervention or collaboration – and in more subtle ways that can be difficult to untangle. The space of a publication allowed us the room to unfold our relationship to the institute and to examine both the production and reception of artwork within it.

It is easy to identify vast differences between the disciplines of art and those of engineering and science as they are practiced today – so much so that the use of the word “arts” as a stand-in for engineering on the MIT seal seems particularly odd. The mechanical arts, as they were historically known, were apprenticed crafts.¹ At the time the seal was designed, engineers were often considered mere tinkerers or glorified mechanics – that is until the development of the steam engine, which required a specialized and theoretical understanding of thermodynamics. In the late 1800s, technical institutes – as well as art schools – were a new development of higher education in the United States. In the wake of the Civil War, the country was moving away from an agricultural economy towards an industrial one. Both art and technical schools arose at this time bearing similar mission statements: to develop individuals and knowledge in the service of industry. In fact, both MIT and the Massachusetts Normal Art School (today the Massachusetts College of Art and Design) originated from the same proposal made by Boston’s civic and industrial leaders of the day. The argument being that in both cases, theoretical knowledge was a necessary accompaniment to praxis. In other words, hand and mind could work together to inform and challenge one another.²

One of the founders of MIT’s program in Comparative

¹ “The Arts, no longer confining themselves to mere empirical routine, seek to refer their processes to scientific laws, and, in many departments, justly claim the dignity of applied science.”

William Barton Rogers, “Objects and a Plan of an Institute of Technology,” (Boston, MA: John Wilson and Son, 1861), p. 4. <http://libraries.mit.edu/archives/mithistory/pdf/objects-plan.pdf>

² It should be noted that at that time, there were – as there are now – competing traditions within art education (including that of fine arts and William Morris’s newly emerging arts and crafts movement). As noted in the book *Art Making and Education*: “The other direction of [art] education, which sought not to adapt art making to industrial society but to be a criticism of it and resistance of it, nonetheless remained concerned with work.” Despite a desire to escape and react against industrialization, artists were – and still are – tethered to it.

Maurice Brown and Diana Korzenik, *Art Making and Education* (Champaign, IL: University of Illinois Press, 1993), p. 151

Media Studies, Henry Jenkins, sees the imagery of the MIT seal as the embodiment of these two distinct cultures: science and engineering on the one hand and the arts, humanities, and social sciences on the other.³ This particular interpretation of the seal reveals the tension that often arises between disciplines at the institute. MIT, as I experienced it, was not a place for the unification of positions, as Rogers may have envisioned, but rather a space of negotiation between attitudes and disciplines that are often incommensurate. Roger's ideal of unity could instead be replaced with an ideal of collision; individuals and disciplines that push on and react to one another.

As artists at a largely science and engineering based institute like MIT, we found ourselves in a curious position – something we spoke about often amongst ourselves. Our program designated us “artistic researchers” and the degree awarded was a Master of Science instead of a Master of Fine Arts. What does it mean for an artist to be labeled a researcher in the vein of science? Is this simply a way to legitimate artistic practice within the institute? Or is it a logical extension of the role of art in relation to the rationalities of science? How do we engage in ‘research’ and other paradigms of authority borrowed from technology and science without losing our critical eye towards them?

The strength of ACT's mission resides in its support of exchange: we do not turn our backs to other disciplines. This is the problem alluded to in many interpretations of the seal. As the MIT Graphic Identity team points out, it looks as if the two figures are, “hanging out at the same water cooler more by accident than by intention or shared vision.”⁴ Henry Jenkins saw it too. He insisted that, “[...] the two guys on the MIT seal – one holding the book, the other holding tools – need to turn around and talk with each other!”⁵ This publication can be seen in many ways as one response to Jenkins' plea –

³ Henry Jenkins, “Contacting the Past: Early Radio and the Digital Revolution,” MIT Communications Forum, accessed May 23, 2011, http://web.mit.edu/comm-forum/papers/jenkins_cp.html

⁴ “Symbols: Seal,” MIT Graphic Identity, accessed May 23, 2011, <http://web.mit.edu/graphicidentity/symbols/seal.html>

⁵ Henry Jenkins, “Contacting the Past: Early Radio and the Digital Revolution,” MIT Communications Forum, accessed May 23, 2011, http://web.mit.edu/comm-forum/papers/jenkins_cp.html

as a space to engage in conversation with one another (although in actuality, it is not so easy to assign the role of scholar or worker to the individuals contributing to this volume).

Developing *N52* was a lengthy process involving a multitude of voices. It would not exist without the support of many people, especially that of Ute Meta Bauer, Director of ACT. The book was strengthened by many conversations we had with our faculty, both in the studio and beyond; in particular, we would like to thank Joan Jonas, Antoni Muntadas, Gediminas Urbonas, and Krzysztof Wodiczko. We were also extremely lucky to work with Meg Rotzel. As curator of our final exhibition, *Something Like a Proposition*, she generously offered her wisdom and turned her sharp eyes towards our work and process. Our fellow ACT students – Sohin Hwang, Jaekyung Jung, and Amanda Moore – were not able to be a part of this publication, but offered valuable thoughts and suggestions throughout its development. Also essential to the process were Ed Halligan and Lisa Hickler, who have supported both this publication and ACT itself in innumerable and invaluable ways. Most importantly, we would like to thank our friends and colleagues who engaged with us in conversation: Mary Ann Brooks, Deborah Douglas, John Hulsey, Jean-Baptiste Labrune, Catherine McMahan, Dick Perdichizzi, Alise Uptis, and Niko Vicario.

Introduction

This publication features a selection of conversations held by the 2010-11 alumni of the Program in Art, Culture and technology with their peers at the Massachusetts Institute of Technology. Each conversation uniquely navigates the emerging terrain of art produced in direct contact with a range of scientific and technical disciplines.

In what ways can disciplinary antagonism be generative? By appropriating methods and means outside of art, how can art practices produce forms of critique appropriate to the increasingly specialized world we inhabit?

Research based art often involves long-term productions. The objects of this inquiry are usually located beyond the conventions of art in a broad stratum of social life and its products. For this reason, they tend towards collaborative work, the tactile results of which function like a paper-trail, fragments left behind from an ongoing process of original research. From a huge amount of conversations and engagements, we have retrieved and reproduced a select few here.

haseeb ahmed

Of the 10,485 students and researchers at MIT in 2010, the vast majority were focused on scientific and technical research in fields such as engineering, chemistry, and computer science. However, embedded in this mix were nine candidates from the Program in Art, Culture and technology (ACT) who produced *art as research*. The process of engaging in art as research at MIT often brought into question conventions of contemporary art practice, while also throwing into relief many technical and scientific methodologies native to MIT.

The structure of the ACT program required that researchers engage diverse and highly articulated knowledge fields that compose the microcosm of

MIT. Though these disciplines come complete with their own languages and devices, we maintained our standpoint of art production. Returning to ACT after these engagements, we could reconfigure the material we had gathered with the typical tools of contemporary art making: critical theory, art historical perspective, and sensual legibility. In our context, however, these mainstays of art practice and pedagogy could not be taken for granted. Through this process, the relationships formed across highly specialized disciplines were transfigured into solid objects of reflection: artworks.

The work created within the program also reflects the nomadic conditions of its production. Each artist featured in this publication found his or her own path through the 'infinite corridors' of MIT, both by choice and imposition. We began our tenure at MIT in the Visual Arts Program (VAP), housed in N52, a converted factory building adjoining a Tootsie Roll factory on the far edge of the campus. We ended our time at MIT in the Program in Art, Culture and Technology, having relocated to a newly inaugurated building at the center of campus that we shared with the future-fixated Media Lab.

The transition, of which we are both witnesses and products, was a definitive moment in the nearly 70-year history of the arts at MIT. The Program in Art, Culture and Technology was the name given to the Visual Arts Program after the VAP was made to absorb its older sibling the Center for Advanced Visual Studies (CAVS). CAVS, an artists' residency program, pioneered interdisciplinary art practice and predated the VAP by over twenty years. CAVS was founded in 1967 by émigré György Kepes, who left Nazi Germany for the US after the closure of the Bauhaus in 1937 and arrived at MIT in 1946. CAVS enabled artists such as Otto Piene, Nam June Paik, Charlotte Moorman, and Mel Chin to develop highly experimental art practices



Figure 1 and 2. Gina Badger's Studio/Office at E14. 2010. Image courtesy of Gina Badger

Sign reads: *THE ARTIST / BUREAUCRAT AT WORK.*

that were formative for the CAVS program.

In concrete terms, the administrative and geographic ‘transition’ from VAP to ACT meant that due to varied circumstances half the program faculty left and we traded in our white-walled artists’ studios for furnished offices. These office-studios came with Herman Miller chairs and melamine desks, complete with instructions for the most efficient configurations – all of it so new that the floors and furniture were still off-gassing noxious fumes. These offices suggested a particular type of practice while precluding others. The spatial design insinuated that the artist as researcher was akin to ‘artist as administrator.’ Through this space, the essentially conceptual artist was meant to undertake large-scale productions or wholly immaterial work. She is ostensibly mobile and leaves the office-studio for meetings, meanwhile coordinating productions sited elsewhere. This is a markedly different framework than a traditional studio practice based on making discrete art objects that leave a studio only to enter a gallery space with much the same appearance.

ACT found itself in building E14, as it is known in the labyrinthine mapping code of MIT. One of our studio clusters was named “The MasterCard Lab for Future Transactions,” after its sponsor. The architecture by Fumihiko Maki consists of continuous glass planes eventually opening into atriums lined with causeways. While resembling the hierarchical structure of a Fordist factory, E14 is meant to invoke intellectual exchange through literal transparency. In other words, everyone can see everyone else’s work while they are working. While this is the newest attempt to translate MIT’s fostered ethos of interdisciplinary research in the sciences, it is not the first. Interdisciplinary methods arose out of the push to develop new military infrastructure during World War II.

In the post-war period, the idea of interdisciplinarity at MIT can be found in two concurrent forms that sought to incorporate the humanities into the technical institute: *the Lewis Report* and the Research Laboratory of Electronics. In its own words, *the Lewis Report* (1947) was commissioned to “[reexamine] the principles of education that had served as a guide to academic policy at MIT for almost ninety years, and to determine whether they were applicable to the conditions of a new era emerging from social upheaval and the disasters of war.”¹ This report was partially a reconsideration of MIT’s relationship to the Manhattan Project and other similar programs. However, the report later came to function as an assessment of the role of the Arts and Humanities at MIT, towards the development of a more self-conscious curriculum: What is the real place of the humanities? Are they to be tolerated on the fringes of scientific and engineering training or accepted as an integral part thereof?

However, according to the historian of technology Stuart Leslie, interdisciplinarity found its practical implementation first with MIT’s Research Laboratory of Electronics (RLE).² Created in 1946, this radar and guidance laboratory recruited teams of scientists and engineers from across the institute to undertake commissions from the US military. Consummating this experience twelve years later, MIT President Gordon Brown created a schematic that bound up every tier of research and every existent branch of study at MIT into a fluid whole contained within concentric circles. Leslie describes that

At the center of [Brown’s] drawing was the undergraduate school, surrounded by a series of concentric rings representing first the graduate school, then the various departments of science and engineering, and finally, swirling in from the circumference, the

¹ Lewis, Warren K., “Report of the Committee on Educational Survey.” Cambridge: MIT Technology Press, 1949.

² “Research Laboratory of Electronics at MIT: History.” [www.rle.mit.edu](http://www.rle.mit.edu/about/about_history.html). 2011. Web. 4 May 2011. http://www.rle.mit.edu/about/about_history.html.

interdepartmental centers, all superimposed on a line drawing of the great MIT dome. Brown titled it 'A University Polarized around Science' and intended it to illustrate how research generated in these centers would reinvigorate the Institute's teaching core [...] Missing from Brown's map of the new MIT was any context, any sense of where the Institute stood in relation to the world outside. Beyond Brown's spheres lay one of far greater size and influence, dominated by the military and its industrial clients, that, like the prime mover of Aristotelian cosmology, ultimately translated its motion and meaning to that seemingly self-contained inner world. A truer portrait might have been titled 'A University Polarized around the Military.'³

Knowing that this model of education was exported worldwide from MIT, Leslie's concern here is of the fundamental trajectory that research will take over time, especially under the influence of commissioned projects, which inevitably create fields of inquiry. In other words, new knowledge exists in relation to a knowledge base, and this knowledge base is determined over time by commissioned projects that establish the terms of inquiry. This, according to Leslie, in the case of MIT, often relates to military infrastructure. In this way, seemingly objective knowledge can itself take on homogenized and idiosyncratic forms to be readily directed from the top-down.

Today, half a century later, the major difference in this model is that the interdepartmental centers that Brown described as the connective tissue of this organic network have been displaced beyond the campus bounds. Centers such as the MIT Instrumentation Laboratory – that developed missile and rocket guidance systems – and the security-focused MIT Center for

³ Leslie, Stuart. "A University Polarized Around the Military." *The Cold War and American Science*. Columbia University Press. West Sussex, NY p.42

International Studies (CIS) were forced off campus by massive student protests in 1968, some of which turned violent. (The CIS was bombed in 1971 following nearly a decade of protesting CIS involvement in South American and Vietnamese military activity; there was damage to the building but no injuries or loss of life.) However, a short time later, we have seen the reemergence of such centers at the borders of campus in the form of not-for-profit institutions. Sporting names such as Draper Labs and Lincoln Labs, they are still staffed by students and professors from across MIT as well as funded by the US Government through agencies including the US Army's Defense Advanced Research Projects Agency (DARPA) or directly by the Department of Defense (DoD). This is the dominant trajectory for interdisciplinary research.

At the same time, the structure diagrammed by Brown prepared the ground for founding the Center for Advanced Visual Studies in 1967, and later the Visual Arts Program, allowing them to flourish within what was formerly an exclusively technical institute. The CAVS and VAP were to serve as some of Brown's prototypical interdisciplinary centers and fulfill the curriculum of the Lewis report.

Otto Piene, the second director of CAVS, geared his artistic vision towards making immense inflatable works that spanned the Charles River or created towering blossoms over the city. Aside from their spectacular character, these works acted as direct interfaces for students and professors from a broad cross-section of the institute. The process of producing these large public artworks became a model for celebrating interdisciplinary collaboration. Often, the people making these public works were their intended, even exclusive, audience.

However, after 1968, practices taking hold of the larger

art world shifted under internal and external pressure to explicitly reflect critical thought through art. The mode of *institutional critique* developed as a response to the institutions upon which the artists were themselves dependent. This attempt was an effort to renew the assertion of art's autonomy after the double-sided character of the radical bourgeois concept of 'art for art's sake' seemed to weigh more heavily as a source of unfreedom and irrelevance than freedom for art.

While many of these art practices intervened in conventional museums or galleries in which they were sited with more or less destructive intent, the art practices of institutional critique function differently in the context of the technical institute. Here art was engendered by a drive towards interdisciplinarity in technical and scientific production motivated by industrial and military demand. To mark the distinction between the work produced at the advent of CAVS and the work produced currently, we can look to a recent example from CAVS fellow John Malpede, *Bright Futures: Financial Prospects*. This work consisted of a reenactment of a roundtable discussion on job prospects for concerned students after the global economic crisis (2008-11). The original discussion was held in the MIT Sloan School of Management. It was re-performed by Malpede and company in the E14 gallery, against a backdrop of a monumental house of cards in slow collapse made by undergraduate students enrolled in ACT courses.

Bright Futures: Financial Prospects was the first work ever to be shown at E14 gallery – in fact, the performance took place before the building was even inaugurated. Essentially, this reenactment used a simple strategy of reproduction to create an identical image of MIT, highlighting the grotesque character of the original through its unexpected doubling. In this way, MIT was asked to confront its own image. If the institute indeed

saw its reflection, it might have shuddered at its own sight, thereby inducing a kind of identity crisis.

Just as interdisciplinary practice can easily lend itself to new models of entrepreneurial development, the aegis of institutional critique at MIT can run the risk of fulfilling the role of the 'guilty conscience' of the institution. This may have been a desirable effect, if not an intentional one. However, it also may be the case that MIT engendered the production of its own immanent critique that cannot be reduced to the apparatus of the institution whence it came. In this case, we might introduce the famous words of Karl Marx to flesh out this general condition:

The development of Modern Industry, therefore, cuts from under its feet the very foundation on which the bourgeoisie produces and appropriates products. What the bourgeoisie therefore produces, above all, are its own grave-diggers.⁴

Admittedly the artists *produced* at the Program in Art, Culture and technology may not be (or even desire to be) the grave-diggers of the industrial-technical-educational complex that is MIT. The culture of ACT is highly conscious of its position within MIT as a whole. An underlying consensus at the ACT is that in order to create an adequate representation of the social reality that art takes as its object, it must also address the technical and material dimensions of social reality. The context of MIT allows a particular vantage point on these dimensions. Each product made at MIT passes through the material conditions of the institute and bares a resemblance to it. As an artwork, this semblance can be turned to mimicry or even mockery.

In this way, an artist within ACT mobilizes tangible and intangible resources typically reserved for technical

⁴ Karl Marx and Friedrich Engels, "The Communist Manifesto" London, 1848, pp. 9, 11.



Figure 3. John Malpede. *Bright Futures: Financial Prospects*. 2009-10.

Installation and Performance.

Image courtesy of Meg Rotzel.

⁵ Benjamin, Walter. "Surrealism." *Reflections*, translated by Peter Demetz. Schocken Books. New York. p. 179

⁶ Adorno, Theodor (1965). "Commitment." *Aesthetics and Politics*, translated by Francis McDonagh. London: Verso 2007.

production, redirecting them toward the production of art – of meaning. To be clear, this is not what Walter Benjamin would call the “penny-slot of meaning.”⁵ Disrupting the continuity that constantly reproduces ‘the world as we know it’ is not enough for an art practice. Instead, these resources are transfigured by each artistic practice into a unique form of immanent critique. The specific source material, the form, and the effect of each artwork have to be understood in relationship to the unique angle of approach developed by each artist’s practice at the ACT and in according to the works own unique internal composition.

These practices can also be understood in terms of a larger historical context in which the form of immanent critique developed within the technical institute diverges from the tradition of institutional critique and is distinct from other models of didactic art. At the technical institute, art as institutional critique appropriates entire methods and processes that produce and reproduce disciplinary knowledge.

It is not satisfied by merely gleaming the end product of these processes as the content for an artwork. Instead entire apparatuses of knowledge and production are mobilized and made to confront an accurate and functional image of themselves in the form of an artwork. This artwork is more than ‘the sum of its parts’ – more than a superficial facsimile or isolated concept. Rather, Theodor Adorno describes it in his essay “Commitment” by saying

...the principle that governs autonomous works of art is not the totality of their effects but their own inherent structure. They are knowledge as non-conceptual objects. This is the source of their nobility... Committed works all too readily credit themselves with every noble value and then manipulate them at their ease.⁶

By “committed works” Adorno is referring to artworks that are brought into existence to illustrate a point. Often these committed or illustrative artworks are reducible to a political or ideological motivation, which they can only thinly veil since their inevitable goal is to deliver a message of some sort. Many artworks that fall under the category of institutional critique find that factuality takes the place of form. For instance, an artist at MIT could easily create a work that would condemn military investment in the educational institution; however, the real challenge would be to do so without creating an artwork that is even more obvious than this widely known investment.

This is not merely a question of what constitutes good or bad art (as may be inferred by Adorno’s use of the word “nobility” as a qualifier for art). Rather, it is a question of how to construct an artwork that will have enough *escape velocity* to leave the orbit of the institute. If it fails to achieve this velocity it will be trapped in the orbit of MIT where, even if critical, it would be of service for the guilty conscience of the institute. This is, if it has any use at all. It is more likely that such a work would be discarded and forgotten like the majority of artworks made.

After over 50 years of production under the moniker of institutional critique, a number of associated practices have been legitimized as part of the canon of ‘politicized’ contemporary art. However, the discourse surrounding research based art practice is often skeptically considered to be unproven hype or a self-evident characteristic of all artwork. Despite this sentiment, when ACT artists were met with a context of such extremes in disciplinary logic, it was by developing our own processes, making our own tools, and keeping our own time that some of the strongest works of art from our group were made. This is what is meant when the term *research based art practice* is

invoked in this publication.

Research based practices demonstrate a commitment to the development of their own internal logics and attempt to deliver forms that are faithful to this internal coherence. Even if there is no continuity between one person's practice and another, like at the Program in Art, Culture and Technology, it becomes possible to create a standpoint within the overwhelming forward march of 'technological progress' that MIT exemplifies. In a simple equation, this standpoint is sustained by the time it takes to see through a research based art practice and moreover, this standpoint can be inhabited by more people than just the artist herself.

Technical processes yield objects that are valuable insofar as they are reproducible. By finding strategies to divert these processes towards producing objects of *non-reproducible knowledge*, a work is created that not only disrupts the continuous reproduction of the 'world as we know it' but, in turn, renders that world into material for the free production known as an artwork. A reflection is created that cannot be so easily ignored, repressed, or dissipated into the substrate of the world from which it came.

It is the hope of the 2010-11 class of the Program in Art, Culture and Technology that together with our collaborators, we have provided a large enough paper trail so as to contribute to the elaboration of research based and experimental interdisciplinary forms of art practice. Furthermore, we hope to address how research based art practices can clarify what is at stake for art making in general in relationship to increasingly specialized worlds of technical and cultural production.

N52

On Art + Research at MIT

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On Algorithms and Apparatuses

Niko Vicario interviews Ian Wojtowicz about his project, *The Betweeners*. Wojtowicz uses an algorithm to analyze Montreal's MySpace network, identifying individuals to photograph and composite into a group portrait. Instead of highlighting the most visible or popular people of the city, Wojtowicz seeks out individuals who connect diverse spheres of people.



Figure 1. Ian Wojtowicz. *A Hand-Made Portrait of a Software-Generated Relationship*, 2008.
Software, Clay, 3" x 1" x 1"
Image courtesy of the artist.

On Algorithms and Apparatuses

Niko Vicario: So tell me a little about the project.

Ian Wojtowicz: So this project is the second incarnation of a work that I did a few years back for a group show in New York at the Flux Factory. Let me find you a link to the image so you can look while I type...

NV: Great.

IW: So, that show was organized as a massive collaborative model of New York in an homage to the Panorama at the Queens Museum (which was built in the 60s). The show (called *NYNYNY*) involved over 90 artists, each of whom built a scale model of their favorite place in New York (real or imaginary). The final work was assembled over a few days. My proposal involved wanting to highlight a person instead of architecture. I thought it would be interesting to write a piece of software to find the most influential, unknown New Yorker and create a portrait of them for the show.

NV: How did you find them?

IW: I wrote some software to scan all New Yorkers on Facebook, looking for people who had very few friends, but the friends that they did have would have many friends. So, I imagined a type of person for whom there really wasn't a word. Instead of a word, I created an algorithm. An algorithm is a logical machine for manipulating information in a particular way.

NV: But is this concept of *betweenness* approaching a terminology?

IW: Betweenness is something that I came across later when I started the second version of this project while here at MIT. I was given a chance to exhibit a solo show in Montreal and I decided that it would be a lot of fun

to restage that New York project, but this time make it a photographic project. Well-finished. With more gloss. After talking to some Media Lab-ers, I got turned onto this notion of “Betweenness Centrality,” which is an algorithm used by researchers who are interested in studying networks. And these days, networks and “network science” are used to study things as diverse as economics, disease growth and neurology.

NV: Because the first iteration (in New York) was claymation, a pretty low-tech translation of the “logical machine” of an algorithm – why gloss now?

IW: Gloss? Well if you look at the work that I did for the *NYNINY* show, it was pretty rough. It doesn’t look finished. I feel like I needed to make more art that has a high degree of finish. Maybe “gloss” is the wrong word.

NV: The Media Lab sets the bar high for sheen.

IW: I can get sloppy once I’ve been making well-finished work for a while.

NV: But I do think it’s interesting that your project takes the algorithm and turns it into an opportunity for what seems like a potentially intimate encounter, face-to-face with someone on a social networking site who then becomes the subject, not for a “profile pic,” but for a staged photograph with a fancy, heavy old camera to be displayed in a gallery.

IW: Yeah, that’s true. Although I wasn’t really thinking about the intimacy of it at first. I like to think of the project as an intersection between an algorithm and a city.

NV: And I know you’re working on mapping the network positions in a form that could be compared to a map of urban space, for instance.

Any stories of the people you met whose social networking positions best embody this betweenness algorithm? Did they have good social skills, as their betweenness status would suggest? Or was that just their avatar's trait?

IW: They varied in their social skills, and it did seem to vary with their betweenness, yes. But I'm hesitant to draw too many conclusions.

NV: Data!

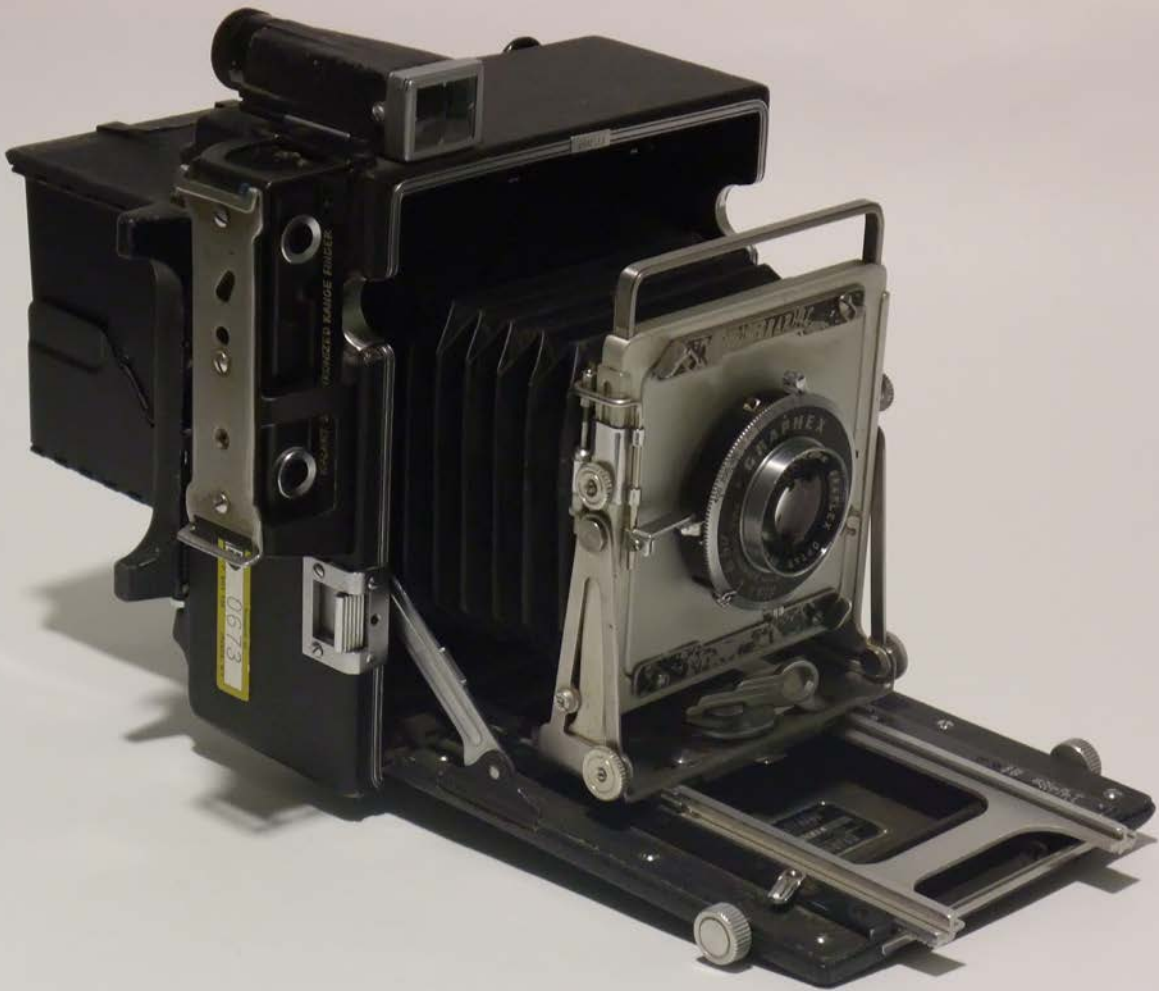
IW: As an ethnographic study, this project was very cursory – not very rigorous. I think the project, should it continue, would probably want to start developing more as a social science work along with the finesse of the photographic work.

NV: That's OK. So why the switch from Facebook to Myspace?

IW: The switch to MySpace was motivated by Facebook's deletion of their city networks. It has become considerably harder to navigate Facebook by geographic region. MySpace, on the other hand, is very open and has geographic data that's easy to parse.

NV: I was having a conversation the other night, wondering if people of our generation will still have Facebook pages when we're elderly. Even if the youth of that time have moved on, will we always hold onto this format as a means of self-definition and social interaction? Do we remember a life without it? Of course plenty of people live their life without it.

IW: I've heard of these people, but I've never met any. Do they really exist? I wish there were more diversity in how people interact with technology. It always seems like there is just one path forward and we all participate



in it to various degrees.

NV: Not to mention people without internet access, not to mention those without even electricity. Tough to imagine in our Media Lab existence. I wanted to mention that philosopher [Giorgio] Agamben, who is bringing up [Michel] Foucault's concept of the apparatus, but extending it to cell phones, pencils, basically everything that isn't biologically human. And then the *subject* (the individual) is constituted/comes into existence solely through his or her exposure to apparatuses. Before apparatuses, he or she is biologically human but not yet a subject. Is this interesting in regard to your project? It may be fairly negative, fairly apocalyptic. But of course there is no escaping pencils, not to mention iPhones.

IW: I love the ball point pen. In particular the Bic pen.

NV: What was the process like of using the camera – from the 50s, right? – after so much algorithming?

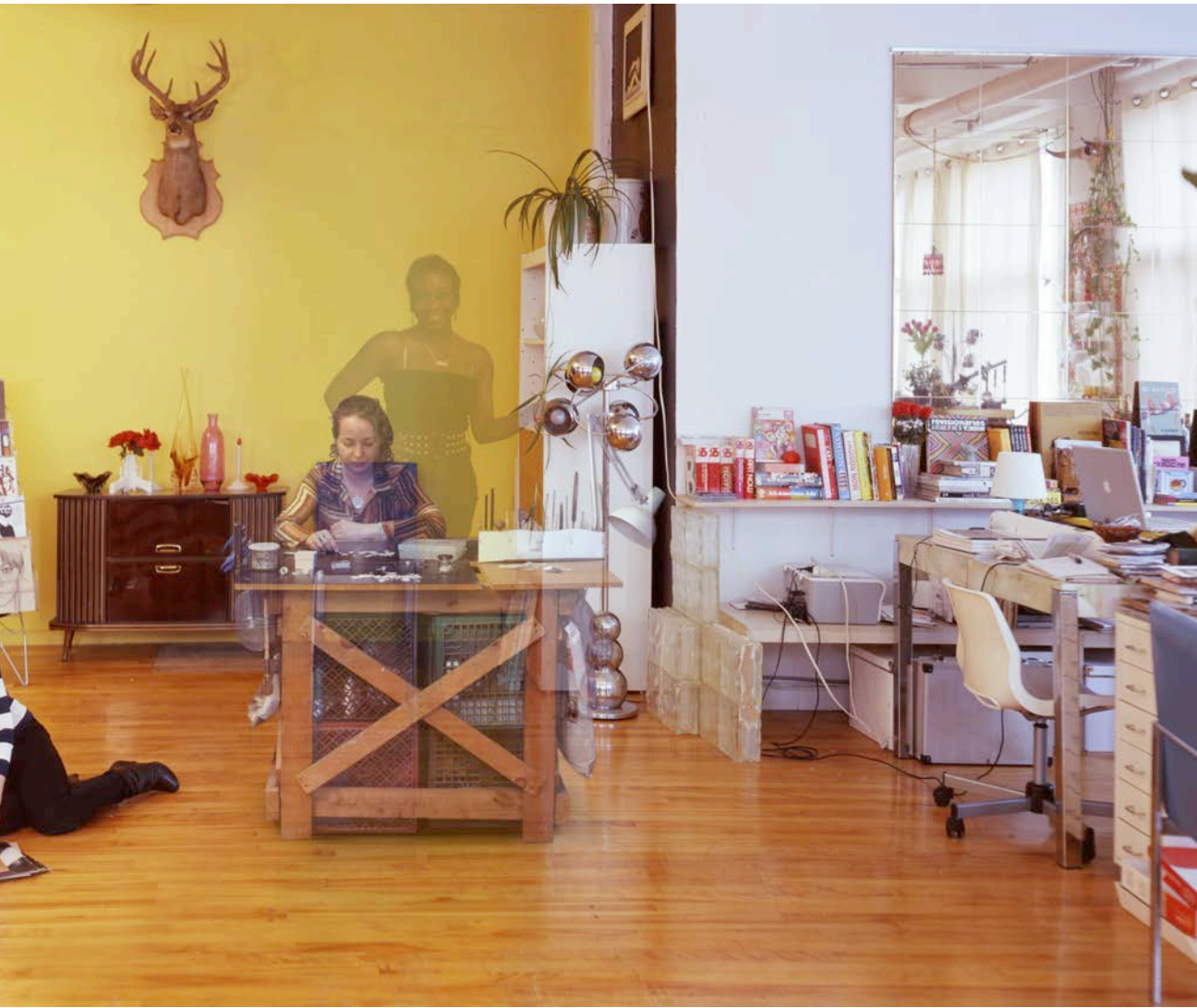
IW: I love this camera [1954 Graflex Speed Graphic] because of how it forces me to slow down. There's no computer inside to automatically adjust things. I have to be methodical about focusing, opening and closing the shutter, setting the aperture and shutter speed, loading the film, etc. And the fact that I don't get to see the result for a week or so. It's a kind of denial or deprivation of pleasure that's eventually very satisfying.

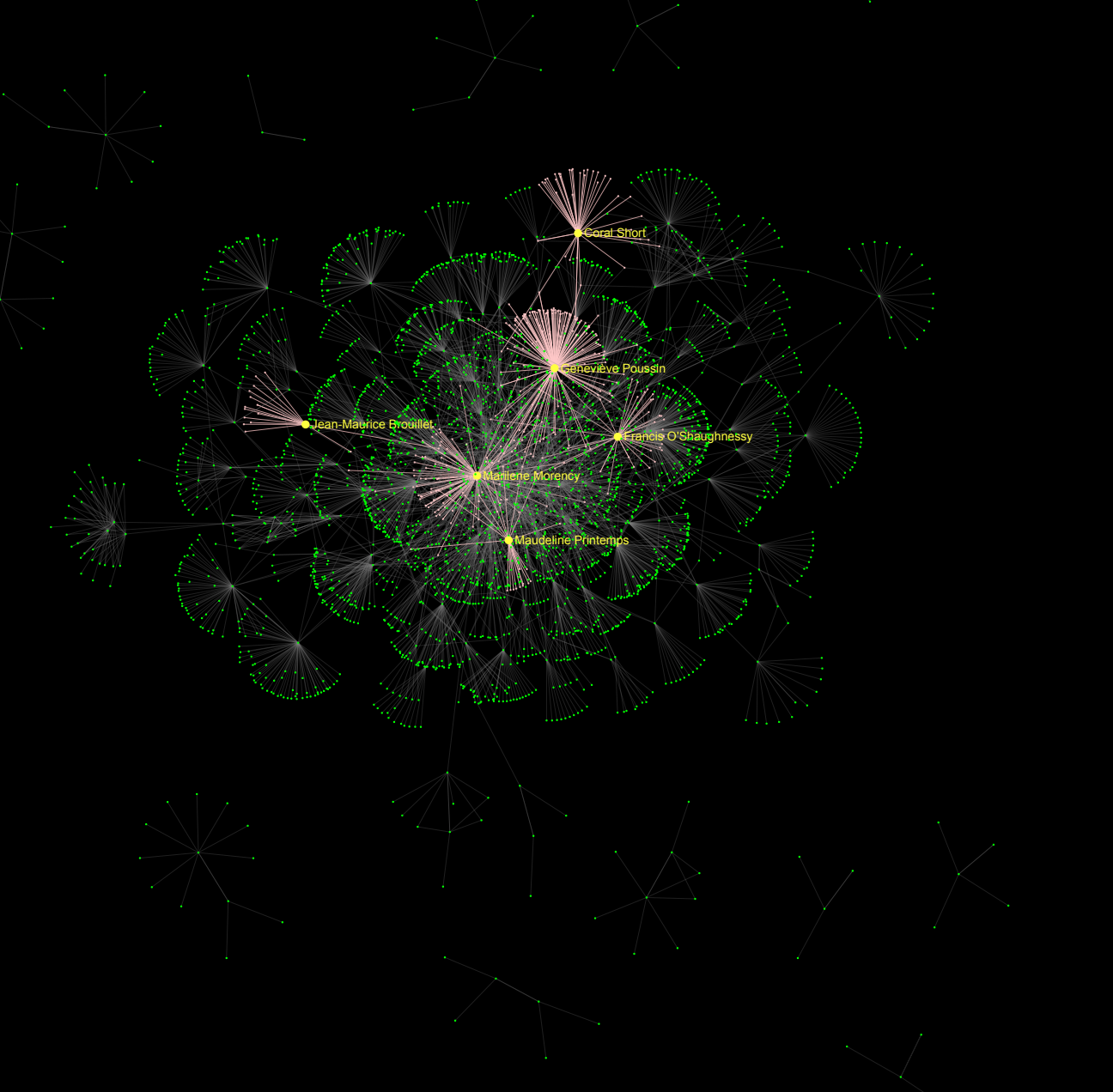
NV: This question of speed is interesting. Do we follow the rhythm (or algorithm for that matter) of these up-to-date apparatuses or inhabit an alternate temporality? Or, in your project, maybe there is a switching back and forth, a translating between these temporalities.

IW: Well yes, digital cameras enable us to reminisce about the last five minutes of our life. It's a very different cognitive experience and much more immediately

Figure 2. Ian Wojtowicz. *Graflex Camera (1954)*. 2010. Digital Photograph. Image courtesy of the artist.







Previous:

Figure 3. Ian Wojtowicz. *The Betweeners* (Montreal, February 2010). 2010.

Software, Photomontage. 9' x 4'

Image courtesy of the artist.

social. No one would dream of saying, "Hey Ian, pass that massive camera over so I can take a photo of you." It just doesn't happen.

NV: There is also that question, made more apparent by social networking technology: What is a friend?

IW: Sure, that's a whole other question. I used to be very picky about who I let in as a "friend" online. But I've stopped worrying about it now and I just accept all friendship requests that come my way.

NV: You mentioned that these individuals with the highest betweenness centrality might have been positioned so as the result of the individual being "friends" with particular bands. So, perhaps they were just fans at the right place at the right time, never expecting an artist to pounce.

IW: So let me get back to the MySpace stuff: yes, the big difference between it and Facebook is that it's primarily still popular in the music scene. There are tons of indie musicians who use MySpace, and many of their fans too. So, it made sense when I met Geneviève Lapointe, the subject with the highest betweenness centrality, and I discovered that she was a huge music fan. In fact, she told me how she doesn't have a cellphone, and hardly uses the internet for anything but checking for concerts on MySpace.

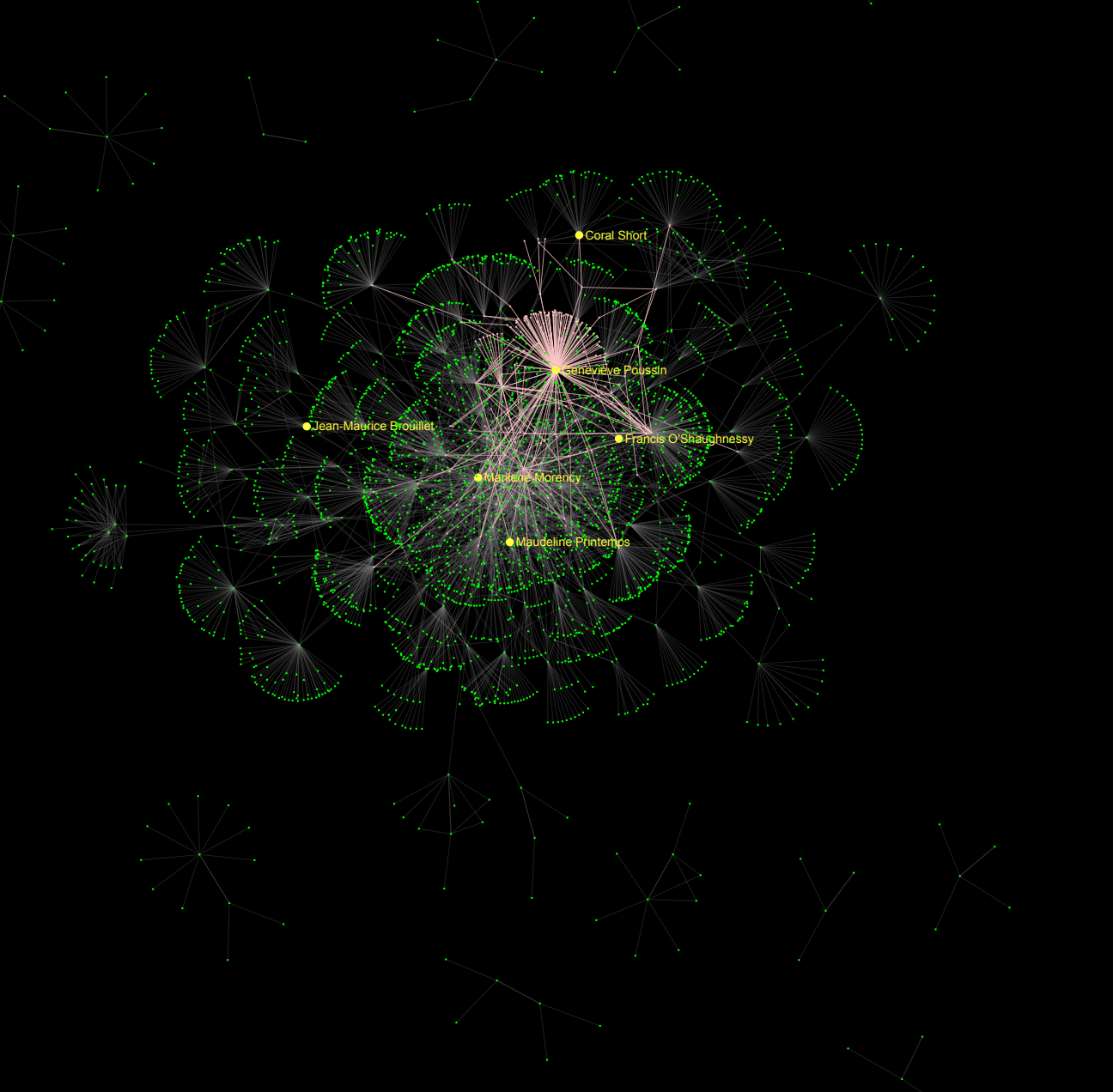
NV: That's funny that she doesn't have a cellphone and that her centrality algorithmically isn't really about an emotional concept of friendship but more fandom.

IW: It was inspiring to meet someone with a very different approach to technology, an approach that was clearly working for her well. She chose her apparatus carefully. I think that online social networks are much less about friendship than they are about celebrity

Figures 4-9. Ian Wojtowicz. *Degrees from Geneviève Poussin*. 2010.

Digital Illustration.

Images courtesy of the artist.



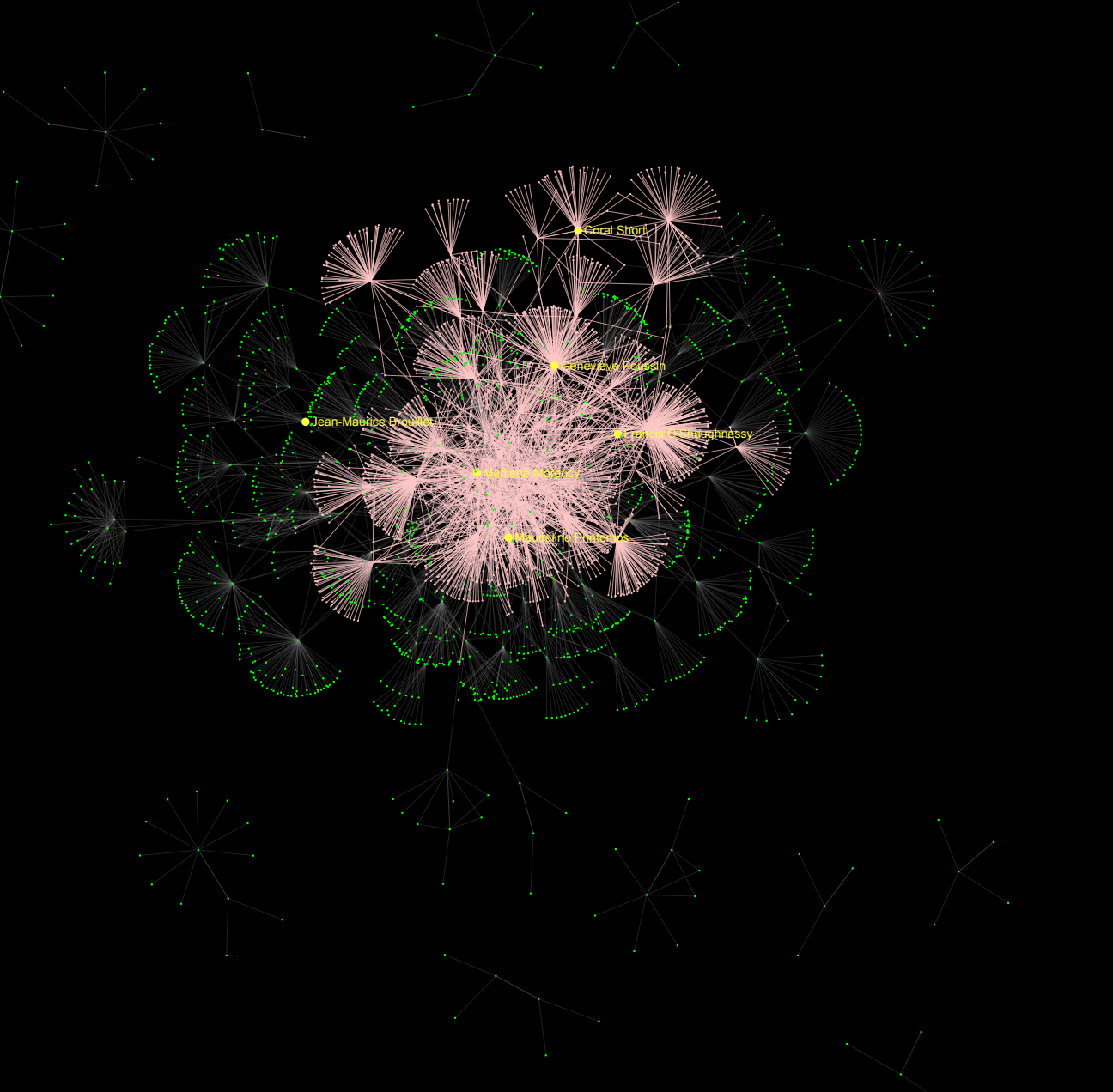
and microcelebrity; if you're not going to post witty entertaining tweets, I simply won't follow you. On Facebook, everyone's a celebrity for fifteen minutes per day. And then there's of course the somewhat creepy sensation of stalking and being stalked while on social networks, something that everyone agrees on...but that only makes it slightly less weird.

NV: You had mentioned to me there was also this link between online social networks and the mapping of social interaction – was it in Iraq?

IW: Well setting aside the knowledge that Facebook was funded very early on by holding companies owned by the CIA, yes: there's a technology that was developed a few years back called the Human Terrain System. It was a kind of military Facebook for soldiers in Iraq. U.S. soldiers could build profiles of the people around them to help navigate social systems at play; I think the project got cancelled, but I'm sure that the concept lives on in other projects. This one was produced by a military contractor.

NV: So people didn't create their own profiles, they were profiles set up by soldiers representing people? Were people tracked or observed in life and then those observations were fed into an online network illustrating it?

IW: Sorry, mistake: it looks like it was designed by the military and it's still in use: <http://humanterrainsystem.army.mil/>. A unidirectional military Facebook, a way to perform "social science research" in a warzone. So for the military, people with high "betweenness centrality" in their system would be very important in understanding how information flows, in getting information out to the city as a whole, or for tracking down wanted persons.



NV: Have you seen *Avatar*?

IW: Yes, I thought it was called *Pocahontas* the first time around. What part of *Avatar* are you thinking about?

NV: Well, it's not a perfect match, but I am thinking the military in Iraq with this Human Terrain project are making avatars of people in Iraq. People don't make their own avatars, they are made by people attempting to understand them, but who may not really understand them.

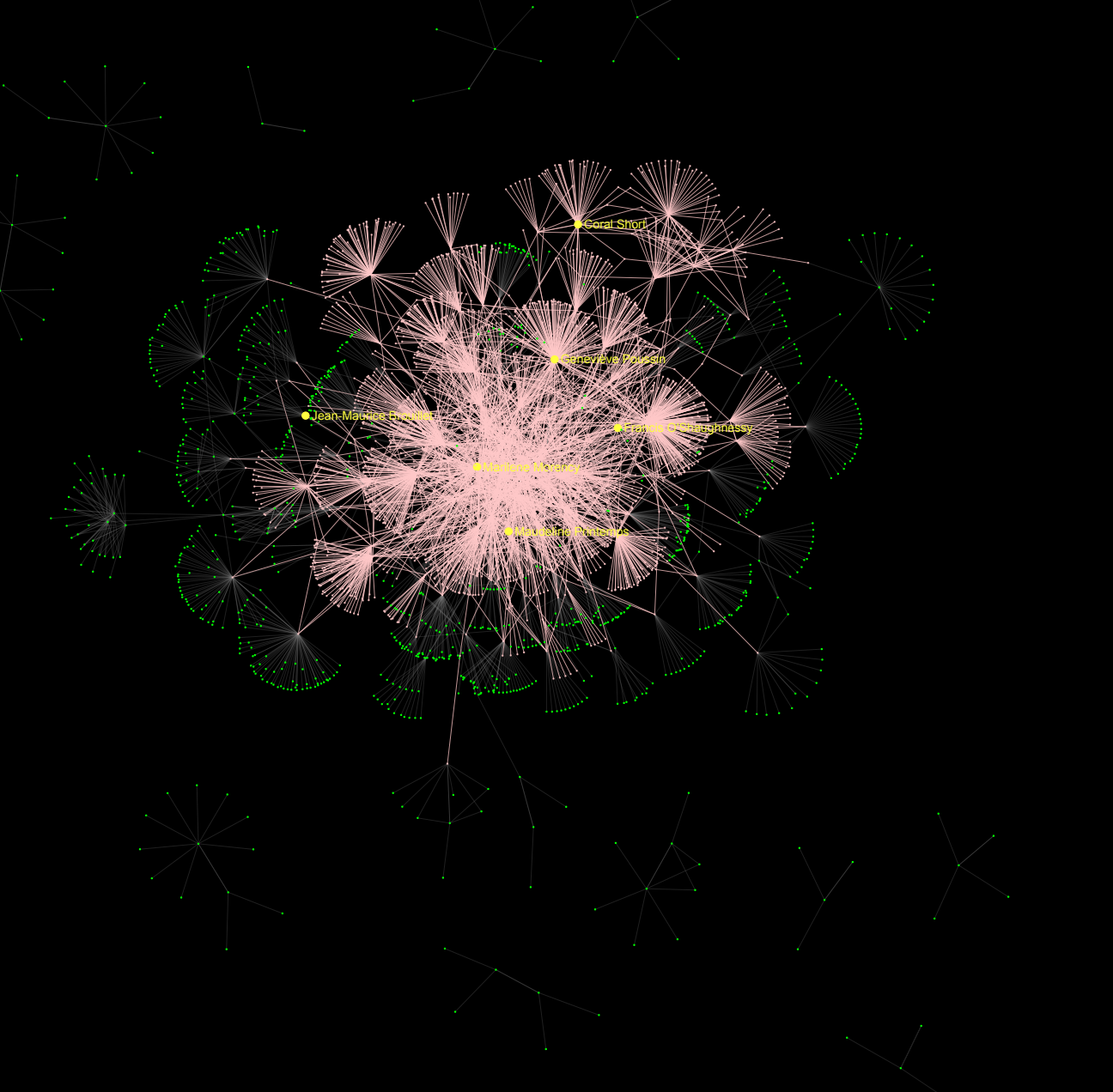
IW: Perhaps. I think the analogy would be the role of Sigourney Weaver's character.

NV: In *Avatar*, the Westerners use their technology to construct avatars of themselves (disguised as Others) to understand those Others but, of course, the well-meaning Leftist social scientists and scientists are funded by the military, who are only interested in the planet for its natural resources to be converted into capital. This isn't so different from the historical link between anthropology and colonialism, nor from the ways that certain technologies (like the internet, right?) are developed for the military, but then proliferate in modified form in normal civilian life.

IW: Have you seen the final photo from my project (Figure 3)?

NV: I like the theatricality of it.

IW: Yes. That has a lot to do with the fact that two of the subjects are performance artists. In fact, they're all artists. One writer, one jewelry designer, one graphic designer, one fashion designer. My aim was to recreate a photo from each person's MySpace catalog. With each subject we chose one of their online photos and



restaged it.

NV: I like that they share a space but, in the montage of their reenactments, they don't connect to one another, they remain isolated and aloof even in a tableau.

IW: True. I like to think that this motley bunch could be a new kind of elite.

NV: The composite photo does look a little like one of those "best and brightest" or "ones to watch" magazine layouts.

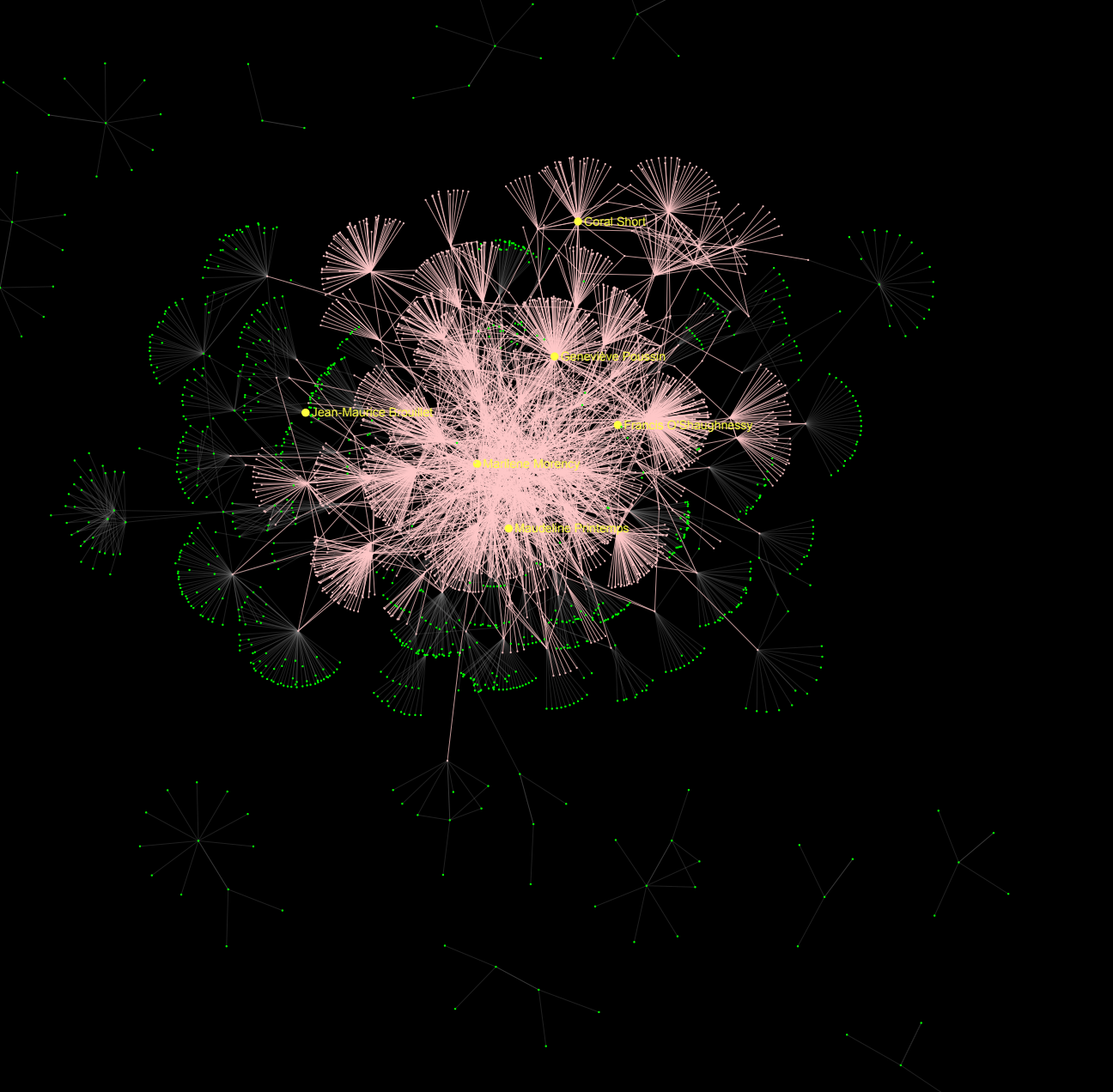
IW: Oh yeah. *Vanity Fair*.

NV: Do you know the documentary series *7Up?* It could be interesting to follow these people and see what they do, like the filmmaker does in that series. Like the seven-year-old boy who wants to become Prime Minister, but becomes a janitor or the prim and proper girl who becomes a drug addict 14 years later.

IW: I've also been thinking about how I would change this project if I were to do it again in another city. I like the idea of people being information machines and how people in various places in the social graph can have an affect on the system as a whole. Check your email for a few network diagrams. These files (See Figures 4-9) show how Geneviève is connected and who she is connected to in 2, 3, 4, 5 degrees distance. I think if I were to recreate this project in a new city, I would work with this effect, more than simply betweenness centrality.

NV: Yes, the diagrams are great and you had talked about animating them, which also sounds great.

IW: Thanks. I'm also interested in my own involvement in these graphs. I could write some software that could



introduce me to just the right people in all the right cities. Instead of schmoozing like Andy Warhol, I just follow my software and keep in touch with the world through just the right people.

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Perverting the Terms, or, Knowledge Production and Extradisciplinary Critique

In anticipation of a thorough – and urgently needed – historicization and theorization of the research paradigm in contemporary artistic practice in the United States, Gina Badger and Alise Upitis offer the following dialogue as preliminary thoughts on the topic. Badger’s artistic practice investigates realms of urban political ecology and environmental history. Here, she and Upitis outline a definition of extradisciplinary critique by examining artists who have worked at MIT over the last four decades and have challenged the institution’s role in cycles of knowledge production.

Perverting the Terms, or, Knowledge Production and Extradisciplinary Critique

Gina Badger: In the assertion that artistic practice is a form of research we see, first of all, a desire to integrate the activities of artists into wider spheres of human activity – in a way, to de-mystify them. Sven-Olov Wallenstein reminds us that Immanuel Kant was the first to systematically define aesthetics as a realm of activity separate from those of science and morality.¹ Ever since, Wallenstein argues, the history of aesthetic modernity has been characterized by “a permanent oscillation between the drive to affirm aesthetic autonomy,” following Kant, “and the wish to integrate art with other areas of experience.”² With the further specification of artists’ research as knowledge production, we assert not only that the activities of artists are integrated with other cultural undertakings, but that they have particular, historically conditioned relationships to capitalism.

Alise Uptis: Indeed, statements such as ‘Artistic practice is knowledge production’ or ‘Artistic research contributes to the production of knowledge’ have contemporary manifestations.

Briefly, to take an example from 1968, a six-week student-led occupation of Hornsey College of Art in North London produced a series of debates, lectures, and screenings concerning, in large part, the politics of arts education. As one student’s statement from the occupation reads: “We regard it as absolutely basic that research should be an organic part of art and design education. No system devoted to the fostering of creativity can function properly unless original work and thought are constantly going on within it, unless it remains on an opening frontier of development.”³

More recently, in 1996, the Research Assessment Exercise (an agency of the Higher Education Funding Council for England) defined research as original investigation with the goal of gaining knowledge. In

¹ Sven-Olov Wallenstein, “Art and Research,” in *Artistic Research*, Satu Kilijulen and Mika Hannula, eds. (Helsinki: Academy of Fine Arts, 2002), 35.

² *Ibid.*, 35.

³ “Document 46,” *The Hornsey Affair*, students and staff of Hornsey College of Art, eds (Harmondsworth: London: Penguin, 1969), 128-129.

2008, the European League of Institutes of the Arts positioned “artistic research” within the production of “‘New Knowledge’ in a creative Europe.”⁴

To ask how artistic production functions *in relation to* the operations of knowledge production (such as knowledge production in the sciences, for example) affirms a distinction between art and knowledge and makes one the representation of the other. I would like rather to ask how artistic production may function *in* the operations of knowledge production.

Karl Marx wrote about the doubling functions of the capitalist factory. The “collective labourer, or social body of labour” is determined as the “dominant subject” of the process of production. But simultaneously “the automaton itself is the subject, and the workmen are merely conscious organs...subordinated to the central moving-power.”⁵ Subjects of production are turned into objects of the machine, and machines are transformed into subjects. Gerhard Seyfried, among others, has translated this model to the university: knowledge production is the particular operation of production, knowledge is the commodity, and students become objects of production. In Seyfried’s argument, factory labor is replaced by immaterial or affective labor to feed “cognitive capitalism.”⁶

Whether students are producing or re-producing knowledge (Seyfried asserts the latter), do you, Gina, see this metaphorical transfer from factory to university as accurate or helpful in any way?

GB: Since we have agreed to begin this conversation without first of all laying out a history or definition of either *art* or *research*, it seems to me that the way to proceed is by looking at particular groups and practices. For me and for this book, it seems best to consider the paradigm of art-as-research not simply in

⁴ “The Importance of Artistic Research and its Contribution to ‘New Knowledge’ in a Creative Europe,” European League of Institutes of the Arts Strategy Paper (May 2008).

⁵ Karl Marx, *Capital: A Critique of Political Economy*, trans. Samuel Moore and Edward Aveling (New York: The Modern Library, 1906), 458.

⁶ As George Caffentzis and Sylvia Federici remind us, cognitive capitalism was term first advanced by of the Italian Autonomists. See Caffentzis and Federici, “Notes On the Edu-Factory and Cognitive Capitalism,” *Transform Web Journal* (May 2007).

the United States, but at MIT in particular. In any case, this works well with your suggestion to look at how artistic production may function in the operations of knowledge production. The university is very clearly not a bastion of creative and intellectual autonomy, but an institution that is fully embroiled in the machinations of capital accumulation. George Caffentzis and Sylvia Federici employ the term “edu-factory,” asserting that the university is in fact one of today’s many factories, making it a “key space of conflict...a crucial site in which wider social struggles are won and lost.”⁷

The reason that the terms *research* – and more explicitly – *knowledge production*, are useful in describing contemporary art practice is that they point towards the edu-factory. We know that the term *production* always describes a special kind of labor that participates directly in the accumulation of capital. Thus, these terms clearly mark art as having a specific and privileged relationship to the institution, meaning that artists can either participate uncritically or work to create sites of resistance. Institutionally affiliated artists who do not wish to participate in the production of cognitive capital have agreed that they will not abandon the academy to those who are its willing promoters.

AU: In addition, we should ask how or to what extent artists, particularly those working within the university system, operate in cognitive capitalism as producers, not of things, but “forms-of-life.”⁸ To what extent is the production of forms-of-life complicity and to what extent is it a mode of resistance?

GB: This seems like a really exciting question. But can we pause for a moment to talk explicitly about what this term, form-of-life, means?

AU: Drawing from Giorgio Agamben, form-of-life means a life that cannot be divided into categories such

⁷ Ibid.

⁸ Giorgio Agamben, *Means without End: Notes on Politics*, Vincenzo Binetti and Cesare Casarino, trans (Minneapolis: University of Minnesota Press, 2000), 6-7.

as *human* or *citizen*. More precisely, a life that cannot be divided into *bare life* (life without secularization as a biopolitical concept) and abstract codifications of socio-political identities (such as worker, voter, elderly, etc). This division supports the idea that individuals can be alienable from their actions and the belief that the technician-actor is not relevant. And as political theorist Yaron Ezrahi persuasively argues, the belief that “actions can be separated from actors and objectified as ‘means’ to stated ends without sacrificing the idea of the agent as free and responsible,” is necessary to the premise of representative action – that individuals can trustfully act for or on behalf of others – central to the liberal-democratic tradition.⁹ And in turn, this liberal-democratic tradition is elemental to the conditions enabling cognitive capitalism. As an alternative, form-of-life defines a life in which processes of living are possibilities or potentialities – are power, rather than simple facts or techno-instrumental actions. Form-of-life is thus antagonistic to the inscription of knowledge into the productive process – and as such antagonistic to cognitive capitalism.

So, to rephrase my earlier question, how or to what extent do artists working within the university today operate as subjects of the apparatus of the edufactory (as an aspect of cognitive capitalism) rather than producers of things? I mean apparatus in the sense used by Foucault and then by Agamben, to describe the network between institutions, discourses, buildings, laws, and so on; “that in which, and through which, one realizes a pure activity of governance.”¹⁰ Is it fruitful to think of the apparatus of the academy as producing the subjectification of the art student, where in turn the student replicates the functions of the networked apparatus upon its audience, proliferating the production of subjectivities in cognitive capitalism?

GB: It seems to me that in common parlance in the

⁹ Yaron Ezrahi, *The Descent of Icarus: Science and the Transformation of Contemporary Democracy*, (Cambridge, MA: Harvard University Press, 1990), 33.

¹⁰ Agamben, 2000, 11.

United States (and in Canada, too), *research* is mostly used as shorthand to describe artistic practices that are process-driven, and often do not involve the production of objects. Additionally, as a holdover from the hopes of some Conceptualists, it is commonly believed that because such a practice does not produce a physical commodity, it is inherently challenging to the conventions of the art market. It's clear that in cognitive capitalism, many commodities are dematerialized, and we see the production of immaterial *experiences* becoming increasingly important for the accumulation of capital. So the insistence that an ephemeral artwork such as a reading, a workshop, or a set of instructions cannot be commodified is no longer particularly valid. We see these types of artworks being purchased all of the time, by collectors and by museums. And this is to say nothing of the accumulation of cultural capital. We can't necessarily rely on their status as non-objects to challenge or even evade capital accumulation in any meaningful way.

On the other hand, perhaps art practice can contribute to the embrace of a form-of-life antagonistic to capitalism. Agamben's concept is taken up and extended by the French group Tiqqun in their recently translated *Introduction to Civil War*.¹¹ For them, the form-of-life is an articulation of subjectivity that offers a radical alternative to the individual or the body. They describe a form-of-life as a certain inclination of bodies, resulting in a community between them. For Tiqqun, the form-of-life can go either way – it can participate productively in capitalism or it can develop along antagonistic lines. And I will assume here that we share a sense of excitement at the prospect of the latter. In the terms of our present conversation, I would argue that taking up this challenge means pursuing a particular kind of institutional critique.

Brian Holmes describes a new form of institutional

¹¹ "The elementary human unity is not the body—the individual—but the form-of-life." From Tiqqun, *Introduction to Civil War* (Los Angeles: Semiotexte 2010), 16.

critique through the practice of “extradisciplinary investigations.”¹² He proposes a “phase-change” in institutional critique, whose transformative goals are no longer limited to its traditional object, i.e. the art world itself. Instead, this form of critique is committed to radicalizing the practice of art by insisting on its vital connection to other fields of action, in particular, leftist social movements. It seems to me that this form of critique applies particularly well to MIT’s standard of interdisciplinary research, developed since the beginnings of the Cold War. Holmes doesn’t speak of MIT in particular, but he states that extradisciplinary investigations are antagonistic to the productive qualities of interdisciplinarity. I am interested, therefore, in the ways that artists working at MIT are uniquely positioned to construct extradisciplinary critiques of the institution’s role in cycles of knowledge production.

AU: An example of Cold War interdisciplinarity at MIT can be found in the Research Laboratory of Electronics (RLE), the postwar continuance of MIT’s Radiation Laboratory, best known for its numerous war-time advances in radar technologies. The RLE, funded by military contract, assembled mathematicians, engineers and scientists to research topics such as microwave electronics, guided missiles, and secure communications.¹³ The RLE has been presented as a pioneering structure for the practice of interdisciplinarity as supplement to the production of departmentally produced knowledge at MIT. The following are the reflections of Julius Stratton, RLE director in 1946 and later MIT President:

The founding of the [RLE] in 1946 represented a major new departure in the organization of academic research at M.I.T. and was destined to influence the development of interdepartmental centers at the Institute over the next two decades. These centers have been

¹² Brian Holmes, “Extradisciplinary Investigations: Toward a New Critique of Institutions,” *Transform Web Journal* (January 2007). <http://eicpc.net/transversal/0106/holmes/en>.

¹³ Stewart Leslie, *The Cold War and American Science: The Military-Industrial Complex at MIT and Stanford* (New York; Oxford: The University of Columbia Press, 1993), 26.

designed to supplement rather than to replace the traditional departmental structure. They take account of the fact that newly emerging fields of science commonly cut across the conventional disciplinary boundaries... Perhaps more than any other development in recent years they have contributed to the special intellectual character and environment of M.I.T.¹⁴

It is crucial to note that this development is inseparable from its funding structure. While RLE director, Stratton told his staff that the RLE's military contract "sets a pattern for the proper sort of relation between an academic institution and a sponsoring agency."¹⁵ because the contract provided state fiscal support but permitted researchers freedom to pursue "basic research." In the words of Vannevar Bush, once-Dean of MIT's School of Electrical Engineering and conceptual architect of the National Science Foundation, basic research "is performed without thought of practical ends. It results in general knowledge and an understanding of nature and its laws."¹⁶

In short, the supplement to knowledge production that resulted from the Cold War development of interdisciplinarity was conditioned by a supplement of funding that was meticulously negotiated to provide freedom of research interests. Realistically, while basic research into guided missile systems at the RLE in the late 1940s may have required a high level of intellectual freedom, the larger military-industrial-academic interests are transparent. Similar funding structures supported interdisciplinary arts projects such as Centerbeam (1977-78), which was created by over 20 artists at MIT's Center for Advanced Visual Studies together with about 10 MIT scientists and engineers. Centerbeam's funders included the United States Information Agency, the NEA and Alcoa. This project,

¹⁴ Julius Stratton, "RLE: The Beginning of an Idea," in *RLE, 1920-1946* (Cambridge MA: MIT Research Laboratory of Electronics, 1966), 6.

¹⁵ Julius Stratton on May 1 1946, "Memorandum to Members of the Research Laboratory of Electronics," quoted in Leslie 1993, 26.

¹⁶ United States. Office of Scientific Research and Development and Vannevar Bush, *Science, the Endless Frontier; a Report to the President on a Program for Postwar Scientific Research* (Washington: National Science Foundation, 1960), 16.

which replicates institutional research models, was interdisciplinary collaboration, not an extradisciplinary critique.

GB: So how can extradisciplinary forms of institutional critique intervene into this paradigm of interdisciplinarity? An example might be an art that takes the self-reflexive tools of conceptualism, along with the insights of critical race theory, and applies them to the critique of the edu-factory itself, as Mabel Negrete has strived to do through her *Indecent Acts* series this past year (see her contribution to this volume). Negrete's performances pay careful attention to the physical architecture of the MIT Media Lab itself, while insisting on an analogous relationship between it and the prison complex, with an eye toward the possible strategic linking of struggles in both institutions.

Or take Gediminas Urbonas' Spring 2010 *Ground Control* class – for which I served as a teaching assistant – which was constructed around these precise questions. In this class, students were asked to examine remnants of a Cold War infrastructure particular to MIT, and to mobilize them in the service of their own critical projects. The class resulted in the public exhibition of student works in the sub-basements of MIT's campus. This strategic installation of work allowed a counter-narrative of MIT's financial and political substrate to emerge. Key maneuvers in both of these examples are the recasting of histories – giving precedence to unpublicized fragments of an institutional life – and finding ways that the institution may be compelled to work against itself.

At the beginning of my time at MIT, I focused a lot on the form of the workshop as a way to critique and subvert the knowledge production of the university. Setting up and performing a workshop creates an experimental theatre that is explicitly contrasted to

institutional knowledge production – where we learn things together. This form was taken up through the FEMA Trailer Project, led by Jae Rhim Lee, where we learned hands-on about permacultural techniques and then applied them in the refurbishing of one of FEMA’s toxic trailers into a crazy eco-utopian composting-center-reading-room-edible-wall thing. The converted trailer is now in service as a mobile art education classroom for the Los Angeles-based Side Street Projects.

Outside MIT, I facilitated workshops on making seed bombs, on ‘becoming an institutional body,’ and on herbal gynecology. All of these projects required me to pervert the terms of my own discipline (if art can even be properly called a discipline), to learn by other means what I needed to know, and crucially, to do this with other people. In each instance, this creates a kind of micro-public with its own specialized knowledge. It may be best to think of these moments as being micro-political. Which is to say that they contribute cumulatively to the formation of individual and collective insurrectionary subjectivities or forms-of-life. This is a critique of institutions that holds great promise, even if its ultimate goal is clearly always in-process, always to come.

AU: Gina, could you perhaps consider three key operations – metaphor, context and abstraction – at work in your thesis project, and articulate them specifically within operations of artistic production and the production of knowledge?

GB: Over the course of three autumn months in 2009, Massachusetts Bay was an audio-based project where I made weekly 360° field recordings of Squantum Point Park – a bird sanctuary and former Naval Air Station with an Algonquin name – and then rebroadcast them, edited slightly, on community radio. I talk about the

displacement of this material – or in your terms, the shifting of its context – and the abstraction that occurs in the process, as two functions of a metaphorical method. What I mean is that I take the transfer of associations implied by the definition of a literary metaphor and turn it into a method for artmaking. Again, I would describe this as a micro-political process that, if it works, can contribute to the embrace of an insurrectionary form-of-life.

The key component of my thesis work, *Rates of Accumulation*, is a sound piece that addresses the history of North America's East Coast through the charismatic character of the Eastern oyster. I constructed an abstracted narrative using contemporary ecological research, theorizations of interspecies relations, and culinary culture. In my written thesis, I follow David Harvey in arguing that social movements need access to better metaphors in order to construct forms of value that are antagonistic to capitalism, and that telling counter-histories is tied into this.¹⁷ To bring it back explicitly to the paradigm of artists' research, it seems crucial to me to speak of research here, not because of the process-oriented nature of the work, or because it is intimately related to research in other fields, or because it is sometimes totally dematerialized (though all of these things can be true), but because it seems essential to link this work directly to the productive mechanisms of the edu-factory, in order to stake out the wider implications of working in such a context.

Following from this, it should be clear that there are no guarantees. It would be foolish to say that the forms of knowledge produced through this work cannot be appropriated by capital. Of course they can. I'm also not sure that it's up to me to evaluate the work in this regard. I can state its intention, which is to contribute to a larger, ongoing project of reconstructing histories so as to enable and support postcolonial forms-of-life,

¹⁷ David Harvey, *Justice, Nature & the Geography of Difference* (Cambridge: Blackwell Publishers, 1996), 174-5.

especially from my own perspective, as a descendent of European settlers in North America. This work can only become political, or perhaps I should say micro-political, when it becomes public – when it comes to life through those who take part in its performance.

In order to demonstrate how this might happen, I need to describe the work in more detail.¹⁸ One form *Rates of Accumulation* took was a sound installation, where four layers of composed field recordings were installed in a fire escape stairwell in MIT's Media Lab. Each layer corresponded to a place and a time: an underwater oyster reef from the beginning of the Holocene era; the micro-environment of the mouth, beginning with the arrival of the first peoples on the East Coast; the colonial-era shell midden as accumulating garbage heap, where new tools and technology assist in the acceleration of economies and exploitation; and finally, present-day estuaries, where current ecological remediation, research, and art projects feature the oyster. The sound samples themselves include underwater lapping, the scraping of knives across shells, and the wet slurping of hungry mouths. The mood shifts from soothing to absurd to ominous and back again. The stairwell, like the rest of the new Media Lab building, is lined with large panels of glass, providing clear views of the surrounding Cambridge neighborhood, the top floors gaining perspective on the brackish estuary of the Charles River, itself once home to a thriving oyster population. Viewer-listeners could walk up through this layer-cake audio geology, controlling the level of intermixing between the different audio tracks. The intention was to create an equally disruptive, strange, and beautiful experience that could enable a reflection on history neither apologist or nostalgic, and with enough room for multiple interpretations.

In one instance, a man remarked that after he climbed to the highest stairwell landing, he found the river

¹⁸ For more description and contextualization of *Rates of Accumulation*, see Gina Badger, *On Making Sense: Some Recent Investigations In Time, Metaphor, and Ecology* (Cambridge MA: Massachusetts Institute of Technology, 2010).

had taken on a historical character and presence it had never held before, though he saw it nearly every day. A woman told me that while she was watching a performance of mine inside the stairwell, a cat on a roof outside became a part of the narrative, pulled into the “knotted” ecological relations of humans and oysters.¹⁹ In such moments, despite our best logical reckonings, it is impossible to fathom the boundaries of a work of art because it becomes embroiled in the production of subjectivities. At such a time, the performance of effective extradisciplinary critique is possible. Or even, the embrace of a form-of-life antagonistic to the values of capitalism.

I want to end, though, by insisting that the politics of this type of work can never be clear if we only look at the particular dynamics of this or that project. These details are crucial, but they need to be framed by a better understanding of how the work’s designation as research links it to issues of funding and economies of knowledge production. Much of the extant scholarship has been produced in relation to the European context, but the story is different here. If we want to perform effective extradisciplinary critique in the United States, we urgently need the geographically specific research and analysis that will allow us to understand these dynamics.

¹⁹ Donna Haraway, *When Species Meet* (Minneapolis; London: University of Minnesota Press, 2008).

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Architecture and Art, MIT

Dale Carnegie The Man Who Influenced Millions

In the following pages, Catherine McMahon and Jess Wheelock discuss Dale Carnegie and his 1937 self-help book, *How to Win Friends and Influence People*. Before their conversation, McMahon and Wheelock produced a series of photographs together around the MIT campus. Entitled *Dale Carnegie: The Man Who Influenced Millions*, the photographs take their titles from the chapters of a Carnegie biography written by Giles Kemp and Edward Claffin. While at MIT, Wheelock developed an animation – *How to Win Friends and Influence People* – based on her imagined excursion into the book in which Dale Carnegie attempts to mentor her.

DALE
CARNEGIE



THE MAN WHO
INFLUENCED
MILLIONS

GILES KEMP and
EDWARD CLAFLIN

Dale Carnegie The Man Who Influenced Millions

“I realize now that healthy people don’t write books about health. It is the sick person who becomes interested in health. And, in the same way, people who have a natural gift for diplomacy don’t write books on *How to Win Friends and Influence People*. The reason I wrote the book was because I have blundered so often myself... .”

- Dale Carnegie¹

Who is Dale Carnegie, anyway?

Jess Wheelock: Sometimes when I tell people about how I am making an animation with the book *How to Win Friends and Influence People* where I hang around with Dale Carnegie, they don’t always get it.² Especially if they don’t know my work – I think they get confused. First of all, a bunch of people don’t know who Dale Carnegie is and they think I am collaborating with him or something...(laughs)

Catherine McMahon: No, no that’s the thing – that’s what’s funny. I was vaguely familiar with him, but Dale Carnegie is sort of an obscure figure.

JW: That’s what I like about making Dale a character – because he is such a non-character outside of the text. What does the guy who wins friends and influences people...what does he do on the weekend?

CM: So in the first photograph we made, Dale is holding a copy of his biography (Figure 1).

JW: Right.

CM: By the way, did we ever figure out who Giles Kemp and Edward Clafin are?

JW: No.

Figure 1. Catherine McMahon and Jess Wheelock. *Dale Carnegie: The Man Who Influenced Millions*. 2011. Photograph. Image courtesy of the artists.

¹ Clafin, Edward and Giles Kemp. *Dale Carnegie: The Man Who Influenced Millions*. (New York, NY: St Martin’s Press, 1989) p. 144

² In my animation, I fall into Dale Carnegie’s 1937 self-help book *How to Win Friends and Influence People* and am mentored by the author, who gives me advice and some strange tools to help me deal with people. <http://www.jesswheelock.com/howto>

CM: I wonder who they are or what they do.³ Really, who writes a biography about Dale Carnegie anyway?

CM: I am thinking about some of the work I have seen in ACT (MIT Program in Art, Culture, and Technology) that responds in some way to the institutional make-up of this place and the difficulties that sometimes come along with that. It's not that the work aims to be about these things per se, yet one cannot help but react to the immediate situation.

JW: Sure, one is situated in the institute and that creeps into the work.

CM: So I almost wonder if in a way, this whole Dale thing with you is a reflection of this – in the way that the sciences or say, Sloan (School of Management), hover as shadows of presumed legitimacy over something like the art program here at MIT. How do you engage in a topic that responds to the authority of the institute or the pressures of the institute in relationship to the art program? Making a work about a business guru seems to be one way to deal with this.

JW: I think in some ways it was a response to the Media Lab and their demos – how they have to sell themselves in 30 seconds.⁴

CM: The elevator pitch.

JW: Right. The students all over Cambridge are so poised in that way. Yet when I had to talk about what I did, it seemed messier somehow...it didn't quite fit. So doing a piece about a self-help book seemed like an opportunity to me. It gave me a clear antagonist to struggle against.

Who makes an animation about Dale Carnegie anyway?

Figure 2. Catherine McMahon and Jess Wheelock. *The Business of Business*. 2011.

Photograph.
Image courtesy of the artists.

³ Clafin and Kemp, 1989. Both Edward Clafin and Giles Kemp were graduates of Dale Carnegie's courses. According to the book jacket, "Giles Kemp is the executive vice president of a direct-marketing packaging firm. He lives in Scarsdale, New York. Edward Clafin produced Jack Carew's *You'll Never Get No for an Answer* and coauthored, with Dennis Corner, *The Art of Winning*."

⁴ Private companies provide nearly 100% of the funding to MIT's Media Lab. Twice a year, researchers present demonstrations of their work to these sponsors.

WAYS TO MAKE PEOPLE LIKE YOU

A GOOD LISTENER

MILE







CM: That's so funny, so you were both teaching yourself a skill and at the same time disassembling it entirely.

JW: Yeah, I thought of the project as just acting out the book. There is this quality to social relations where it is an issue of performance. Dale, or maybe the book as a whole, is like a sort of Cyrano – a voice that helps you act as a better version of you. It gets back to issues of voice and authorship.

CM: The first chapter, “How to Read This Book” invites you to mark up the pages and write anecdotes or observations in the margins – almost co-authoring the text. Animating it is one way to mirror to this suggestion of literally writing yourself into the text.

JW: Right, and by using Dale's title as the title for my animation, there is an extra confusion of authorship – or maybe a claiming of it.

CM: It's interesting, too that you are a silent character in all these works and yet you are the one really pulling the strings of what's going on. At least in the animation, you are always silently listening to Dale and yet you are in fact the author of what transpires.

JW: (laughs) Yeah, he's a bit of a ventriloquist dummy in that way...

CM: It's what you've said about performance in the past – you find performance incredibly uncomfortable and yet you make use of that tension by embracing it. You play with awkwardness and you play off the fact that you don't want to speak in front of all these people. So the work becomes about you finding ways around this problem.

JW: Yeah, like *Ah Güzel İstanbul (Oh Beautiful İstanbul)*.⁵ I was terrified to perform. I always get that

Previous:

Figure 3. Catherine McMahon and Jess Wheelock. *Floods, Frugality, and Faith*. 2010. Photograph.

Image courtesy of the artists.

Opposite:

Figure 4. Catherine McMahon and Jess Wheelock. *A Farmboy in Show Business*. 2011. Photograph.

Image courtesy of the artists.

⁵ *Ah Güzel İstanbul (Oh Beautiful İstanbul)* is a performance that retells my understanding and misunderstanding of the 1966 Turkish film *Ah Güzel İstanbul*. I watched the film *Ah Güzel İstanbul*, but the movie does not have subtitles and I do not speak Turkish. Using toy theater, shadow theater (Karagöz), and video, I retell my (mis)understanding of the story, weaving myself and my struggles into the piece. The performance is narrated in Turkish by Aylin Yilidirim and subtitled in English. <http://www.jesswheelock.com/istanbul>





Are you listening to me?

Figure 5. Catherine McMahon and Jess Wheelock. *Business and Friendships*. 2011.
Photograph.
Image courtesy of the artists.

shaky, nervous sound to my voice. So I had to figure out a way around it. I built the performance around someone else narrating my actions for me and I discovered that I was able to throw my voice, in a way, using the narration.

CM: The narration makes you, the performer, into an object, too.

JW: Right. That's how I began thinking of myself as material for the work – as this object with all sorts of limitations that I have to deal with. Working around them became a way for me to generate work. Like if I am nervous about something, I have to own it. That's going to become part of the work...part of my voice.

CM: In these photos we experimented a lot with the exaggeration of human form. I wonder how you think about that, in terms of the play with scale that happens.

JW: I liked all of the props being a bit off in scale, a bit wrong. Like when you use the smile prop, it is just a little bigger than the size of a regular smile – it's almost grotesque.

CM: But the ear is really off...

JW: Yes, it's literally the same size as me.

CM: One thing I really liked about the ear was that there was a kind of labor involved in carrying it around all day long as we shot the photos. I like the imagination of you following around your ambulatory professor or mentor while carrying this giant object – laboring after him or trailing along with your giant ear to make sure you really learn his lessons.

JW: When I was first using the imagery of the big ear in the animation, it was like a shield. Well, it was like a shield and a catcher's mitt. Holding it, I was trying to catch the words that were coming at me. But then in actually building it and in these photos...it does become a weight and it becomes more about the labor of holding it up. But I think it is still an object you can hide behind.

CM: You can hide behind it in these photos – but it looks so uncomfortable to deal with. Sometimes you don't look like you're hiding behind it, but struggling to hold it up. I don't want to be too literal or simplistic, but it seems to evoke the struggle one has in dealing with the expectations that come along with maintaining a charming personality.

JW: Yeah, but I think it is also something else. Listening is a good example – it's this thing that you know you should do...it's not necessarily a hard task...but it's so easy to wander off in your mind when someone is talking. Something about making that very physical, it shows the way the body fails, or that you can only listen for so long, or...hmm...I don't know how to say this exactly...

CM: Well, maybe it's that no matter how ideal our intentions are there are very physical limits to our attention span, on our ability to listen, on who intimidates us, or who doesn't. I mean you might go into a room all ready to win people over and then someone wearing the wrong color tie might throw you off.

JW: (laughs) I think that's happened to me...

CM: You have the best intentions and then you realize that whatever it is you carry around with you can fail in the face of those intentions. It is great to physicalize this

Figure 6. Catherine McMahan and Jess Wheelock. *Learning by Doing*. 2011. Photograph. Image courtesy of the artists.



problem in the form of objects. The ear both shields and at the same time makes us aware of the awkwardness by emphasizing the fact that you are really listening to someone. You can hide behind these objects and yet you are also drawing attention to what it is that you are doing.

JW: After looking at the photographs we took together, for me they seemed to work better when Dale was performing tasks: wading through a river, fixing his glasses, buying a greeting card. I especially like the picture of him looking at greeting cards – because greeting cards are already such a weird thing and you can then wonder who he is buying it for and why.

CM: I agree about the greeting cards: they are bizarre. They are all about helping you to speak, when you lack the words yourself and yet...for all the time spent (and people spend forever) picking out the cards to get that perfect message or joke, I'm not sure it really translates to the reader. Does anyone who gets these cards take the pre-written messages to heart? Maybe I am just cynical, but no matter how perfectly phrased the message, I always see the words as an ambiguous sign of good intentions vaguely floating on the page. Along with a sense that the card represents some sort of duty carried out...as if the birthday could not be sanctioned without the requisite card.

I have a similar feeling about Dale. Is he helping people to speak with their own voice? Or is his voice routed through them as a series of well-meaning and better-stated social niceties?

JW: I do think that is the main tension that people have with the book: it's this issue of sincerity. There is this conception that somehow learning all these rules makes

Jess, didn't you learn anything from Dale?

Figure 7. Catherine McMahon and Jess Wheelock. *From Public Speaking to Human Relations*. 2010. Photograph. Image courtesy of the artists.

Meeting
CARDS



Friendship

Special Occasion

Special Occasion

Special Occasion

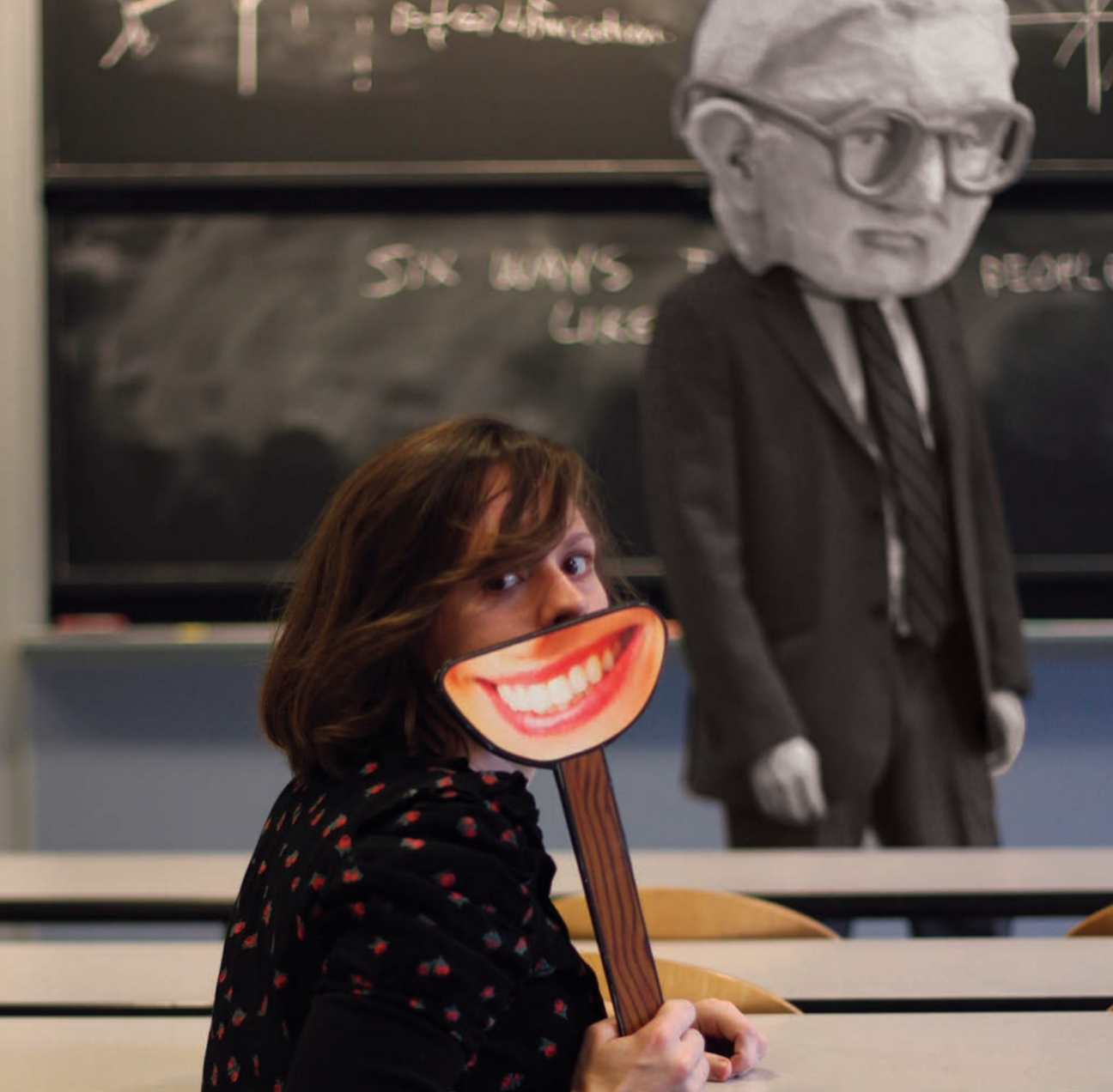
SMUCKLES

THANK YOU

THANK YOU

THANK YOU

THANK YOU



you less honest or less sincere. Or just less...

CM: You.

JW: Right.

CM: That's something to ask about Dale. It's great to win friends and influence people. It's great to learn those skills. I think more and more we really realize that we need those skills to get our points out there. But at what point does it eclipse your own personality? At what point is one's awkwardness wonderful...or even a strength?

Figure 8. Catherine McMahon and Jess Wheelock. *Trickle-Down Enthusiasm* 2011.
Photograph.
Image courtesy of the artists.

The Counter Narrative Society

GLACIERS UNDER OUR SKIN
The Double-Skinned Nation Manifesto

mabel negrete

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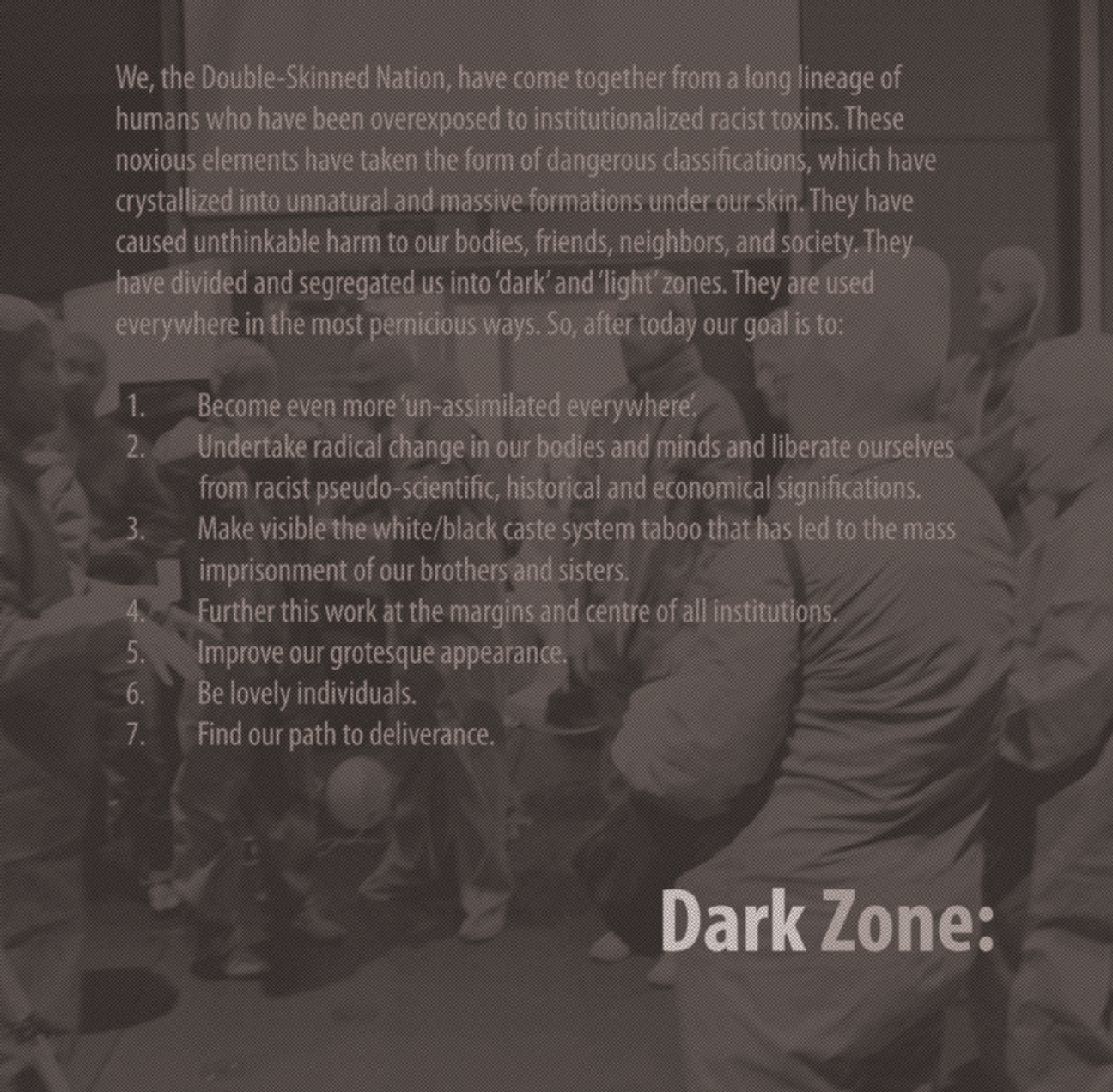
Designed under the research unit The Counter Narrative Society (CNS), Mabel Negrete works with Mary Ann Brooks and John Hulsey to develop a written manifesto and photo essay based off of a series of videos and performance workshops by CNS entitled *Glaciers Under Our Skin*. The aim of the project, in its various forms, is to explore how domination and inequality have been absorbed into the social fabric of the United States. The manifesto uses a language inspired by science fiction and radical aesthetics to imagine what it means to overcome colorblindness when it is one of the main modus operandi in this country.

Photos used on pages 83, 85, 86, 88, 90, 91 and 92 are courtesy of Jordan Allison.

Video stills courtesy of CNS.

A group of people, mostly men, are gathered around a table in a dimly lit room. They are wearing heavy winter clothing, including jackets and hats. Some are looking at papers or equipment on the table, while others are talking. The scene appears to be a meeting or a briefing in a cold environment. The overall tone is serious and focused.

GLACIERS UNDER OUR SKIN

A grayscale photograph of a group of people in a meeting or workshop. In the foreground, a man wearing a white hoodie is seen from the side, looking towards the group. Other people are seated around a table, some looking towards the camera and others towards each other. The background is slightly blurred, showing more people and what appears to be a whiteboard or screen.

We, the Double-Skinned Nation, have come together from a long lineage of humans who have been overexposed to institutionalized racist toxins. These noxious elements have taken the form of dangerous classifications, which have crystallized into unnatural and massive formations under our skin. They have caused unthinkable harm to our bodies, friends, neighbors, and society. They have divided and segregated us into 'dark' and 'light' zones. They are used everywhere in the most pernicious ways. So, after today our goal is to:

1. Become even more 'un-assimilated everywhere'.
2. Undertake radical change in our bodies and minds and liberate ourselves from racist pseudo-scientific, historical and economical significations.
3. Make visible the white/black caste system taboo that has led to the mass imprisonment of our brothers and sisters.
4. Further this work at the margins and centre of all institutions.
5. Improve our grotesque appearance.
6. Be lovely individuals.
7. Find our path to deliverance.

Dark Zone:





black-and-white







A black and white photograph showing a group of people from behind, walking away from the camera down a brightly lit hallway. The people are wearing light-colored, possibly protective or uniform clothing. The hallway is very bright, with light coming from the far end, creating a high-contrast, almost washed-out effect. The perspective is from the back of the group, looking down the length of the corridor.

Light Zone:





"...this heightened my sense of anonymity..."

"...the horrors of having skin..."

"wait a second, I didn't ask to be white..."

...and that is
what exists until
this day...

...exactly...



Research at the Edge

Dick Perdichizzi, a senior technical instructor at MIT's Wright Brothers Wind Tunnel, assisted Ahmed with his project *Shamshir+Windtunnel=Progress*. By placing a replica of a 16th century Shamshir sword in the wind tunnel, Ahmed uses the technical environment for aesthetic purposes: to freeze a striking blade infinitely in mid-swing. Ahmed interviews Perdichizzi about his reactions to the project.

dick perdichizzi

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MIT Museum

In the following, artist Haseeb Ahmed interviews curator Deborah Douglas, about the Daedalus Project, a human-powered airplane developed at MIT in the 1980s. A specialist in aerospace history, Douglas is the author of *American Women and Flight since 1940*. She was also a member of the Daedalus human powered flight team. In the Spring of 2011, Ahmed used original parts of the Monarch B airplane (1985), specifically the wing-span, in an installation titled *Daedalus: Holding Pattern/Problem*.



Research at the Edge

During my tenure at the MIT Program in Art, Culture and Technology (formerly the Visual Arts Program, VAP), I created a body of work that spanned disparate knowledge fields through collaborations with various areas of the institute: the department of Aeronautics and Astronautics; the department of Earth, Atmospheric, and Planetary Sciences, and the MIT Museum.

Though produced collaboratively, the resulting installations, performances, and sculptures are instances of reversal in the culture of interdisciplinary research at the technical institute. Beyond celebrating new models of entrepreneurship, I interrogate the original split between scientific and artistic forms of production.

The basic principle of the scientific method claims that in order for fact to become recognized as fact, it must be reproducible at any laboratory anywhere in the world at any time. It is only through consistency in research methodology and in test sites that scientific knowledge can be made available for appropriation by future researchers as fact.

Aesthetic knowledge, on the other hand, cannot be separated from the object that induced experience. An art object gains meaning only in relationship to the immediate contextual world it reconfigures in its own appearance – not through a consistency with the world around it. In this sense, aesthetic knowledge is irreproducible while scientific knowledge conforms to standards of reproducibility.

This order of knowledge production is not a hierarchy; rather it is a productive antagonism. In the following interviews, I speak with two of my close collaborators: Deborah Douglas, curator at the MIT Museum, and Dick Perdichizzi, senior technician at the MIT Wright Brothers Wind Tunnel. The interviews touch on the (mis) translation of interest, the distribution of knowledge, and the nuances of collaborative production.

Figure 1. Haseeb Ahmed. *Shamshir+Windtunnel=Progress*. 2008-09.

Installation and Performance.

Photograph by Jegan Vincent De Paul.

Image courtesy of the artist.

MIT Wright Brothers Wind Tunnel, Cambridge, MA

A replica of a 16th century shamshir sword is prepared for testing at the MIT Wright Brothers Wind Tunnel.

Interview with Dick Perdichizzi

Haseeb Ahmed: How would you describe the project *Shamshir+Windtunnel=Progress*?

Dick Perdichizzi: An art project.

HA: What do you think of MIT having a Visual Arts Program?

DP: A visual arts program works for me, but you'd have to find a way to fit it into an already full course schedule.

HA: What was your first reaction when I proposed putting a sword in the wind tunnel?

DP: Is he crazy?! Why?

HA: Do you think this research will be of any use to researchers from the field of aeronautics or the arts?

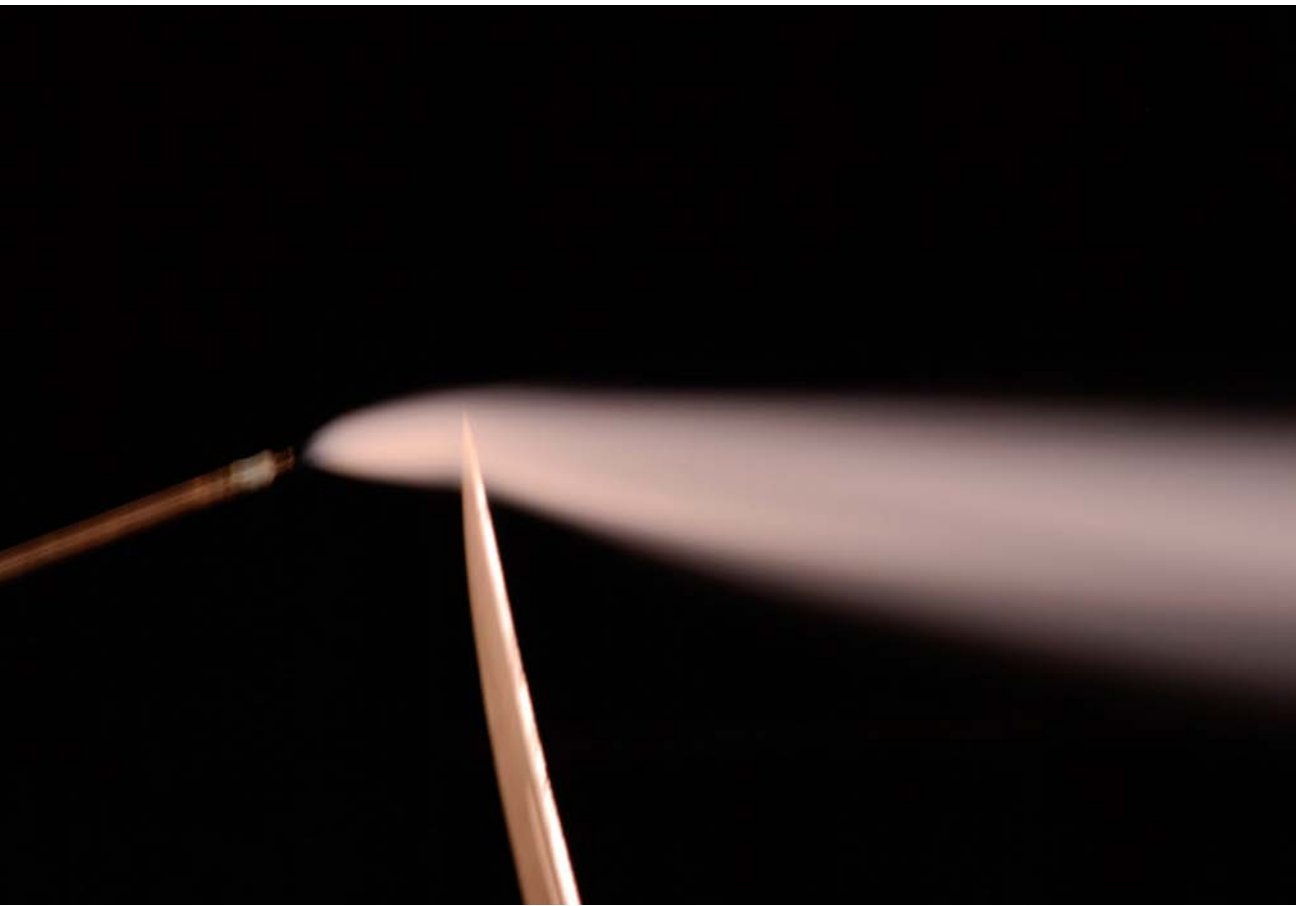
DP: Arts - definitely. Visualizing air flowing over an object seems to always mesmerize people; I've always liked viewing objects in a water tunnel and seeing the vortices shedding off its edges.

HA: Seeing objects in a wind or water tunnel seems to give people the rare opportunity to see speed while the object and viewer aren't moving at all. These tools give form to a lot of things in the everyday world, especially civilian and military transportation. However, most people never get the opportunity to see how they are developed in a wind or water tunnel. Do you think that people trained in aerodynamics see some things in the world differently?

DP: Haseeb, you're correct in that the sword's blade acts like a symmetrical airfoil. The difference is that our students are interested in the fluid dynamic characteristics of a foil and how it responds and

Figure 2. Haseeb Ahmed. *Shamshir+Windtunnel=Progress*. 2008-09. Installation and Performance. Image Credit: Jegan Vincent DePaul. MIT Wright Brothers Wind Tunnel, Cambridge, MA

Suspended infinitely in mid-strike by the Wright Brothers Windtunnel, a vortex of smoke forms off of the tip of the shamshir sword.





Interview with Deborah Douglas

Figure 3. Haseeb Ahmed. *Shamshir+Windtunnel=Progress*.
2008-09.

Installation and Performance.

Image Credit: Jegan Vincent DePaul.

MIT Wright Brothers Wind Tunnel, Cambridge, MA

Artists, engineers, and theorists participate in the performance/ test of the work Shamshir+Windtunnel=Progress on April 24, 2009. Left to right: Haseeb Ahmed, Gina Badger, Marek Bartelik, Joan Jonas and Leila Kinney.

interacts with the flow. An artist is more interested in the visual effects. In many ways, I suppose they're one and the same. I've always felt that engineers see a certain beauty in many/most mechanical devices.

Haseeb Ahmed: What is the role of a museum in the context of a technical institute?

Deborah Douglas: MIT is more than a “technical institute.” I think MIT president James Killian captured it best when he described MIT as “a university polarized around science, engineering, and the arts.” But I also like Professor Rosalind William’s view that MIT is inventing the liberal arts education of the 21st century. Despite its name, MIT embraces the breadth and scope of human experience and endeavors.

The idea that MIT would have a museum dates to its founding, although the fulfillment of Rogers’ vision would take a century. Below is an excerpt from a piece I wrote for the Museum’s 2004 Strategic Plan that I think gets at this particular question:

Charged with conserving the material culture of MIT, the Museum is also a center of inquiry and interpretation that both enriches and enlarges the Institute.

It is both the MIT Museum and MIT’s Museum. To the outside world, it is a focal point... For the MIT community, the museum aims to be a resource that enhances the intellectual, social, and cultural life on campus.

At the heart of the museum are its collections [founded in 1971 as the MIT Historical Collections]. In a 1984 presentation to the





Figure 4. Haseeb Ahmed. *Daedalus: Holding Pattern/Problem*. 2010.
Installation.
MIT E14, Cambridge, MA
Image courtesy of the artist.

Commissioned for the inauguration of E14, MIT's newest interdisciplinary laboratory housing the Media Lab, the Program in Art, Culture, and Technology, and the Center for Bits and Atoms.

Society for the History of Technology, the museum's founding director, Warren Seamans, explained the museum's collections plan this way: "Our policy remains that we try to build our collections by taking almost everything that is offered..."

Today, a more rigorous approach to collections management demands both entrepreneurship and innovative solutions... as well as presentation of the material culture of contemporary science and technology. The goal is not to collect everything, but rather to collect the things that matter most, to build collections that support and enhance the museum's work of developing compelling and meaningful exhibitions and programs in fulfillment of MIT's mission to...the public understanding of science and technology.

HA: Flight has long been considered akin to the project of human freedom. In the Daedalus Project, the Aeronautics researchers seemed to be pursuing new forms aerodynamics while referring explicitly to the past, to the myth of Icarus and Daedalus. What do you think of this gesture?

DD: Cultural historians consider the "dream of flight" one of the key constructs of Western imagination. As a member of the team that built those airplanes, I can tell you that inspiration for the Daedalus Project focused more on "Daedalus as engineer" rather than "Daedalus as flyer." There are historians who define technology as "making and doing"...for those involved in the Daedalus Project, the "making and doing" of building an airplane was all-absorbing, an exhilarating and exhausting endeavor. The team really did believe that if they could "dream it" that they could "do it," so in that sense we all were embracing our "inner Daedalus."

Figure 5. Haseeb Ahmed. *Daedalus: Holding Pattern/Problem*. 2010.

Installation.

MIT E14, Cambridge, MA

Image courtesy of the artist.

Entered through a black hole cut in the ceiling of the new building, the installation consisted of the wingspan of the human-powered Monarch B airplane (1985), a drogue parachute, and a wind tunnel model of the city of Toledo (c. 1978).



HA: In our conversations we arrived at this idea of “research at the edge” where artistic and scientific research begin to merge. To me they share the basic ethos of research for the sake of research. How do you see the importance of research at the edge? Is it a place of confluence for science and art?

DD: Many have written far more eloquently than I on the origins of human creativity, intellect and imagination. Epistemologically, the distinctions between art, science, and technology seem meaningless. Obviously, we all live our lives in the context of specific human communities. However, with every endeavor, individuals and communities make choices between operating within the paradigm and questioning it. I suspect that the individuals inclined to look outward in one community will always be attracted to those with similar mindsets in others. For me, it is the boldness, the raw display of creativity and intellectual virtuosity, that creates the confluence.

HA: Lastly, What do you think of the treatment of the wing from the Monarch B and the city models for the wind tunnel from the MIT Museum archives as used towards creating the installation *Daedalus: Holding Pattern/Problem* for the inauguration of Maki Building at MIT?

DD: I am delighted to see you breathe new life into the wing and wind tunnel models. One of the harsh realities of modern materials is that they decompose at very fast rates. Plastic is not forever. For museums such as ours that collect contemporary science and technology artifacts, it is imperative to put items on display right away because in 20-30 years, they may be gone. This is the situation with the record-setting human powered airplane, Monarch B. Built and flown in 1984, this aircraft was displayed at the Boston Museum of Science for nearly 25 years. When the time came to

remove the airplane from display in the museum's lobby, it was clear that it could not be fully preserved. The mylar coverings were too brittle and the rest of the aircraft was nearly as fragile. I made the decision to save the fuselage of the airplane but not the wings. One wing piece was salvaged by the Aero/Astro department but the other four remained unclaimed. I will always remember walking around with you and seeing your eyes light up when I showed these remnants to you. Certainly, many of the original builders of Monarch were pleased that their work is now part of your work. But it is bittersweet for them as well. I suppose at some primitive level, we all wish things could last forever. When I saw the display in the new Media Lab building, your label made me nervous because you had conflated Monarch and Daedalus together. This is your right, and I understand the poetry, but I also worried that Monarch was being eclipsed by Daedalus...

These emotions betray the real issue, which is that the identity of an artifact is much more deeply embedded than we like to think. I have a colleague who has written about the transformation of the robot Cog from a laboratory artifact to a museum artifact, but I do not know of anyone who has written about the transition from museum artifact back to ordinary object. The children's fairy tale Cinderella may be apropos. The MIT students turned ordinary bits of wood, plastic, and aluminum into a magical airplane and miniature cities; though cherished initially, the ravages of time and the limitations of storage space required my colleagues and I to make some difficult decisions. But you are the prince in this story and through your art, these artifacts are jewels once more. That is surely a happy ending and the one I share with my friends and colleagues.

sarah witt

Master of Science in Visual Studies
Program in Art, Culture and Technology

jean-baptiste labrune

Post-doctoral Associate
Tangible Media Group, MIT Media Lab

Human Researchers

Sarah Witt developed the following text as a reconstruction of a spoken conversation between her and her colleague, Jean-Baptiste Labrune. Labrune – a self-described “human researcher” who investigates how people meet – is averse to recording his research and conversations. Witt writes the following text in the third person, personally translating their wandering conversation. Her account of their dialogue begins around Witt’s project *(mis)imitations*, a video installation that explores architecture, using E14, the new home of ACT and the Media Lab, as material to examine the way that humans both resist and embrace their environments.

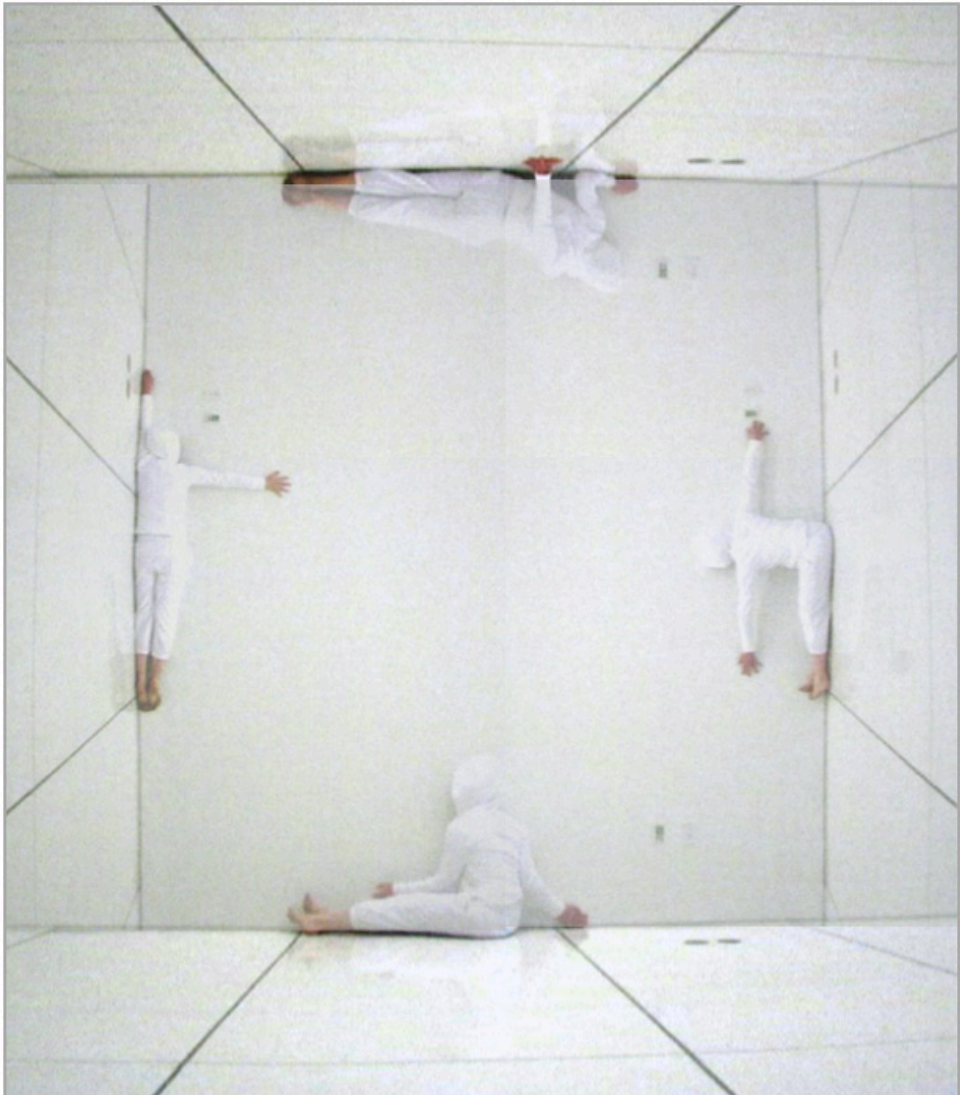


Introduction

I sat down to have a conversation with social anthropologist Jean-Baptiste Labrune, knowing his precept. He chooses not to write, a self-implemented stipulation that investigates and challenges methodologies behind communication and documentation. And I, hoping to honor Jean-Baptiste's methodology in publishing this text without directly quoting or copying any of his words in the consecutive order in which they were uttered, chose not to record the conversation. I preferred to rely on memory, as we most often do in casual conversation, as the means for gleaning information and gathering a general sense of what was exchanged. I admit to taking notes, as the impulse to archive and preserve seemed appropriate and practical as I was reminded of the final product. But I did not record his exact words and instead typed in my own vernacular, employing selection techniques that occur instantaneously as we detect relevant points in the processing and perpetuation of discourse.

In preparing for the interview, I informed Jean-Baptiste that we would abandon the traditional question/answer format and that he needn't come with a list of questions or preconceived narrative to follow. Instead, I would begin the conversation by introducing a theme applicable to both of our research interests: articulating "human." The circuitry of our dialogue was propelled by a series of self-sustaining questions and propositions riddled with uncertainty and anxiety, the impetus and mechanism of conversation. Through the unpredictable trajectory of human thought, our dialogue was carved spontaneously, eliciting a collection of colliding thoughts with no prescribed arrangement.

My vague instantaneous interpretation of what was exchanged has since been reconstructed, rearranged, rewritten. The tension of openness produced multiple iterations as I worked to configure the discussion into a legible text that would do justice to both of our



arguments. The content we generated, in this iteration, serves as poetic, critical commentary of the ambiguously defined but voluminous position of artistic production in relation to fundamental attributes of the “human.” And the following text, which is only one recapitulation of our brief correspondence, is the result.

Human Researchers

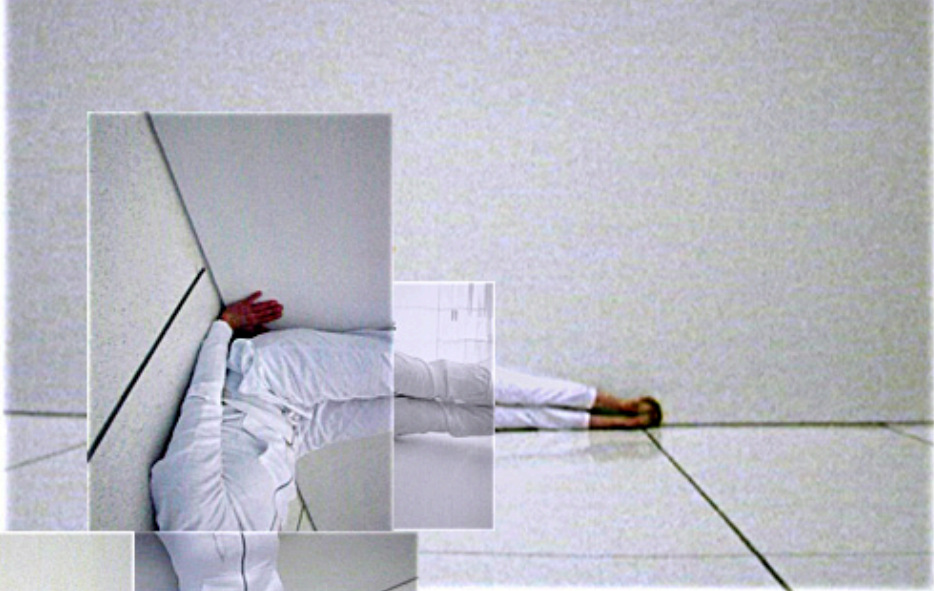
Human. A complex subject.

Everything that is known in this complex world has come to be known because, if only for an instant, a human has consciously encountered it. An observational, tactile, sensitive species. Gifted with diverse methods of perceiving our external surroundings, we are born to absorb. Accompanied by unfathomable mental faculties, we are destined to retain this input and process it. And these mechanisms, placed within an agile and dexterous framework prompt us to produce. Crudely summarized, these three concepts are the foundational elements in the delineation of “knowledge.”

It would be superfluous and frustrating to calculate the amount of knowledge that exists. Finite statistics cannot possibly be employed as a method of quantification. But if we consider the quantity and endurance of our species, or even look away from our laptops for a minute and quietly witness the scene we inhabit, it’s obvious that it’s a lot. And if you look even closer, you’ll notice that everything you see is touching, in contact with something else. Gravity aside, if we shift this paradigm from the physical to the intellectual, we realize that these connections surpass tangibility and are representations of a discursively stitched network of theoretical systems.

But as complicated individual units operating in an equally complicated context, we know through first-

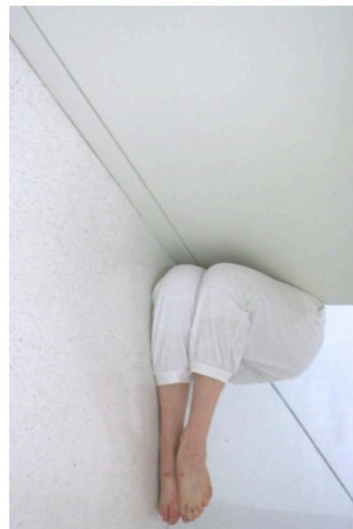




hand experience that the human has a limited capacity to translate and process every external stimulus that composes and reflexively informs existence. And those things that we do select as relevant and worthy of attention must be compartmentalized and occupy a sense of order. The others are subconsciously dismissed as our intellectual immunity protects us from hyper-induction. So we ponder some things and not others, and when we find something particularly captivating, we claim it as our own, objectifying and scrutinizing this thing to the scale of the atom. One by one, we'll reveal the molecular structure of every truth, demolishing the devices that necessitate imagination.

Even if we can't possibly comprehend the magnitude of relationships that comprise the whole, can we preserve it as an entity and appreciate the infinite tangents that violently intersect at unexpected intervals? Is it possible to accept the myriad systems in their natural, tangled state? Without separating these massive, interrelated structures and dissecting each facet to the simplest unit for analysis and interpretation, can we devise an effective method to wade through and re-present the colossal without segmenting into autonomous entities? What forms defend and preserve the density? How do we celebrate the rich, impenetrable coagulation of detritus that accumulates and identifies the human?

It might be overly ambitious to claim that this challenge belongs to the artist. But if you compare the content produced and modes of communication exercised within the artistic field to those of other disciplines, the association is appropriate. Every other field has explicit intentions and hypothetical outcomes, necessitating formats that lend to standardized delivery and reception of information. Numbers refer to quantity, language directly states, photographs replicate. Conversely, the practice of the artist adheres to no universal consistencies. The manifestations, although sometimes





appropriation of other methods of communicating, cannot be mechanically or procedurally digested. For each artistic artifact produced, a new language is implemented by both the creator and the audience – and are not necessarily synchronized. The malleable ambiguity that “undefines” artistic practice generates the capacity for embracing and embodying the aggregate in its unadulterated state.

The work of art inherently speaks of and with complexity. A visual image, whether static or mobile or three-dimensional, does not discriminate. Removed from practical applications, these images choose not to control their reception. Unlike words, which have the dictionary as evidence of their purpose and grammar to dictate understanding, images are built upon plasticity, evoking a multitude of responses, all valid. The layers that constitute the meaning in a work of art are of multiple origins: imposed by the artist, invented by the audience, activated by the context of presentation. It is the presence of these layers and the ability to engage in varying relationships that constructs a multiplicity of shared or oppositional spaces – the instability and distance – that creates critical dialogue.

The expansive potential that lies dormant in an artistic work is embedded within the spectrum of human cognition. This palpable and flexible character, so closely resembling the human, resists and abolishes the possibility of a singular resolution. Instead, it finds solidarity in its fluidity. In acknowledging its proliferate inconsistencies and transgressing the pride that compliments the pursuit of perfection within isolated realities, the artistic product is confident and shameless, completely satisfied to occupy the contested space of the infinitely undefinable, the question.

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