

POST-HUMAN//FUTURE TENSE EXHIBITION CATALOG + ESSAYS PH//FT PRESS



POST-HUMAN//FUTURE TENSE

ESSAYS

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EXIT

POST-HUMAN // FUTURE TENSE  
NOVEMBER 1 - DECEMBER 17, 2010

As we enter an era where humanness is becoming an antiquated consideration, what will humanism be in the future of epigenetics, networked communications, artificial media salivation and synthetic biology? *PostHuman//Future Tense* explores this concept through the lens of current graduate students, a contingent who has the unique experience of developing their craft alongside the current technological push. Through the exploration of where technological advancements and digital progress will take society, *PostHuman//Future Tense* awakens a deeper understanding of what it means to be alive today.

Curated by Victoria Eleanor Bradford, Michelle Graves, Nicolas Riley and Nicholas Sagan, graduate students in the Interdisciplinary Arts Department of Columbia College Chicago  
Joined by Jason Salvon, Professor, University of Chicago, John Manning, Associate Professor, School of the Art Institute, and Melissa Potter, Assistant Professor, Columbia College Chicago.

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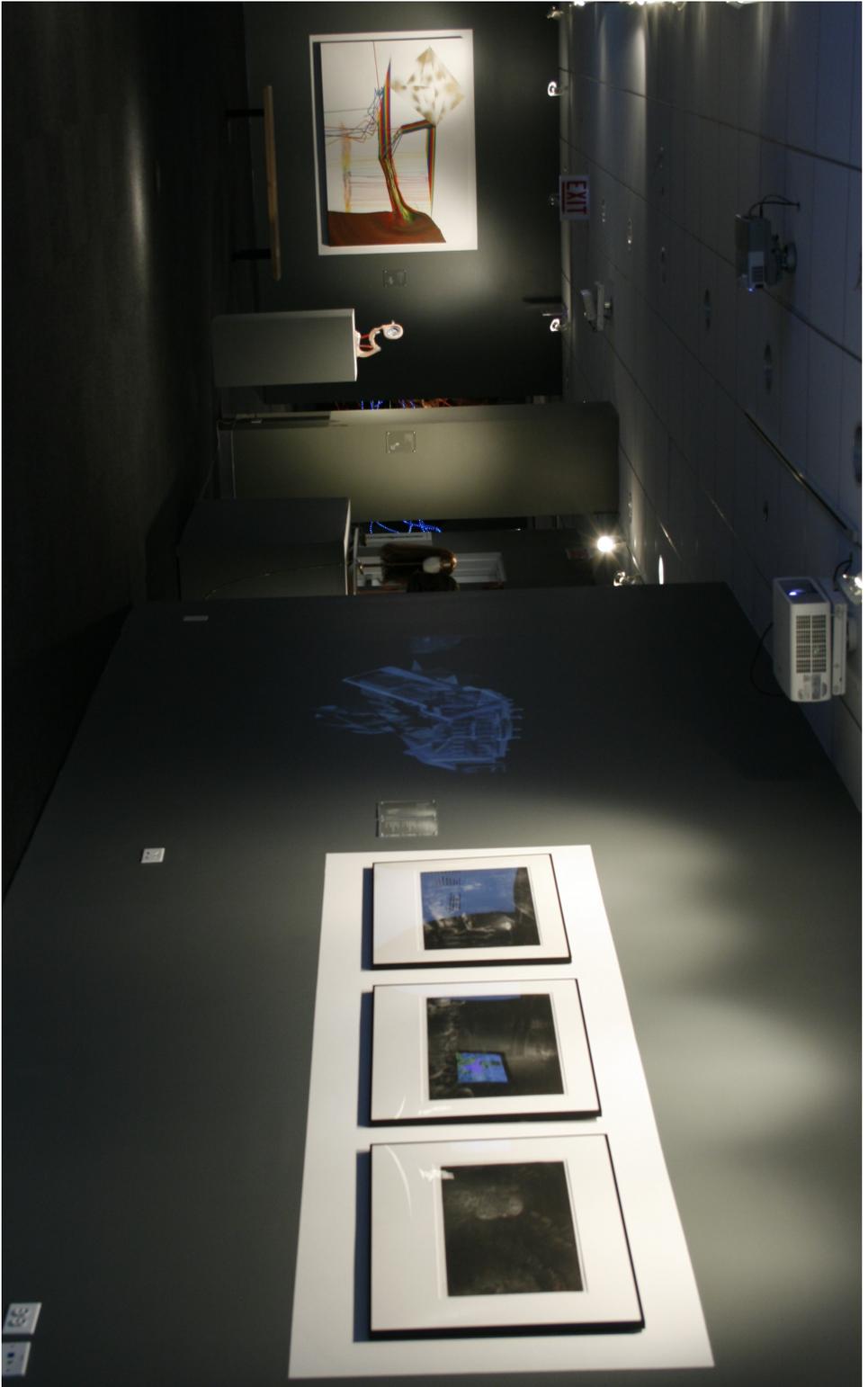
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Department of Exhibition and Performance Spaces, Columbia College Chicago  
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DEPS Mission Statement

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DEPS incorporates the College's curriculum by partnering with academic departments and centers, the urban community and professionals in all fields, merging formal pedagogy with each student's individual learning path. In our commitment to produce the most innovative, distinguished and accessible programs, DEPS addresses contemporary issues concerning the diversity of thought, values and culture.



## Curatorial Statement

### **The Edge of Obsolescence?**

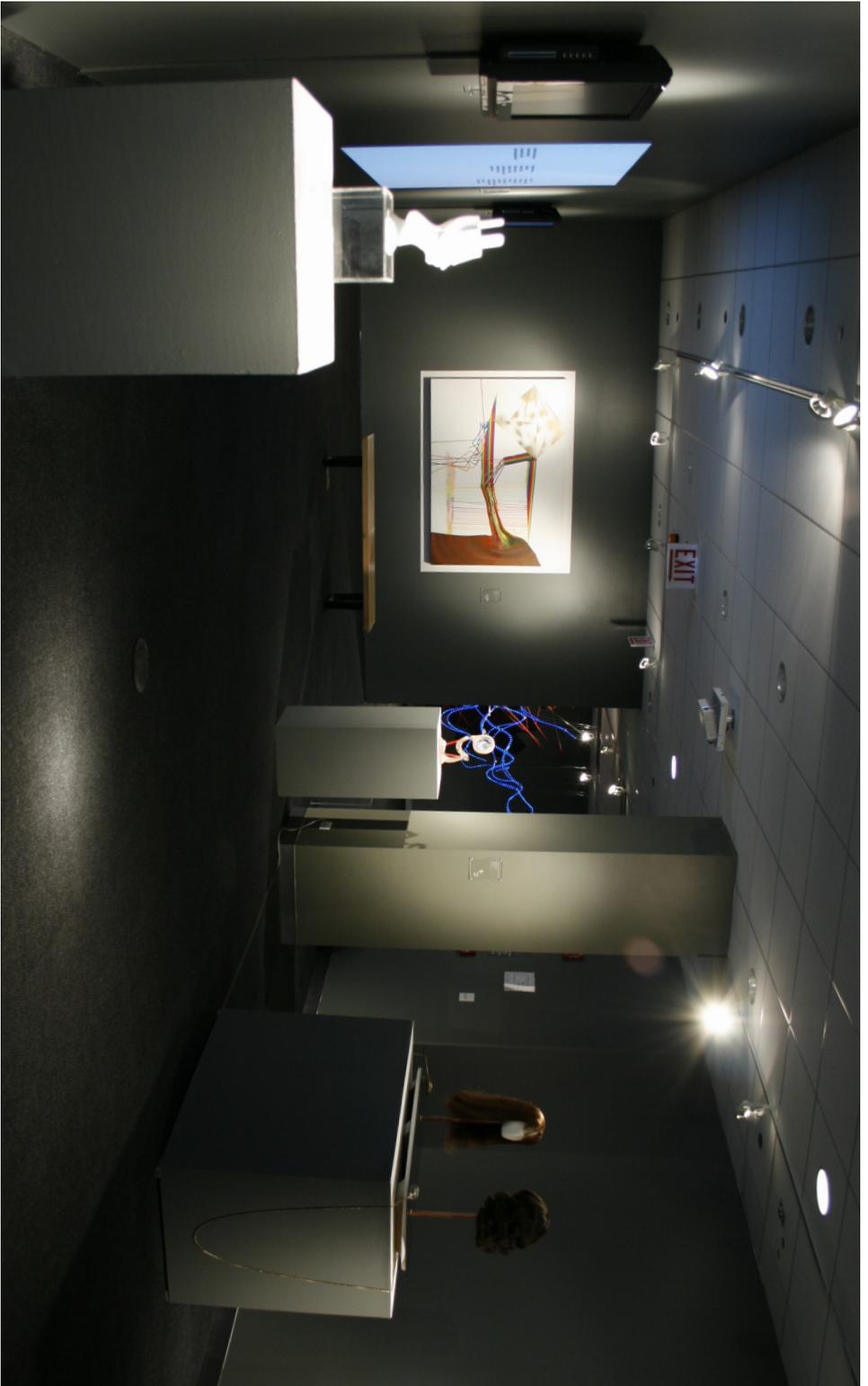
*Nicolas Shawn Ruley, Co-Curator*

You know, when I was your age, we didn't have those fancy computers that would make things that weren't really there. In my day, the artist's hand in their work was clear and their messages commented directly on the human condition and challenged the viewer to accept the world they lived in or change it.

Perhaps this is an exaggeration, but I can't deny that these hyperbolic criticisms enter my head when I encounter art whose technical concerns are so great that they outweigh the conceptual, pushing the humanity of the artist and their audiences toward obsolescence. That isn't to say that advances in new media, bioArt, or other generative and digitally based art forms aren't relevant. On the contrary, I found this tendency in myself to be an opportunity to unpack my own biases on the role of humanness in these and other contemporary art-making practices.

With co-curators Victoria Bradford, Michelle Graves, and Nicholas Sagan, this conversation broadened to investigate the perspectives of other current graduate students who are in the unique position of developing their art practice alongside the current technological boom. As we enter the age that some have considered to be 'Post-Human', how do we as artists engage the very idea of post-humanism without letting the cynical drive us into a place of nihilistic commentary? If contemporary art is a byproduct of the subjective, lived experience, who has the responsibility to assign meaning if the human condition is deemed obsolete? Or are we at a point where humanity is no longer a relevant concern in art?

The Post-Human // Future Tense exhibition allowed us the opportunity to engage in this dialogue with the greater arts community. The artworks and essays presented forego taking an absolutist approach to the subject matter, opting instead to offer varying perspectives in order to allow the audience to participate in making the final decisions on the future of the human's role in contemporary art and contemporary art's role in the human practice.



## Introduction

### **Being-Human as Evolving Memory: art and posthumanism in the present tense**

*Daniël Ploeger*

The term posthuman (or post-human) has been around since cultural theorist Ihab Hassan's essay 'Prometheus as Performer: Toward a Posthuman Culture?' from the late 1970s (Hassan, 1977). Taking his cue from what he describes as the increasing presence of science, not only in the medical world and industrial production processes, but also in everyday consumer products, Hassan explored new perspectives on the notion of humanness. In his allegorical essay, he wonders if the humanist, biological concept of the human as essentially different from animals and machines should be abandoned for a concept which approaches the subject as a more dynamic entity, partly defined by informational patterns. Notably, it took until the mid-1980s before Hassan's provocation was taken up again to be further explored by theorists such as Donna Haraway, Judith Halberstam and N. Katherine Hayles. In her book *How we became posthuman*, Hayles argues that one becomes posthuman as soon as one enters a "cybernetic circuit that splices [one's] will, desire, and perception into a distributed cognitive system in which represented bodies are joined with enacted bodies through mutating and flexible machine interfaces" (Hayles, 1999, p. 193). Thus, a person should be considered posthuman as soon as she starts to communicate with another person by means of, for example, a computer chat program. However, Hayles does not consider the posthuman as a merely cultural construct, entirely defined by informational structures. Rather, she suggests that, in present-day technologized culture, the perception of the body as a culturally defined concept is in continuous interplay with individual experiences of embodiment that are felt and articulated. Therefore, new ideologies of the immaterial body should always be regarded in context of the material conditions that produce these ideologies. As a consequence, the posthuman subject should not be conceptualized as a purely informational structure, but as "an amalgam, a collection of heterogeneous components, a material-informational entity whose boundaries undergo continuous construction and reconstruction" (p. 3).

This notion of a 'material-informational entity' connects to Donna Haraway's argument in her 'Cyborg Manifesto' that, under influence of contemporary medicine, (semi-) technologized production methods and fantasy in science-fiction writing, humans have become cyborgs; "theorised and fabricated hybrids of machine and organism". Notably, Haraway proposes the cyborg as a "creature in a post-gender world" that is detached from the Western tradition of "racist, male-dominant capitalism". In her argument, she draws from feminist theorist Hilary Klein's suggestion that the humanist "myth of original unity" provokes an urge to produce difference, which ultimately escalates in an endeavour to dominate women and nature. Haraway argues that the concept of the cyborg will facilitate a break with this tradition of domination, because the cyborg is

not rooted in the idea of original unity. Rather, it is conceived as a crafted connection between organic and technological parts (Haraway, 2000, p. 70-71).

When looking at artistic explorations of non-essentialist concepts of the human body from the 1980s onwards, the genre seems closely linked to developments in consumer electronics, especially those of the home computer. With the spread of the home computer and the rapid increase of computing power and decrease in cost, an increasing number of artists started to work with electronic representations of the human body and to experiment with 'cyborgian' performance setups that connect to debates questioning essentialist notions of the body. The omnipresence of the home computer from around the mid 1980s might also be one of the reasons why it took until this time for Hassan's concept of the posthuman to gain a wider interest in theoretical debates. As Steve Dixon (2007) suggests in his book *Digital Performance*, the heydays of digital art were in the late 1990s and early 2000s, when artists such as Stelarc, Eduardo Kac and Orlan gained wide publicity for their large scale work with digital media. An almost literal realization of Hayles's 'cybernetic system which splices will, desire and perception' is manifest in Stelarc's *Ping Body* (1996), where part of the artist's body movements are controlled by an audience at a remote location. Stelarc's limbs are connected to electrodes which trigger involuntary movements by means of sending computer controlled electric currents through the muscles. Through the Internet, the computer is connected to a terminal in another city, which can be used by exhibition visitors to control Stelarc's body. Another perspective, which relates closely to debates on a concept of the body as a dynamic entity, not necessarily defined by biological parameters, is explored in Eduardo Kac's *Time Capsule* (1997), in which Kac turns himself into a cyborg by implanting a chip in his leg. Kac subsequently uses this as a basis for conceptual explorations of possible implications of human-machine hybrids. After the implantation, he registered himself as both pet and owner on a website with a database for pets implanted with similar chips. Meanwhile, Orlan's *Self-hybridation* images (1998-2000) clearly connect to Haraway's contextualization of the cyborg within a gender-conscious paradigm: A computer software program was used to alter parts of Orlan's visage according to the aesthetic female body ideals of other civilizations and eras.

In recent years, however, the hype around digital art and 'cyborg experiments' seems to have calmed down a bit. A number of artists, among whom also the author of the influential 1995 book *The Post-Human Condition*, Robert Pepperell, have become sceptical of digital art's ability to engage with issues related to the human body and diverted their focus from digital media in their work. At the same time, several theorists have started to question the relevance of the concept of the posthuman in a broader cultural context. Francis Fukuyama draws from statistical models in a plea for a return to a humanist understanding of humanness, arguing that "[h]uman nature is the sum of the behaviour and characteristics that are typical of the human species, arising from genetic rather than environmental factors" (Badmington, 2004, p.1346) and Jennifer Parker-Starbuck (2006) points out that Donna Haraway's vision of the cyborg as a means "to produce radical feminist affinities", should be questioned, because, decades after its introduction, the liberating promises of the theory still haven't been noticeable in actual socio-political developments. Similarly, recent research by psychologists Wilson and Haslam (2009) suggests that empirical investigations of 'folk psychology' should be taken into account when considering the applicability of posthuman subjectivity

as a cultural concept. They define 'folk psychology' as "a system of shared meaning that organises laypeople's understanding of, experience in, and transactions with the social world." The empirical research they refer to suggests that

[w]hereas the age-old philosophical idea that species are natural kinds, with essential, universal traits has generally lost currency in scientific understandings of human and nonhuman animals, considerable evidence attests to the perseverance of essentialist thinking in folk psychology (p. 257).

However, the posthumanism debate can also be approached from a somewhat different perspective. In a recent study, philosopher Stefan Herbrechter (2009) argues that the question whether the discourse around posthumanism describes a reality in the empirical sense is surely of importance, but that this is not the only issue that should play a role in a discussion on the cultural relevance of the notion of the posthuman. Taking his cue from a Foucauldian concept of discourse and referring to the work of Iain Parker (1992), he defines a discourse as the collection of all texts that concern a certain 'object'. Here, 'text' is to be understood in the broadest sense of the word: as symbolic statements of any sort. All texts concerning a certain object, either affirmative or negative, have in common that they presuppose the existence of the discursive object; When a discourse has been circling around a (real or fictitious) object of discourse by means of repetition, emphasis and insistence for a period of time, this object of discourse will start to function as a cultural political entity of power and fascination and thus gains existence as such. Following this argument, the continuing discourse around 'posthumanism', 'posthumanity' and 'the posthuman' gives these concepts a reality aspect. Accordingly, Herbrechter suggests that artists that propose themselves as '(proto)posthuman subjects' (and thus make 'symbolic statements' about posthumanism which can be regarded as 'texts') exemplify the reality of a form of posthumanity, which functions as an entity of power within the discourse around posthumanism.

Keeping these theoretical explorations in mind, I would like to discuss the work exhibited at *Post-Human // Future Tense*. Already at first sight, this show makes a much more diverse impression compared to the predominantly futuristic approach, centred around speculative proposals about possible futures with technologized bodies, which is apparent in the majority of work from 10 - 15 years ago. Work such as Andy Mattern's *Remotes* – digital photographs of everyday remote control devices for home appliances – and Andrew Wilson's *Virtual Assistance* project, which thematizes digital-network-based outsourcing of work across continents, clearly propose the posthuman as an everyday phenomenon of the present. On the other hand, Chad Smith's *A Plug* – a sculpture of a symbiosis between a human head and a 110V mains power plug – as well as Erin Gee's *Formants* – two eerie looking human head imitations without faces that start to sing when one brushes their hair – present cyborgs and robots from a future the artists would probably not expect (and wish) to ever arrive. Another notable aspect of *Post-Human // Future Tense* is the rich variety of media of the submitted work: Engagement with posthumanism appears to no longer be the exclusive domain of computer and technology oriented artists. The exhibition encompasses work ranging from painting and sculpture all the way to electronic and bio-art. Doug Bosley's choice of a combination of aquatint and etching to depict his crowded, sterile scenarios, which do not include any literal references to futuristic technologies, evokes the uncanny

sensation of historical sci-fi movies and may be read as a subtle critique of the future-telling tendency of many cyber artists. Meanwhile, GRAFT's bio-installation *CCES 002* features a non-human organism, which grows in an artificial bio system. The artists' choice to inquire the interdependence of (human) culture and nature focussing on a plant, clearly departs from the exclusively (human-)animal oriented approach of a lot of work in the 1990s and early 2000s.

There are two aspects of *Post-Human // Future Tense* which I consider of specific interest: Firstly, the aforementioned occurrence of the posthuman in a present tense scenario, which is apparent in a substantial number of the works (maybe the show should have been called *Post-Human // Present Tense* instead...). This seems to indicate a clear shift from the speculative future tense in past work by Stelarc and other artists. Secondly, I am interested in the obvious inclusion of references to popular culture idioms and the contextualization of hybridized bodies in common everyday scenarios which is also clearly observable in the exhibition, particularly in the work by Wilson mentioned above, in Jason Judd's *Automated Google Poems* and, possibly most strikingly, in Micah Bowers' *Mandroid Seduction*. The colourful and cartoon-like cyborgs depicted by Bowers obviously refer to popular culture representations of the cyborg body as highly sexualized and tied in to a web of gender stereotypes. I suggest that both the apparent rise of the present-tense-posthuman and the introduction of the posthuman as complicit in everyday commodity culture may be read as a manifestation of the de-mystification of many of the technologies that were celebrated as revolutionary and thematized accordingly in art and theory in previous decades. The mobile phone and the Internet, for example, used to be perceived as quite spectacular innovations in the 1990s, but have now become a part of everyday life, which is largely taken for granted. The remote controlled computer in Stelarc's *Ping Body* will not evoke much fascination among people who make Skype video conversations or play online games with contacts on other continents on a daily basis and Orlan's *Self-Hybridation* may not appear as impressive to people who use Photoshop to change the weather and correct their own appearance on holiday pictures.

If we recall Hayles's definition of the posthuman, this process of de-mystification may also have another implication which is of relevance here. If one becomes posthuman as soon as one enters a "cybernetic circuit that splices [one's] will, desire, and perception into a distributed cognitive system in which represented bodies are joined with enacted bodies through mutating and flexible machine interfaces", it seems consequent to designate intensive users of social networking platforms such as Facebook and Twitter, online video games, and Skype as posthumans: These technologies seem to be what much of the posthumanist theory and art practice in the 1990s alluded to. Here, a significant difference between most of the contributors to *Post-Human // Future Tense* and artists from the generation of Stelarc, Orlan and Kac becomes apparent: As opposed to the latter, most people in Europe and the US who are in their early- or mid-twenties now, have not experienced adult life without these cybernetic communication circuits playing a defining role in their everyday life. Arguably, they have therefore not experienced becoming posthuman as an adult. This would mean that generations after them, who will engage extensively with these communication technologies at an even earlier age, might actually never consciously experience becoming posthuman in the sense Hayles describes it. Being-human may be an extinguishing memory... As a

consequence, the discourse around posthumanism, as discussed by Herbrechter, would gradually become obsolete as well: Once everybody has become posthuman, what would be the urgency of debating the process of becoming posthuman or defining what the characteristics of the posthuman might be?

However, this all looks like a suspiciously deterministic end-of-history scenario, which seems largely based on the historical relevance we ascribe to the communication technologies that we believe to facilitate Hayles's "cybernetic circuit that splices one's will, desire, and perception". I propose to analyze the role of our perception of these technologies from the perspective of Bolter and Grusin's deconstruction of determinist models and definitions of new media. In their book *Remediation*, Jay David Bolter and Richard Grusin (2000) propose that every new medium will take over the role of an existing medium whilst establishing a promise of improvement upon this older medium. Thus, the introduction of a new medium brings into being an awareness of the imperfection of the older medium it remediates. Until this point, the allure of superiority of the older medium is likely to stay largely intact. When we apply Bolter and Grusin's theory to the development of electronic communication technologies during the past decades, it becomes apparent that the assumption that the current state of cybernetic networking in society would be the endpoint in a process of becoming posthuman, is likely to be no more than an historical illusion. In accordance with Bolter and Grusin's theory, we are likely to develop an awareness of current technology's inchoatedness, once a next generation of networking technology will have established itself. When looking back, the introduction of the telephone into the household around the turn of the 20<sup>th</sup> century, arguably, was a much more radical innovation in everyday communication technologies than the introduction of Internet-based communication and one could surely argue that the telephone is a 'mutating and flexible machine interface' as well. Nowadays, however, we aren't very tempted to classify the introduction of the telephone as a defining moment in the process of 'becoming posthuman'. Likewise, if bio-technology based information systems (or any other new, 'better' medium) become widespread on the consumer market in the near future, we will probably regard cybernetic circuits based on electronic digital communication wanting. The technologies we might consider as defining the process of becoming posthuman now, may be regarded as ordinary human technologies in the future. Thus, I suggest that a completion of the process of becoming posthuman will probably always remain a promise in the near future, whilst our memory of what it was like to be human in the past will be continuously evolving with technologies becoming obsolete. Rather than Hayles's conclusion that "we have always been posthuman" (Hayles, 1999, p. 291), I would therefore argue that *we will always be becoming posthuman*.

Maybe this is what *Post-Human // Future Tense* suggests as well then: The days of the 1990s concept of the posthuman might be numbered. Soon, or maybe already, the digital cybernetic networks that used to be celebrated as a defining step in becoming posthuman, will be regarded as ordinary, human constituents of everyday life, just like the telephone. None of the works in the exhibition feature biotechnology, but the increasing relevance of this field in everyday life experience might well be represented in the de-mystification of the electronics-based posthuman which is apparent in large parts of the show.

Having come to the end of this essay, there is an important last question, which I think should be addressed: If we are never really going to be posthuman, what would be the relevance of the discourse around posthumanism? Why should I care if I am human or almost posthuman, if the computer I am writing this essay on has really become a part of me? On an existential level, I think there is no urgent reason to waste time worrying about this, indeed. However, taking my cue from Herbrechter's Foucauldian approach, I believe the relevance of the posthumanism debate to lie in its function as a platform to critically inquire essentialist assumptions concerning gender and species which underlie much of our everyday life, regardless of whether we call this life human or posthuman. This is also what I think makes *Post-Human // Future Tense* into a fascinating show: rather than showing us grotesque fantasies about the future of mankind, it invites us to a variety of provocative perspectives on how assumptions about humanness are interwoven in the organization of our everyday lives.

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## Cautionary Tale of the Cyborg, Our Posthuman Identity

Nogin Chung

From various comic books and films like *Iron Man*, *Robocop*, and the *Ghost in the Shell*, we have encountered countless versions of fictional cyborgs. Largely based on the initial definition of the cyborg by Manfred Clynes and Nathan Kline in 1960 which refers to a self-regulating human-machine system adapting better to new environments and better-equipped for space travel than human beings, these popular cyborgs have superpowers usually endowed by mechanical parts of their bodies. Whether they are implant/controllers with cybernetic implants that links their cerebral cortex to computers, bio-tech integrators who can reconfigure parts of the body to either a machine or an organic state, or genetic cyborgs like Captain America, they all present a hybrid identity that interconnects human beings and machines.

Inspired by cyborgian images in popular culture, particularly Japanese Anime *Mobile Suit Gundam*'s last episode where robots transformed into cyborgs, Korean artist Lee Bul envisions the cyborg as formidable yet broken in her installation series. One of her earliest cyborg series, *Blue Cyborg* (1997-98) features a headless torso with only a single leg and two hoses that connect its breast and hip to the knee. [Figure 1] Her cyborg is



[Figure 1] Lee Bul, *Blue Cyborg*, 1997-8.

decapitated, severely wounded, dismembered, and almost kneeling. Along with its mechanical armor and severed body, the cyborg denotes military activity and the experience of violence and trauma as most science fiction materials with cyborgian characters focus on war and conflict. Unlike popular culture's indestructible cyborgian images, Lee Bul's version that needs additional supports for sustaining its life seems fragile and frail, negating our conventional notion that the cyborg would surpass human in every capacity.

This cyborg body minus head is a reflection on a sense that the privileged space of the mind and consciousness has long gone, replaced by omnipresent "deus ex machina." With the absence of head, the cyborg here is utterly void of individuality and human control. Only trace of humanity would be its feminized body and overall "S" curve that follow the traditional sculptural idiom of goddesses' bodies to satisfy the male gaze. Hyper-sexuality prominent in this cyborg body is both enhanced and impeded by its blue silicon material. The exuberant blue is visually appealing for its translucency and lucidity. Silicon provides a sensual smooth surface. Yet the very

material that is widely used in medical fields for breast implant and other prosthetic to replace the organic body part for a better function or appearance denotes artificiality rather than originality, materiality rather than spirituality, and machine rather than human. Hence the cyborg body made entirely out of silicon does not guarantee any corporeal sexual pleasure but rejects it through its mechanized material and generates a repulsive reaction as well as that of attraction.

*Blue Cyborg* is, then, more than a simple human-machine symbiosis; it is a figure of hybrid posthuman identity that anticipates and interconnects conceptual dichotomies of masculinity and femininity, perfection and imperfection, strength and weakness, and the past and the future. Constructed through a multiplicity of conflicting sources, the cyborg thus negates the idea of humanist essence and unity. In *Blue Cyborg's* confusion of boundaries and the evaporation of Western dualism, Donna Haraway's unbounded and posthumanist definition of the cyborg stands. According to Haraway, the cyborg is a creature in a world without gender, without genesis, and without end. With the convergence of social and technological forces in its body, the cyborg is an abomination of nature that denies the beginning and end and becomes a maker of its own body. Lee Bul makes this point clear. *Blue Cyborg's* hoses which may symbolize umbilical codes and its dependence on the source of origin ultimately reject the very notion of origin by being interconnected with other body parts and denying a great tale of genesis. Differing from a view of Carey Wolfe who argues man, not the cyborg, is fundamentally a prosthetic creature that has coevolved with various forms of technicity and materiality which have made man what he is, *Blue Cyborg's* focus on self-regeneration seems to demarcate a new ontology.

While Haraway's cyborg is a "condensed image of both imagination and material reality," that enables historical transformation, Lee Bul attempts to reveal the power structure behind the cyborg that is facilitated by advanced technology. The conceptual point of her work is an age-long concept of the effeminate or feminine body that is the object of both attraction and repulsion. The medically-modified, technologically-enhanced cyborg body is, at least in Lee Bul's case, targeting at the gendered notion of the body. Its hypersexualized blue silicon body shows a continuing mechanism of the male gaze and female object and questions who has the power over the use of technology and process of prostheses. While Haraway and other cyber/cyborg feminists have discovered an almost utopian, revolutionary, destabilizing power in the cyborg, Lee Bul seems to suggest that still dominant cyborgian images and concepts in media have not changed much since *L'Horlogère (The Mistress of Horology)* of the 18th century whose highly decorative clock-made body is believed to be an early prototype of the cyborg body. [Figure 2, see opposite] According to Jennifer Gonzales, the clock-woman's mechanized yet exaggerated feminized body shows a stereotypical objectification of female sexuality as her implied space of agency is tightly circumscribed and trapped rather than liberated. The clock body of hers is not a site of new identity formation but that of novel exoticism to male viewers. Likewise, *Blue Cyborg's* plump bottom and breasts almost function as a symbol of new type of fertility--techno-driven life and a docile object of male desire. Despite the fact that *Blue Cyborg* is a producer and a product via self-reproduction, it plays on the gendered depictions of the cyborg with girlish features and its ultimate controller or master who is often a young lad in mainstream manga and anime. There the cyborg mainly imbues the mythological idea of femininity along with hyper-

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[Figure 2] *L'Horlogère*

sexuality and super-power to serve the man and becomes almost enslaved. This male fantasy over effeminized machine and the cyborgian creature has already been explored by such artists as Francis Picabia, Marcel Duchamp, and Hans Bellmer. "Erotic fascination" that female cyborgs can spark has been seen in SF movies like *Blade Runner* as N. Katherine Hayles notes. The cyborg assumes an ambiguous mix of nostalgia for the humanist world and heterosexual male desire, despite contemporary feminist theorists' optimistic findings and conceptualization of the cyborg as a liberating identity that is unfixed and forever oscillating. *Blue Cyborg* cautions us about over-emphasizing utopian aspects of the cyborg since mainstream cyborgian images are still constructed based on the humanist dogma and patriarchal schema that marginalize

woman as beneficiary of medical and biotechnological advancements rather than as benefactor, that downplay woman's agency over the use of technology, that reduce woman's body to automaton. According to Judith Halberstam, "posthumans have been multiply colonized, interpenetrated, constructed as well as paradoxically empowered." Lee Bul shows us that the cyborg can be a creature of liberation but also a creature of subordination. *Blue Cyborg* critiques the state of our ontology that has not fully become posthuman but still shackled to the humanist condition.

The arrival of the cyborg marks the need for the reinvention of identity as an identity constrained by corporeality is outdated in a world of computer mediated communications and simulation technologies, genetic engineering, scanning devices, cloning, and bioelectric implantation. The body has become more machine-dependent medically, cosmetically, and theoretically, transcending our natural organic confines, and we become all too posthuman. Yet the legacy of corporeality within humanist tradition still lingers. Lee Bul's cyborgian body provides a cautionary tale of the cyborg that behind the fascinating silicon blue, the dualism of male agent and female subject against the fluidity of identity looms large. Her cyborg is not a simple utopian or dystopian prophesy, but a reflection on hybridity that the cyborg is a socio-political, bio-technical construct both attractive and repulsive, and a call for accompanying changes in our social behavior. We cannot assume a new posthuman mode of elastic and mobile identity with the liberal humanist experience.

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## Hybrid Voices, Other Bodies

*Erin Gee*

In my art practice I use the human voice to call attention to the absent or truncated human body, presenting the viewer/listener with invisible mouths, tongues, and lungs as altered through electronic process. This has inspired me to embrace artistic creation through a variety of media, including traditionally notated vocal scores, visual scores, video music, interactive sculpture, installation, and performance. My work in visual and tactile media is an articulation of the relationship between bodies of the audience and the body and voice of technological others, mirrors, and familiars. This position uses the visual as a site of resistance against the doubled disappearance of the body in technologically enabled vocal reproduction.

In the first lesson of “Six Lessons on Voice and Meaning”, Mladen Dolar states that the sound of a voice can be singled out from other acoustic phenomena due to its inner relationship with meaning. Each voice is made unique through specific harmonic overtones and timbre dependant upon the shape of vocal chords, colored further by a surrounding visual and tactile resonating chamber—the body. After the voice has left the subject, additional reverberations colour the voice according to the physical space that the body inhabits. These containers within containers for sound are not only acoustic, but also social.

When listening to a performer’s voice, the audience gains important information by regarding the body, obtaining information about the age, culture, and demeanor of the performer, as well as the environment within which the performer is making their music. In an essay titled “The Social Discipline of Listening”, Richard Leppert describes both performance and the act of listening as caught up in the materiality, culture and politics of the human body. Using examples from art history, architecture of the concert hall, and the conventions of musical form, Leppert argues that the visual experience of musical production is crucial to musicians and audiences alike for locating and communicating the place of music within society and culture. This understanding of listening is understood as the result of mediations between ear and eye functioning within a “sonoric landscape”. What is the effect upon the listener when the sonoric landscape contains only invisible and disappearing bodies? The portability of a playback device renders the listening environment arbitrary and user-specific—transporting the listener away from his body, and further still from a feeling of connection with the world around him. These effects mirror those of visually assistive technologies such as the camera and television, commodity objects which French Situationist Guy Debord describe as functioning by substituting images for reality. In response to Debord’s work *Society of the Spectacle* (1967), Philip Auslander observes that in the case of aural perception, the visual acts as a site of resistance against the commodity that divorces sound from evidence of its production. As such, the audio artist has a variety

of aural, visual and social elements to consider, which are given more complexity when integrated with media such as video, interactive installation, or performance. Creative technological bodies and interfaces have power to disrupt normative experiences of technologically enabled listening, calling attention to the absent body of the performer (or composer), or rather, the presence of these bodies through the body of an electronic prosthesis. This uncanny experience creates a useful discomfort, causing the listener to purposefully reconcile the voice with its relatively anonymous technological body. It is with consideration of this psychological tension that I create the majority of my artwork.

My work *Formants* (2008), included in the exhibition *Post-Human//Future Tense* [see page 53], was created in order to compose a song of vanity for an interactive, technological context. Whether this vanity be moral or physical in nature is purposely ambiguous: the bodies of women in the sculpture invite grooming on the behalf of viewers in order to incite an interaction, whereas the resultant song expresses a dichotomous interplay between “good” and “evil” that remains an eternal stalemate in the work. I created the two sculptures of abstracted female faces from fiberglass, and gave each a human-hair wig. The two heads face one another, emerging from a single base/body that has two antique brushes attached to its base with brass chains. When a viewer brushes the hair of the sculptures, switches in the skulls of the dolls react to the presence of the brushes and send a command to electronics underneath the sculpture. These electronics control vocal samples drawn from a database of song compiled through recording sessions with sopranos Lynn Channing and Christina Willatt.

To create this database of song, I gave Channing and Willatt the challenge of locating melodies within their vocal repertoire that they could assign with moral character—Willatt was to find “good” songs, whereas Channing was to find “evil”. What constituted a “good” or “evil” song was left up to the individual singers. These songs were later assigned to each head—the dark haired wig, “Inanna”, sings the “good” songs, whereas the auburn haired head, “Ereshkigal”, sings the “evil” ones. The brushing of hair causes these songs to emanate from speakers within the mouthless heads of the sculptures, creating an uncanny dissonance between the reproduction of an organic sounding voice and its synthetic body. The two heads have the potential to create an infinite variety of harmonies between good and evil based on the attention bestowed upon them by viewers. I selected the action of brushing hair because I imagined the act as intimately subversive but not overtly sexual, challenging and enticing viewers to engage in performative actions that implied a sensual relationship with the machines. As a result, interactions with the machines are meant to inspire the uncanny as well as the delightful, inviting viewers to unpack anxieties and desires that may reside in their own minds regarding gender, technology, vanity, desire, intimacy and touch.

The incorporation of organic source material into this work—the human voice derived from my personal sessions with soprano singers, as well as the human hair wigs—call attention to the psychological relationship between humans and their others as mirrored through dolls and automatons. Here, vanity may be associated with the desire to project one’s human identity onto technology, into anthropomorphisms that offer comfort in a fantasy-laden naturalization of technological experience.

Calling attention to the bodies of my artwork as social and physical amplifiers, I create

voices for choirs of technologically distributed human bodies, presenting flesh and sound as fragmented, isolated, and extended through prosthetics and recordings. My main interest in doing so is to encourage an environment that resists utopic notions of technological environments as zones of intellectual triumph over the fallible human body. The mind/body dichotomy that this fantasy supports is an illusion that separates thought from action, a glamorized passivity that is repackaged and sold to consumers as technologically-enabled freedom. To combat these kinds of illusions, my work emphasizes technological embodiment that reveals (and revel in) uncanny pleasures in technological situations, using the human voice in my sculptures to create liminal spaces between interior and exterior, mind and body. I do not think that technological environments are bad in of themselves, but that a consideration of embodiment and integration with technology must arise from the body as well as the mind: not in a cyborgian fusion of flesh but with a delicate understanding of opposition and differentiation that is at once self and other, mind and body, human and machine.

I find the voice an effective playground for testing these relationships. The voice exists in a diaphanous relationship of opposition and connection that produces sound from within the body and sends it out almost instantaneously. The voice transforms thought from ideal to real through miniscule vibrations that are of the body and controlled through thought. This relationship of opposition, integration and liminality is similar to what one can expect when listening and speaking in technological environments, a position that embraces technological bodies as extensions, windows and mirrors of a subjective, human identity. In order push interactions between notions that are often separated into neat dualistic categories, I make artwork that blurs boundaries between people and machines, sounds and silence, toucher and touched, real and surreal, past and future. This position is forwarded through hybridity, fragmentation, and a consideration of how bodily/sensory distributions are affected by perceptions of time." Due to these electronic distributions these interactions create strange resonances in bodies that are either displaced or invisible. In a bittersweet way I enjoy the tension that emphasizes the different, and see this difference as part of a larger connection rather than oppositional break. This emphasis on the connection of self with other, on continuities rather than categorical breaks, is where I believe the uncanny in my work derives from. My hope is that continued conversations in these areas provide strategies that bring humans not only closer to their machines, but closer to their others. It is my experience that the active confrontation and embracing of this relationship, through visual art or otherwise, offers a most informative and daring kind of pleasure.

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## How Time Became Posthuman

*Nicholas Sagan*

*"To flee the hazards of potentiality, of the future tense, is to flee the movement of life itself."*  
-Eva Hoffman, *Time*

When we consider time in the collective sense there is a tendency to operate within very specific framework of time that directly relates to the human scale. That is, we generally wake up at specific times, spend a set amount of time pursuing professional developments and even regulate our eating patterns according to these schedules and temporal structures. This is not necessarily to suggest that these tasks or schedules are understood as banal, even though they are the everyday, but that they are temporal events that came about primarily through evolutionary processes; time as we come to understand and live in it is based on our human biology. If we first consider [once more] Hayles definition of what marks the posthuman, as engaging with a "cybernetic circuit that splices [one's] will, desire, and perception into a distributed cognitive system in which represented bodies are joined with enacted bodies through mutating and flexible machine interfaces" (Hayles, 1999, p. 193) we can then begin to apply concepts of a technologically augmented or altered sense of temporality.

To understand how this shift in temporal consciousness is an essential consideration to the idea of posthumanism we need to look back tens of thousands of years ago to when the human species' daily life was based more on biological impulses then, say, worrying about using the restroom before getting on the train. As evolution progressed the organization around those impulses grew more complex to the point at which we exist today. We as a species have moved beyond our temporally bound biological limits through the ongoing development of communications and information networks. Now that we are here and mostly exist in the modern day we have developed to a point where we are able to regulate ourselves according to the 'norms' and infrastructure of our societies.

As technologies advance and the speed at which sharing information decreases significantly, experiential time-compression on a social scale begins to emerge. This time-compression effect can be described as the substantial decrease in the amount of time it takes to transmit information from one node to another, those nodes being anything from a person's speaking into a telephone microphone to the inbox of an email account. Looking back across the ages, letters were first carried across the country by horseback, a method that has a very clear biological component. Even when information was transmitted via railway there was still a considerable lag between 'transmission' at point A and 'receipt' at point B. Trains provided a way of compressing time but not to the point of breaking our biological limits. The establishment of a rail system did help move us in that direction by organizing a more collective sense of time; there was no

consistent measure of time from town to town, let alone between railway stops across the country. After a short time of confusion and frustration time zones were established and then 12:05 pm in Tulsa meant 11:05 pm in Tucson and therefore people would not have to stand around waiting for a train all day. (Holford-Strevens, 2005, p.XX)

Steam railways in the United States also happened to coincide, relatively speaking, with the implementation of the telegraph and we then had another means to break our dependence on biological means of conveying any bit of information, even though there was still considerable human resources needed to construct and maintain the infrastructure of both. Rather than a letter taking days to reach its destination, which had the potential to be more detrimental in some instances, the same information a letter contained could then take as much time as it takes light to travel from one person in one city to the next (with of course taking into account minor variables of interpreting and then reading the message). So even in the age of the telegraph and in turn the telephone, information could be communicated at the speed of light (or electricity rather), give or take a few thousand miles per hour. However, not much has changed in terms of the "speed limit" of communications technologies since the 19<sup>th</sup> Century and because of which it is tenuous at best to mark the beginnings of posthumanism there.

Beyond the development of transportation and early communications technology, the Internet is arguably the tool that has helped to actually break our biological limits and serves as a prime example of how the technology we have created moves us beyond not only physical limits, but the psychological boundaries of time as well. While it could almost be considered a flagship of a growing posthuman culture, it is still essentially a component or rather symptomatic of a much larger paradigm shift in our temporal consciousness. People wanted information to be conveyed almost as instantaneously as it was conceived and the Internet was developed with such a purpose in mind. Since such communication methods now exist and have the capacity to operate at the global scale, the biological temporal framework of the individual is now a subject of thought more than matter.

Individuals whose daily lives integrate with technology are reallocating the potential of an individual from the biological to the psychological which allows for the existence in not only a compressed personal temporal framework (think of instant messaging with someone who could be half a world away) but allows that person to exist in multiple temporal-spatial frameworks. A stockbroker who works at the scale of the global economy not only has to be aware of changes in the US market, but also has to pay attention to other world markets such as those in Tokyo and London (Hoffman, 2008, p.172). All three of these cities are located in very different time zones and as such operate in frameworks relatively different to one another. Day in New York is nighttime in Tokyo and London is right in between. To mentally exist in all three of these locations almost necessitates a dependence on communication technologies, something that brings us out of humanist and biological thought and scale into the posthuman.

This emerging paradigm shift in temporal consciousness is happening just as much in how we *think* about time as it is in the ways we *operate* within the various structures of time. Phenomenology asks us to consider that we come into this world with a specific mode of thought aimed towards the understanding of the world that we have

come to. That is, our patterns of thought are designed to fit this world we collectively exist in and vice versa. This means that whatever evolutionary processes effect and guide our biology has also influenced our psychology of time. However, Merleau-Ponty in particular argues that we construct our own perceptions of time not through thought alone, but through 'motility and action' (Hoffman, 2008, p.66). Even though evolutionary processes somewhat dictate our decisions concerning how we manage time, we can ultimately choose to work against our own biology's temporal boundaries. It is ultimately in our nature to continue to explore and push the boundaries of our experiences, and pushing our temporal biology is no different. Even the physical and psychological ideas of death, a temporally based inevitability for all living things, is being fought against with the armaments of technology. (Broderick, 2009, p.56-8)

If every decision we act upon, especially ones involving or utilizing technology, secures an instant or moment in our personal temporal framework and by extension those who are affected by such events, then technology surely plays an integral role in how we construct our own timeframes. The more we incorporate technology into our daily lives the more our decisions and actions have to deal with technology and as our biological limits are not only pushed but also surpassed, we push our modes of thought into more virtual spaces and constructs. Whether or not I choose to send an email at 11 a.m. or 1 p.m. is not a decision that needs any sort of biological consideration, unless there is some dire medical emergency that keeps me occupied for 2 hours. That temporal potential is rooted in my actions, or choice of which time to send the email and the results of my decision exist in a virtual state (somewhere in the vastness of the internet). Whether or not the recipient of that email chooses to read it at 11:05 a.m. or 1:05 p.m. or leave it 'in limbo' for days is not really the issue. It is a matter of the temporal framework in which my decisions and actions exist, both physical and virtual.

Let us reconsider the example of the horse-carriage letter carrier. This time there are other elements beyond biological considerations. As previously stated, there is essentially a form of time-compression when one speeds up travel between the origin and end points of a messages path and we know from Einstein's Theory of General Relativity of this thing called Space-Time, a single continuum where the three dimensions of space and a fourth, in this case time, exist together and whose forces effect each. So now consider the act of looking at any two-dimensional map. There is almost always a measureable distance between point A and point B (send and receive points of a message) meaning that there is always some length of time involved in the physical transiting between the physical places those cartographic points represent. However, when you are looking at the map (consider this act the virtual map) the 'message' can exist at both points simultaneously. Of course, this example is just a 'virtual' construct so simultaneity can function however we design it to. In reality simultaneity is merely an illusion; something cannot not exist in two places at one time.

Perhaps the illusion of simultaneity is all we really need to move past our physical and temporal limitations of thought. Emergent technologies, especially those that virtually connect to one another happened to be really good at this time-compression mentioned earlier. There are essentially two things that happen the more the time between two events is compressed; distance between points A and B is decreased due to the speed at which the message between the two travels. So the faster modern communications

systems become, the more they compress time (and therefore distance) but what is really happening is a *slowing* of time. The more time slows between two events, the closely they will appear to unfold almost to the point of simultaneity (Radiolab, 2007).

Time-compression as a daily practice through the means of technology does raise some interesting questions about what the ultimate goals of this integration should be. Is the goal to pack more and more amounts of 'data' into our ever-elongating lifespans, essentially creating a quantity over quality argument? Does technology in the posthuman sense really serve to limit biological entropy or add to it? Consider the first question: what are the qualities of living that are improved by this 'real-time, real-life data compression'? It seems that if we are falling into patterns of behavior that do this, we must be even more conscious of how our decisions effect not only our immediate selves, but how they effect events in the future. In this way the posthuman struggle of biology versus technology is a question of understanding the idea of deep time, something that exists quite beyond the human scale. While technology we encounter daily does not necessarily give us a sense of deep time, the scientific instruments we have created do, such as the Hubble Telescope and the Chandra Array, both of which image objects and events that existed millions of years ago relative to our experience of them. While there are some groups of people, such as the Clock of the Long Now Foundation, who work towards a more public awareness of deep time, by and large daily technology is the thing that temporally locates individuals (Brand, S., 1999).

In some ways the more we digitize our lives and the more we come to rely on technology as a means of communication and engagement with the world the more we rebel against our natural biological state. However, every rebellion comes about because of the tension between the status quo (biology) and the minority (technology). Whether or not the posthuman rebellion against our own biology will ever resolve is not the issue; this struggle is more a question of pushing the understanding of what it means to be human at the same time we push technological boundaries. As long as we remain as mortals, or even if we approach a 'near-immortality' through technology and medicine, there will still be that ultimate biological limit. To echo Daniël Ploeger's words from earlier in this catalog, "we will always be becoming posthuman" and our concept of time will evolve in step with that ongoing process (Ploeger, 2010, p.13).

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## **Synthetic Biology and the Emotions (after Charles Darwin)**

*Debra Swack*

### **ABSTRACT**

Rapid changes in science, technology and new media will lead to more sophisticated ideas about what it means to be human, in thought, body, emotional response and artistic expression. New relationships will form between humans, machines and animals with the human functioning as a networked resource that can be accessed globally over the internet.

Genetically emotionally or otherwise enhanced individuals could become the fashionable norm; synthetic biology could replace plastic surgery, with the further complication of not knowing where those genetic modifications will take them as individuals or us as a species.

This paper documents both the technical and theoretical development of the collaborative interactive new media video project "The Emotions (after Charles Darwin)" which explores some of the above concepts. "The Emotions" first tries to establish the existence of the universality of emotions at a biological level, as empirically measured and documented by the results of the control group (non-autistic subjects, as the goal is to document "normal", i.e. universal emotional response) at the Brain Mind Institute in Switzerland. Secondly, it suggests the potential for subsequent futuristic misuse through genetic and or technological modification (demonstrated by the observer's ability to interactively modify or transform a given emotion's video stream at will).

### **INTRODUCTION**

Princeton's WordNet web dictionary defines universal behavior as a "convention or pattern characteristic of all members of a particular culture or of all human beings; some format of religion seems to a human universal."

Donald E. Brown, an anthropologist, shares that view and believes that certain behavioral traits including facial expressions of emotions are common to all humans irrespective of culture. He compiled a list of approximately 400 behavioral traits and their implications that is included as an appendix in Steven Pinker's book *The Blank Slate: the Modern Denial of Human Nature*. For example "ambivalence is meant to suggest that males engage in more coalitional violence" and "the facial expression of anger suggests rape proscribed."

Although Darwin was incredibly prescient in his discoveries about what role the nervous system might play in regulating emotions, developments in neuroscience did not begin

until well over a 100 years later, partially due to the lack of sophisticated recording and analytical tools such as neuro-imaging and computation made easier, enhanced through software algorithms and applications executed on computers.

This co-mingling of previously unrelated and seldom overlapping disciplines means that new media itself, its practices, applications and theories will continue to be in constant flux and development. It used to be standard practice in beginning art classes to ask what is art? But now the question is not only what is art, but who or what makes art (i.e., sometimes art now takes on a life of its own, extending beyond the control of its creator).

For example, the interactive new media video project “The Emotions (after Charles Darwin)” attempts to prove the universality of emotions by transcending cultural categorizations such as species, race, age and gender and instead relates emotions to their neurobiological origins and functions. It further suggests that once empirically known, that this information can be used to genetically or technologically alter human emotion(s) in individuals or groups to create new beings or new emotional interiors that better conform to culturally desirable behaviors. This of course raises bioethical questions about the future nature of life for humans and animals; the embodiment and containment of the self and its symbiotic integration and enhancement with technology and machines.

“No Longer is human existence defined by its unique temporal and spatial coordinate; one body, one life in a specific space and time. Instead human life is increasingly defined by the agential, instrumental deployment of resources for bodily renewal, both its temporal and spatial context subject to extensions or translocations”, according to Susan Merrill Squier, in *Liminal Lives: Imagining the Human at the Frontiers of Biomedicine*. As Joanna Zylinka states in her book *Bioethics in the Age of New Media*, “This is by no means to suggest that the human has been reduced to information in the age of new media and that we can therefore do away with embodiment; it is only to point to the emergence of new discourses of the human which undermines its centering around some fixed biological characteristics or moral values.”

She adds, “The human does not disappear from the kind of nonhumanist bioethics envisaged here: in fact, it functions as its strategic point of entry. What we are dealing with, however, is not so much a “human being” understood as a discrete and disembodied moral unity but rather a “human becoming”; relational, co-emerging with technology, materially implicated in sociocultural networks, and kin to other life forms.”

Neil Badmington in *Alien Chic* talks about how recent trends in techno-science have unsettled post humanist critics. For example he talks about how Donna Haraway’s “Cyborg Manifesto (1991)” first deconstructed humanist relationships such as organism/machine, reality/fiction/human/animal, physical/non-physical and self/other and replaced them with chimeras; cyborgian fabrications of machine and organisms. He goes on to say that the latest trend in post-humanism seems to involve merging with animals, which ironically was not a concept alien to Darwin 140 years ago when he studied, documented and sought to define similarities with animals’ emotions and our own.

Badmington quotes numerous television and news reportage from Newsweek to Nature, who discovered that reason, tool use, tool making, altruism and language are not unique to humans, neither I might add, is making or performing music (last year I presented “Birdsongs; the Language Gene”, in the “Sonic Fragments Soundart Festival” at Princeton University which digitally reconfigures bird songs into human music).

## **DARWIN AND NEUROSCIENCE**

Over a hundred years ago, Charles Darwin theorized that the universality of emotions existed in humans and animals at a biological level. He posed questions such as can we feel happy, sad or fearful when we are alone or are emotions a unique result of being with others in a social situation? He suggested that the reason for the universality of emotions was due to an underlying biological basis that communicated our needs to others. We experience an emotion and specific areas of the brain send signals to specialized muscle groups that respond to communicate our feelings.

Darwin believed that the following principles were responsible for most of the expressions and gestures involuntarily exhibited by humans and animals while experiencing emotions: habitual actions initiated by certain states of mind in order to relieve or gratify certain sensations, habitual inverse actions initiated by the exact opposite states of mind and actions initiated by the nervous system mostly independent from both will and habit.

In post Darwin times, scientists study what regions and chemicals in the brain control different emotions and if these regulators can be modified to elicit alternative results. For example, emotions are studied to determine their affect on the immune, cardiovascular and endocrine systems. There is also the possibility for misuse, what if we could invoke certain emotions in people at will through a drug or by permanently or temporarily altering structures in their brain? Perhaps at the same time we could remove their ability to feel remorse or guilt. Could this form of genetic intervention be used randomly against individuals or during war-time to induce people to commit violent acts?

The neuroscientist Joseph Ledoux says the brain has not evolved to the point where connectivity exists for cognitive systems to control our emotions. But even so, he says that wouldn't necessarily be good, because Mr. Spock (a character lacking in human emotions from the 60's TV show Star Trek) may not be an ideal kind of human that we'd like to become. Additionally, Ledoux talks about futuristically controlling undesirable emotions such as fear through drug regulation, stating that once we can identify the neurotransmitters that are involved in producing fear, we could create a chemical profile of fear in the amygdala and then develop a drug to attack it.

The amygdala is an almond-shaped structure in the frontal portion of the temporal lobe near the hippocampus in the brain that allows us to both feel and perceive negative emotions. It regulates our reactions to events that are important for survival such as the presence of danger, sexual partners, enemies, food and those in need. The amygdala works as a system with other related structures because unique sets of regions in the brain are connected to each other and work together to control different emotions. It also plays an important role in emotional regulation and studies have shown that

emotional disorders can manifest themselves both functionally and structurally (it can become asymmetrically enlarged in depressed individuals). Patients who have had their amygdala destroyed due to stroke are able to recognize all emotions expressed by facial expressions except for fear.

The amygdala's connectivity with the neo-cortex is also not symmetrical; the amygdala's connection to the neo-cortex is much stronger than the neo-cortex's connection to it (as shown in David Amaral's studies of primate brains), which in part explains, according to neuroscientist Joseph LeDoux, why emotions are often hard to turn off once initiated. The body also releases hormones and long acting substances at the exact time that we experience strong emotions. Additionally, there is a relationship between the visual system and emotions. In *The Expressions of the Emotions in Man and Animals*, Darwin talks about the importance of visual cues when seeking mates, prey and avoiding danger, therefore it's not surprising that studies show that the visual cortex is more activated in response to visual emotional stimuli than visual non-emotional stimuli.

Darwin acknowledged individual variance in emotional reactivity due to differences in development (for example he noticed that insane persons had strong passions which they openly expressed). But he never addressed the idea of emotion regulation which didn't come into being until the development of neuroscience a hundred years later.

Davidson defines the study of individual differences in emotional reactivity and emotion regulation as affective style consisting of the threshold to respond, the magnitude of the response, the rise time to the peak of the response, the recovery function of the response and the duration of the response. The duration of emotional responding is important in understanding individual differences and can also indicate psychopathology since some mood disorders are associated with either an abnormally early onset or inability to turn off a response quickly enough.

## **THE EMOTIONS**

"The Emotions" is a multi-channel interactive video where each of four panels will display close-up graphic, moving images of men, women and children of all ages and races, expressing a specific emotion such as happiness, sadness, fear or anger (categorized as such by the results of the control group). Each panel's images will morph/blend to form a continuous stream of soundless images whose emotion will not be identified so as to allow the viewer the ability to form their own conclusion as to what emotion they feel is being expressed (which will also test the universality of emotions).

A fifth panel will record live audience reaction/ participation at the actual site of the installation in order to test mirroring behavior of the emotions displayed in the other four panels. Additionally the observer will have the ability to interactively modify, convert or morph emotions; demonstrating a futuristic ability to alter emotions genetically and or technologically at will. "The Emotions" is a collaboration with the Brain Mind Institute in Switzerland whose experiments done using my photographs validates their universality as images of specific emotions and forms the basis for the video.

Shortly after "The Emotions" was accepted into the New Media Collection (Rhizome) at  
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the New Museum, I was contacted by Britt Russo, a neuroscientist who had seen the project posted on their web-site. She asked me if I would be interested in collaborating with her lab at the Brain Mind Institute in Switzerland and would allow them to use my photographs for emotion perception research in autistic subjects. The lab had never used photographs from life before, only those of staged actors. In return they would present my work at international meetings and publish it in scientific journals. Although the lab wanted to use my photographs for research in autism; a neurodevelopmental disorder that impairs social functioning, I knew I would be primarily interested in the results of the control group as I wanted to document what was perceived as “normal” or “neurotypical” response and therefore universal, not the responses evidenced solely in autistic patients. However I thought that I might learn more about emotional response in general; its measurement and analysis by including the observation of autistic patients since I had the opportunity.

At the first meeting I had with Britt in Manhattan in the third week of December 2007, she informed me about the institute and its practices. The Brain Mind Institute was considered a world-class research facility for neuroscience whose goal was to synthesize and create a knowledge base by advocating a multidisciplinary approach across disciplines and by linking different research laboratories.

As taken from their web-site: “The mission of the Brain Mind Institute is to understand the fundamental principles of brain function in health and disease, by using and developing unique experimental, theoretical, technological and computational approaches. The scientific challenge addressed by the BMI consists in connecting different levels of analysis of brain activity, such that cognitive functions can be understood as a manifestation of specific brain processes; specific brain processes as emerging from the collective activity of thousands of cells and synapses; synaptic and neuronal activity in turn as emerging properties of the biophysical and molecular mechanisms of cellular compartments.” The group that I would be working with was headed by Dr. Nouchine Hadjikhani; a specialist in neuroimaging.

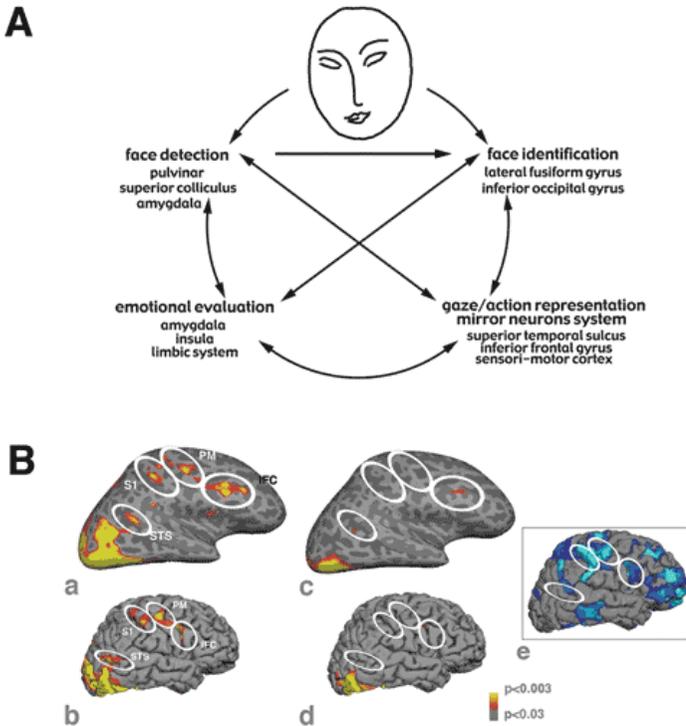
### **Testing at the BMI Lab**

In the lab, functional magnetic resonance imaging (fMRI), Electroencephalography (EEG) and magnetoencephalography (MEG) were used to visualize brain activity and electromyography (EMG) was used to measure facial muscle activity of autistic subjects while they viewed images of human emotional facial expressions (autistic people display different brain activity patterns and facial muscles reactions than normal or “neurotypical” people). A Tobii eye tracker was used to trace the path of the subject’s eyes, while they viewed images.

According to Dr Hadjikhani’s research, autism was thought to be related to the dysfunction of the mirror neuron system that plays a critical role in the perception of other people’s intentions including empathy. Autism Spectrum Disorder (ASD) is a behaviorally defined neurodevelopmental disorder of early onset whose subjects suffer from a social disability that profoundly affects their ability to understand other people’s feeling and to establish reciprocal rewarding relationships. The disorder manifests itself by exhibiting restrictive and or repetitive interests and behaviors. Persons suffering

with ASD typically fail to engage in social interactions because of an inability to correctly interpret facial expressions and their meanings. Abnormalities in face perception (crucial to social-communicative competence) and the accurate identification of the deficient components of the face processing system are essential to the understanding of ASD.

The lab's primary area of study was the functional and structural integrity of the social cognition network as it relates to autism and also the amygdala's connectivity to the mirror neuron system (Figure 1).



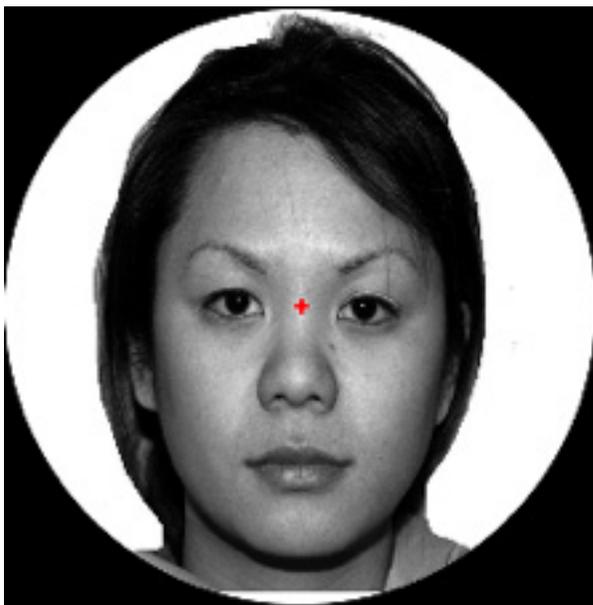
**Figure 1. Social Cognition Network**

A. Elements of the network exert reciprocal influences on each other. Face processing deficits can arise from the dysfunction of one or more elements of the network and to or from each element's termination.

B. During face perception, the face identification system is activated in both healthy controls and in individuals with ASD when cued to look at the eye-region. However, face perception also activates areas of the MNS (see a and b) in healthy controls but these same areas remain quasi silent (see c and d) and exhibit a thinner cortex (see e) in individuals with ASD. The face processing difficulties exhibited by ASD individuals could be due to the dysfunction of the MNS.

In summary, the lab's studies showed cortical thinning of the mirror neurons system and an abnormal recruitment of mirror neurons areas during face perception as well as abnormal temporal activity in face-processing areas. They had also disproved a popular theory that said that autistic patients were lacking in the brain area devoted to face identification, opening up new therapeutic strategies and areas of inquiry.

Image Preparation Britt sent me instructions on how I needed to prepare the photographic images for the MRI scanner experiments (Figure 2) to be performed by the autistic subjects and the control group (I would later extract the results of the control group and use them for my video). The goal was to make the photographs neutral and uniform in appearance, displayed with minimal luminance and no distracting background elements.



**Figure 2. Modified photo for fMRI experiments**

Each image was cropped from the hairline to the chin and formatted so that the eyes were always in the center of each photograph, therefore the autistic person did not have to move their eyes in order to focus on a red fixation cross while in the MRI scanner. Dr. Hadjikhani had discovered that by placing a red fixation cross in the center of each image and telling the subjects to focus on it while in the scanner that the fusiform face area was activated in autistic brains, just like it was activated in non-autistics. Earlier studies had failed to show activation of the face area in autistics probably because they weren't actually looking at the faces in the photographs.

The lab at first wanted me to mask out the backgrounds but then decided that they wanted to test (using an eye tracker) what part of the photograph the autistic person spent more time looking at; the faces or the backgrounds. Previous studies had found that autistic persons spent more time looking at backgrounds than at faces in photographs.

They also performed experiments comparing responses to the staged photos of actors used by the lab with my photographs from life using magnetoencephalography (MEG) to visualize brain activity.

I adapted a lot of the lab's methodology not only in the way I prepared images for their experiments but also how I planned to later group (according to the results of the control group), animate and display them in the video. I wanted my images to appear as objective and scientific as possible. For example, I also centered the eyes in the images but instead of completely masking out the background in my photos as the lab did, I achieved a similar but more naturalistic affect by tightly cropping the images and minimizing any unwanted background distractions.

Luminance could be contained by creating an adjustment layer in Photoshop. I planned to import the photos as an image sequence into Photoshop Extended and convert the images to video layers in order to edit them. I also created and applied displacement and particle maps in Photoshop and After Effects to create subtle movements and blending from one image to another and outputted the files to Flash in order to create behaviors for looping of the four separate videos. For the fifth channel I planned to hook up a digital camcorder to a projector to capture possible mirroring behavior and to also allow observers to interactively modify, convert or morph emotions. I sent Britt a color-coded schematic of what I envisioned for 4 channels of my video consisting of the emotions happy, angry, surprise and sad. I wanted to relate each photograph graphically and logically to a specific emotion (Figure 3).



**Figure 3. Color-coded Schematic for “The Emotions”**

The lab typically used black and white photos for their testing but decided to use my color images in an eye tracking experiment. They could then later convert them to black and white and flatten the luminance if needed (as previously shown to be necessary in early eye-tracking experiments) if the autistic subjects were distracted by the glare unavoidably caused by high-contrast lighting situations.

Britt sent me a schematic representation of Plutchik's color-coded “Emotional Index” which was comprised of eight basic emotions arranged as four pairs of opposites and their increasingly less intense variations (Figure 4). Plutchik believed that emotions were evolutionarily adaptive and part of a process involving both cognition and behavior. The cone's vertical dimension represents intensity and the circle represents degrees of similarity among the emotions.

She had the control group categorize each photo by choosing one of the words from the entire diagram instead of just limiting them to one of the eight basic emotions because she thought that would generate a more accurate rating given the subtlety of

some of the photographs that I sent her.

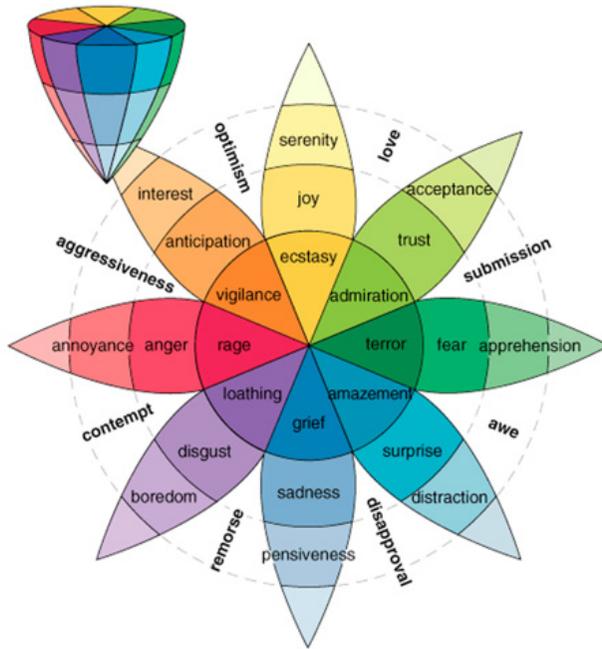
After the Plutchik test, an eye tracking pupillometry study would then be conducted on the control group subjects to systematically rate each photo by its emotional intensity; from bad through neutral through good. I could then select images by emotion and or emotional intensity to be used in the video. For example I could select faces that were rated high intensity (terror), medium intensity (fear) or low intensity (apprehension). Additionally by using Plutchik's Schematic I could relate each emotion for the video not just by emotional category and or intensity but also by its associative symbolic color as it appeared on the chart.

According to *The Handbook of Psychological Testing* by Paul Kline, Plutchik's Emotional Profile Index is based on eight basic emotions which are joy, acceptance, surprise, fear, sadness, disgust, expectation and anger. Individuals choose from pairs of personality traits that describe them and each trait results from combining two or more primary emotions (i.e. shyness implies fear; gloominess implies sadness). The results are then plotted on a circumplex arranged according to similarities and bipolarities.

A fMRI study was performed after rating the photographs by emotional intensity. Other considerations were evaluating direct versus indirect gaze, group make up and image order. The lab administered Oxytocin and using the eyetracker, found that Oxytocin reduced the activation of the amygdala while viewing photos of direct gazes, from neutral unfamiliar faces. This enabled the participants to feel more relaxed; which increased their amount of direct eye contact. In previous studies (Guastella, Mitchell and Dadds, 2007) Oxytocin was shown to greatly increase gaze enhancement to the eye region (the focal point for emotion, threat and interpersonal interest) which enabled participants to better detect emotions in others.

The lab sorted my photographs into direct and averted gaze because the brain responds more dramatically to direct gazes than averted ones. They were also grouped into children and adults. Two sets of images were created (so the lab could experiment with the same group of subjects but use a fresh set of faces) that were balanced in terms of age, sex, emotion and intensity.

A small pilot study was conducted to look at the possible effects of image order on each subject's ratings. If presented one at a time, then ratings could be unduly influenced by the previously presented photo, for example, a mildly sad photo following an intensely happy one might be thought of as more intensely sad than it would be if presented by itself. If this proved to be the case, an entire set of photographs could instead be presented simultaneously, and each subject would be asked to rate individual photos relative to each other. There were disadvantages to this method but at least the lab would have a whole set of photographs that would be internally consistent.



**Figure 4. Plutchik's Emotional Index**

The order in which the photographs were presented was found to affect a perceived emotion's intensity. I would make the video accordingly, being careful to place photographs with similar ranked emotions and intensity ratings together contained within an individual video channel, which would have the affect of displaying a group of related photos simultaneously as described in the pilot study.

Additionally the lab was thinking of adding a self-recognition test into the protocol (it has been suggested that autistics have self face recognition deficits) by randomly inserting photos of the subject brought in from home and also by presenting new ones that the lab would take themselves but that the subject wouldn't see before the experiment.

The idea of the self recognition test reinforced my idea about including a 5th interactive "self-recognition" video channel (by hooking up a digital camcorder to a projector at the exhibition site) to record live emotional reaction including possible mirroring behavior and to allow the participant to be part of the experiment. Additionally the observer would have the ability to interactively "intensify, convert or morph emotions"; demonstrating a futuristic ability to modify emotions genetically and or technologically at will.

The "Intensify Emotion" command would use a slider to make emotions appear more intense. This would be achieved by interactively applying behaviors/animations globally to a specified video stream by using After Effects/Flash software (animations would be achieved by creating frame by frame parent/child relationships affecting the eye and

mouth regions). “Morph Emotions” would utilize a program/behaviors that scrambles all four channels simultaneously by selecting and replacing video content from each of the four channels at random. “Convert Emotion” would allow the user to morph any stream of emotions into another by creating parameters that would select and replace video content from one video stream to another. The original color filter associated with Plutchik’s color coded schematic would be applied to the new video stream, maintaining its original Emotional Index categorization reference point.

The lab decided to organize an open-house of talks and presentations for the public to celebrate the first World Autism Day on April 2, 2008, as instituted by the U.N. They teamed up with two other autism labs, one that worked with rats and other with robots. They hoped that it would generate more research subjects and also enlighten the public about autism. The lab’s areas of research (including the brain areas studied) and my collaborative role are graphically summarized in Figure 5.



**Figure 5. Hadjikhani Autism Lab**

## **CONCLUSION AND FUTURE WORK**

We finished corresponding in the summer of 2008, as the research was completed and my photographic images were categorized and documented by the control group. Throughout our correspondence, I had Britt send me any relevant documentation on what her group under Dr. Hadjikhani was researching; the technological and computational tools used to both measure and record experiments and their theoretical methods, applications and implications. The photographs that I submitted to Britt were spontaneous photos from life, never posed and taken well before I had ever thought of doing the project (so I never associated any of them with a particular emotion). They were pretty objective, the only issue being that the person being photographed was sometimes briefly aware of my presence (the lab previously used only staged photographs by actors for their testing).

In conclusion the interactive new media project “The Emotions (after Charles Darwin)”;

a multi-channel interactive video consisting of multiple panels displaying close-up graphic, moving images of men, women and children of all ages and races, each expressing a specific emotion such as happiness, sadness, fear or anger (as categorized by the results of the control group) supported Darwin's ideas about the universality of emotions on a biological level.

A strong relationship was shown to exist between the control group's rating and ranking of each image's emotion (as determined by Plutchik's Emotional Index) and emotional intensity as determined by the battery of tests including pupillometry eyetracking after Oxytocin administration, functional magnetic resonance imaging (fMRI), Electroencephalography (EEG) and magnetoencephalography (MEG) to visualize brain activity and electromyography (EMG) to measure facial muscle activity.

So far emotions appear to be universal at a biological level which futuristically suggests that now that we know that, how can we modify them to elicit more desirable behaviors? Does the intensification, conversion and morphing (induced by the application of random software behaviors) of universal scientifically determined emotions used in this project bring up suggestive ideas about genetic and technological modifications of emotion regulation of the future?

In *My Mother was a Computer* by N. Katherine Hayes, she states "where the Holocaust and other atrocities provide horrifying examples of humans not counting as persons, intelligent software packages offer the spectacle of bots being mistaken for human interlocutors." She later states that "we are both in the world and of it- a truth that becomes only more inescapable as we create machines in our own image and envision ourselves as computational mechanisms like them."

Although acceptance and performance of universally endorsed behaviors and characteristics are necessary for all peoples and animals to effectively communicate and co-exist within groups, one of the primary dangers in proposals such as "The Emotions" is that if we were to use the results of the control group to develop a range of acceptable universal behaviors and then genetically alter subjects emotional capabilities like a plastic surgeon would so that they conform to them using synthetic biology and other appropriate methods, there may be unforeseen and equally undesirable consequences or dangerous side effects; both for the individual and for us as a species.

Ongoing work would include the exploration and visual interactive representation (perhaps using game theory, robotics or artificial intelligence) of emotion regulation and control through the implementation of one or a combination of drugs, genetics or technological enhancements.

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## Curator and Contributor Biographies

Victoria Bradford, curator  
*School of the Art Institute of Chicago*

Victoria Eleanor Bradford is an artist, researcher and performer currently living in Chicago, IL and pursuing an MFA at School of the Art Institute of Chicago. Her work consists of taking personal experience—such as her reign as a Mardi Gras Princess in Louisiana—and grounding it in others' words, stories, and imagery. Through the use of historical and anthropological research methods as well as intermittent chance operations, Victoria brings together visual, performance, and literary interests, creating performative work rooted in a practice of research and writing. She co-founded and directed a community arts non-profit, worked in cultural administration for the state, and curated and exhibited work in several exhibitions. Since arriving in Chicago, she completed a year in Columbia College Chicago's Interdisciplinary Arts & Media MFA program before transferring to SAIC. She previously earned her BFA in Studio Art/Sculpture from the University of Notre Dame and served two years as a Board of Regents Fellow at Louisiana State University.

Michelle Graves, curator  
*Columbia College Chicago*

Michelle is currently an Interdisciplinary Arts and Media MFA student at Columbia College, Chicago. Her current work deals with memory and the attempt to quantify experience. She is a part-time caretaker of her Grandmother, who is in the final stage of Alzheimer's disease, which deeply influences her work. Michelle is also secretary of IMAGE Unit, The Interdisciplinary Arts and Media student group; assistant to Jason Salavon, new media artist; and she resides in Chicago as a freelance graphic/web designer and Photoshop retoucher. In her spare time, she is a skater in and has worked as Marketing Manager for the not-for-profit, The Chicago Outfit Roller Derby travel team.

Nicolas Shawn Ruley, curator and contributor  
*Columbia College Chicago*

Nicolas Shawn Ruley is a non-traditional theater artist pursuing an MFA in the Interdisciplinary Arts and Media program of Columbia College Chicago. With a foundation in solo performance from Antioch College, his work is an inquiry into the intersections of technology and the embodied space as it relates to both the practice of art making and performance itself. He is currently developing an ensemble piece that questions the role of both real and mediated violence in the creation of contemporary queer identity.

Nicholas Sagan, curator and contributor  
*Columbia College Chicago*

Nicholas seeks to form a symbiosis in his work between science (astronomy and quantum mechanics holding a particular sway) and forms of art through aesthetic experiments and interpretations. More specifically his work, both art and writing, asks the question of how can the value systems of each field become integrated and understood in terms of one another? He holds a BFA in Painting with auxiliary degrees in Philosophy and Art History and has done extensive work in the fields of music performance and video production, all of which have contributed greatly to his MFA studies at Columbia College Chicago. Nicholas has also shown work in a number of galleries in Minneapolis/St. Paul and in Chicago as well as given artist talks and lectures as a member of the New Media Caucus.

Daniël Ploeger, editor and contributor  
*Univeristy of Sussex*

Daniël Ploeger is a Dutch performance and installation artist, working in Berlin and Brighton, UK. He teaches on courses in performance art and performance technology at the University of Sussex and Brunel University West London, and is currently completing his doctoral research in the School of Media, Film and Music at the University of Sussex. Daniël co-organized (re)Performing the Posthuman – *a conference on performance arts and posthumanism* in May 2010.

Nogin Chung, contributor  
*Bloomsburg University of Pennsylvania*

Nogin Chung (PhD, University of Minnesota) is an assistant professor in the Department of Art and Art history at Bloomsburg University. Her research focuses on American popular culture and issues of the body and border in contemporary art. Her publications include "American Dream of the Past: Norman Rockwell's Illustrations for The Adventures of Tom Sawyer," "A Tale of Metamorphosis: Zhang Huan's My New York," and "Hybrid Ontology." Her current research project concerns negation and monumentalization of corporeality in contemporary Asian art.

Erin Gee, contributor  
*Concordia University, Vancouver*

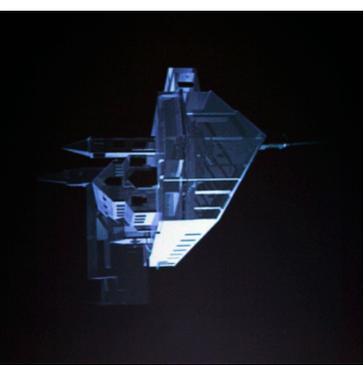
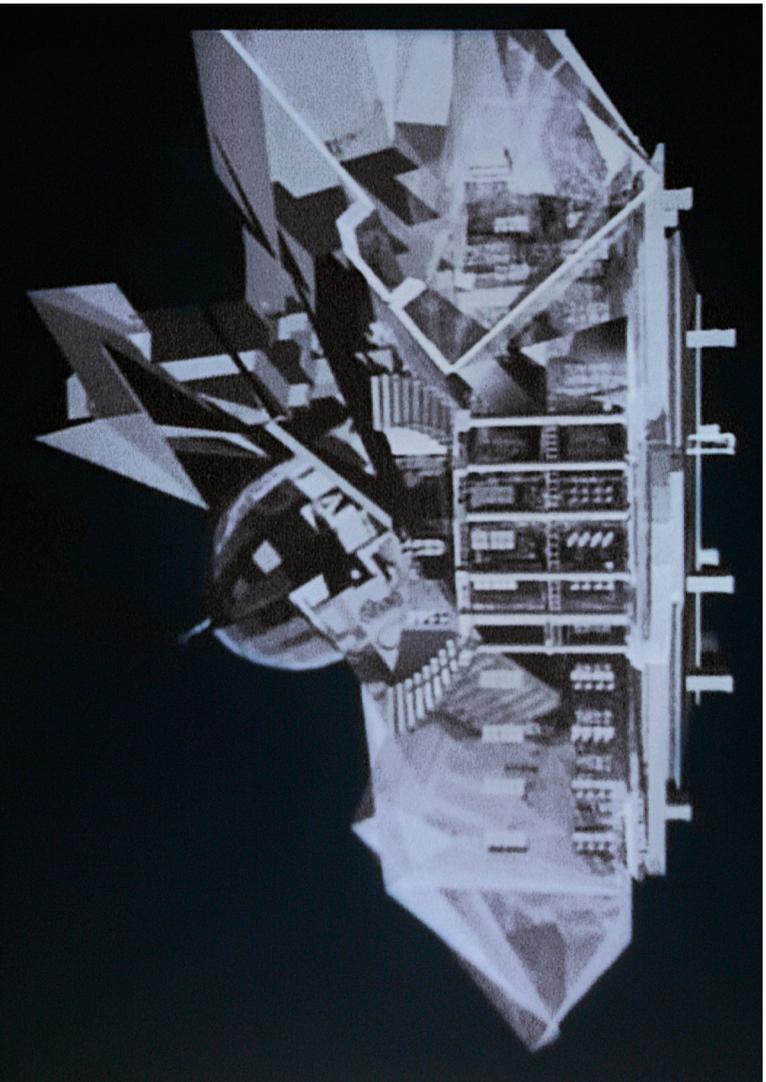
Erin Gee is a first-year graduate student at Concordia University in Montreal specializing in audio art, video, performance, and robotics. Through her work, Gee focuses on topics relating to vocalization and the body, critically engaging with identity, communication and embodiment in the digital age. She earned a Bachelors of Music Education (2006), and a BFA in Visual Arts (2009) from the University of Regina (Saskatchewan), and has since exhibited widely across Canada. In 2009, her electroacoustic music was short-listed in the Bourges International Electroacoustic competition (France), and heard in festivals internationally. She is a founding member and president of non-profit audio curatorial collective Holophon (Regina, Saskatchewan), and was artist in residence at the New Media Studio Lab (University of Regina) in 2010 thanks to the support of the

Saskatchewan Arts Board. Her research into technological bodies and vocal reproduction was published by the Canadian Electroacoustic Community's journal eContact! in June 2010.

Debra Swack, contributor  
*SUNY@Buffalo Research Foundation*

Debra Swack is a new media artist whose projects have been presented at "Robots and Representation" at Purdue University, the University of California, White Box Gallery, Eyebeam, Princeton University, the New Museum, the New York Hall of Science, Aaron Packer Gallery, the University of Illinois, Northern Illinois University Museum, Banff Center, the Arts and Genomics Centers in Amsterdam and Vancouver, Xerox's Palo Alto Lab, Real Art Ways (Sol LeWitt Collection) and the Beecher Center for Arts and Technology. Publications include Thames and Hudson, e-Scholarship's "The Emotions-after Charles Darwin", MIT's "Art and Innovation at Xerox Parc" and "Information Arts", Ars Electronica Cyberarts 2005, Kloone4000, Allegories of the Genome, Art Calendar, NY Arts, PhotoReview (selected by Philip Brockman of the Corcoran) and Printmaking Today.

She is currently participating in Soundlab VII in Cologne with "Birdsongs; the Language Gene" (previously presented in "Sonic Fragments" at Princeton University in 2008) which reconfigures birdsongs into human music. "Digital Mazes" (participants interactively navigate through their own software designed virtual architectural maze space in real-time according to the laws of symmetry) and "Animal Patterning" (a bio-art and animation work that explores genetically altering animal skin patterns to make them more aesthetic for human exploitation and usage in garments and accessories) projects will be included in "Infinite Instances" published by Thames and Hudson in 2011.



*Passage*  
**Digital Projection**  
1 min 40 sec

## **Ben Stagl** **School of the Art Institute of Chicago**

PASSAGE references the constructed world to contemplate themes of barriers and transcendence, treating known edifices of state and religion as sculptural signifiers in a world of globalized media. Passage meditates on the roles these structures play as both boundaries and thresholds which continue being blurred and breached in a post-humanist landscape. These manipulations explore questions of access and of humankind's relentless desire and reiterated attempts to transcend its barriers.

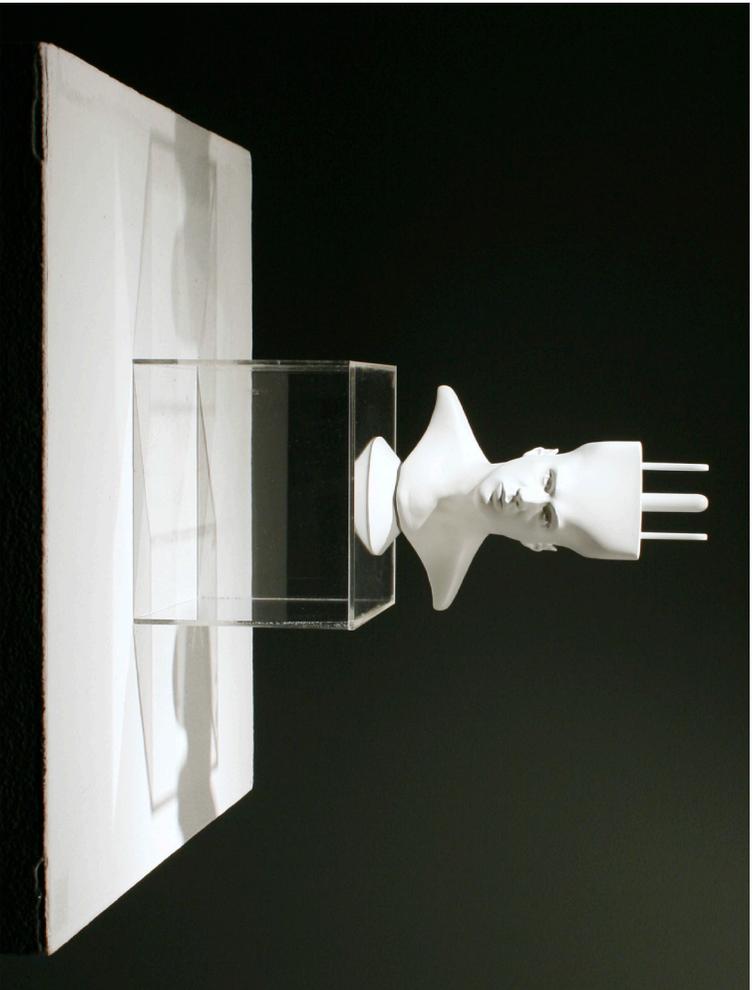
### Bio

Born in 1980, Ben Stagl is an interdisciplinary artist currently based in Chicago, IL, USA.

Stagl received his BFA from Oregon State University in 2003, and is presently finishing his MFA at the School of the Art Institute of Chicago. He investigates urban space through a variety of mediums including sculpture, performance, video, and installation. Stagl is largely concerned with how human beings continue to address and experience shared spaces. Many of his projects explore ideas of inclusion through object, often involving collaboration and elements of participation.

In 2010 Stagl's projects were included in Learning Modern Exhibit, VersionFest, NEXT Projects, and the Public Light and Space Exhibit at the Paul Gray Gallery in Chicago.

His work has reviewed in the Chicago Sun Times, The Oregonian, the Willamette Week, Portland Monthly, and on UltraPDX.com. He was awarded a Career Opportunity Grant from the Oregon Arts Commission in 2008. In 2007 he was awarded and Honorarium by the NW Regional Arts and Culture Council, and his work is featured in their Annual Catalogue. Stagl has instructed casting and patina workshops for colleges and communities, and has recently been a guest lecturer at Oregon State University.



*A Plug*  
**3d Printed Sculpture**  
**8"x5.5"x3.5"**

**Chad Smith**  
**University of Wisconsin at Madison**

Statement

A Plug is a digital sculpture that has been printed with a 3D printer creating a resin object that is 8"x5.5"x3.5". Digital technology has become ubiquitous; hardly one us walking around without a phone that's not only a phone but a camera, music player, gps, and internet browser. In an age where technology is so available and useful we have reached a point where our idea of beauty has been perverted by that technology. Our devices are fashion accessories and it is a rare occasion to see a photo, especially of a person, that has not been shopped in some way. We are becoming our technology. This perversion affects us beyond the surface. People need to be connected whether that be a teenager texting fifteen thousand text messages, your mother commenting on every picture of you on facebook, or a graduate student refreshing his email ten times a minute.

Bio

Chad Smith was born and raised in Brasher Falls, NY about 20 minutes from the Canadian border. Chad received a Bachelor of Science in Digital Arts and Sciences at Clarkson University in Potsdam, NY in 2009. Following his undergraduate degree he worked briefly as a freelance illustrator while continuing his work as a digital as well as traditional artist. In the past year Smith continues to work on objects using stereolithography while also making animations and working on more traditional work.

### My Thoughts

The temperature is rising so rain is required to bring down the heat.

Saw the train going and thought that it's going for a morning walk in the opposite park. Now power cut is there because rain is less. We have to have more nuclear and solar power plants. Instead of having a big solar power plant, more and more small plants for each city has to be put in.

Today, had a small argument with friend and slept for some time. In that sleep I had a bad dream of meeting a car accident.

I wanted to go to Kerala to see the rain and greenery after the rain.

Empathy and sympathy plays a major role in professional and personal life. If want to be smart enough you need to be balanced.

Pain is in your fear not in your failure.

I want to buy a new cell phone

All truths are being told in jokes.

Who does not like to have a breeze in a isolated desert.

A person without a sense of humor is like a wagon without springs. It's jolted by every pebble on the road.

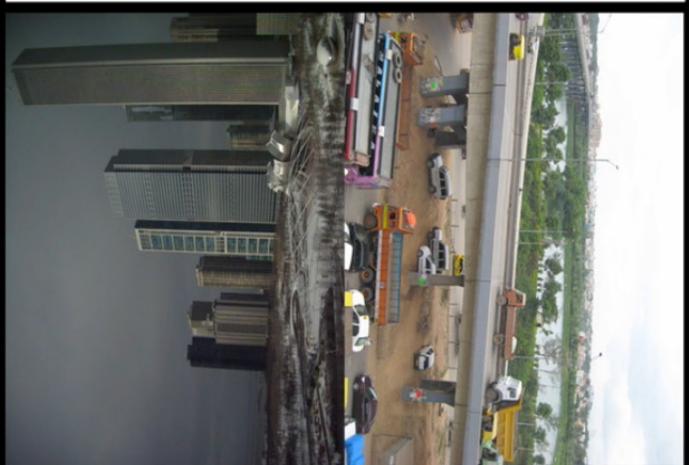
Plans are meant to change.

If single computer chip is manufactured a lot of space can be saved.

Where will all these electronic waste end up????????? We will build a big spaceship to send all junks to sun.

I should be drinking more water. These days I drink less water.

I am not meeting friends regularly.



### My Thoughts

-Day bi det.

-Extra excess.

-Slow motion baby.

-Sped, volume, price.

-Enticed to show texture.

-I have yet to see a corpse.

-I should eat pizza more often.

-Please mind the magna below.

-There goes her body/mind/brain.

-We find having tennis balls extremely difficult.

-Writing these thoughts radically alters my thoughts.

-How to combine this text with the image I have taken?

-The larger the town, the larger the effort to be a friend.

-Everyone here wears a jacket with synthetic blends of meaning.

-The lake and rivers enter into composition with boats and railways.

-My recollections of dreams occasionally adhere to genre convention.

-We must demand balcony gloves in order to attract birds into our lives.

-Hello Patrick. Is there a tracking number for this shipment? Thanks, Andrew

-Why wear thermal socks when you know they'll just be knocked off?

-"La peruca" is a tactic for enacting resistance that looks like you are just working hard.

-From up here Anish Kapoor's \$23 million Cloud Gate sculpture (The Bean) seems plunderable.

-The towering grey Aon Center is a tomb with vertical ventilation slats for the contractually dead.

-Is anyone attempting to dig a hole to the other side of the world simply because they have found the means to do so?

-From this privileged vantage point the world may seem flat, buildings may seem like discrete objects, nature may seem painted, and human movement may seem choreographed.

-Today on the elevated train, as I moved between rows of skyscrapers on Wabash Avenue, I had a momentary illusion that the city was mappable by my mind on the scale of building to building and street to street.

Virtual Assistance - My Thoughts

HD Video

7'22" loop

**Andrew Norman Wilson + Akhil C.  
School of the Art Institute of Chicago + GetFriday**

Statement

Get Friday typically provides remote executive support, where a largely American client base is assigned a “virtual” personal assistant. I am a part of that client base, paying monthly fees for a primary assistant who works out of the Get Friday office in India. My assistant is a 25-year-old male Bangalore resident named Akhil. In paying for our relationship I am not attempting to lighten my work load, but rather to engage in collaborative projects and even reversals of the normative outsourcing flow.

Akhil emailed me, telling me to make use of 105 free minutes of labor time. I asked Akhil to sit at his favorite spot in the Get Friday office – a large pane glass window with the view of the lake seen in the image below – and write for 105 minutes. I performed the same task from my favorite spot at the School of the Art Institute of Chicago.

The project as a whole is founded on questions of ethical and intimate engagement with new technosocial labor economies that have been opened up due to networked communication technologies.

Bio

Andrew Norman Wilson currently lives and works in Chicago, IL. He holds a B.S. from Syracuse University’s SI Newhouse School of Public Communication and is pursuing his MFA at the School of the Art Institute of Chicago. He has worked as a curator for Artists’ Television Access in San Francisco, a video editor for Google at their headquarters in Mountain View, a researcher for the labor union UNITE HERE, and a video editor for filmmaker Craig Baldwin. Past exhibitions and presentations include the De Young Museum, The Banff Center, UCLA, UCSD, The Academy of Fine Arts Finland, The Sullivan Galleries at the School of the Art Institute of Chicago, The TINT Arts Lab, threewalls Gallery, video\_dumbo, The Iowa City Documentary Film Festival, The Abandon Normal Devices festival, Krownswork Gallery, Extra Extra Gallery, and Other Cinema. He is a 2011 recipient of the Dedalus Foundation MFA fellowship.



*Formants*  
**Interactive audio sculpture**  
**20" x 49" x 27.5"**

**Erin Gee**  
**Concordia University**

Bio

Erin Gee is a first-year graduate student at Concordia University (Montreal, Canada) specializing in audio art, video, performance, and robotics. Through her work, Gee focuses on topics relating to vocalization and the body, critically engaging with identity, communication and embodiment in the digital age. She earned a Bachelors of Music Education (2006), and a BFA in Visual Arts (2009) from the University of Regina (Saskatchewan), and has since exhibited widely across Canada. In 2009, her electroacoustic music was short-listed in the Bourges International Electroacoustic competition (France), and heard in festivals internationally. She is a founding member and president of non-profit audio curatorial collective Holophon (Regina, Saskatchewan), and was artist in residence at the New Media Studio Lab (University of Regina) in 2010 thanks to the support of the Saskatchewan Arts Board. Her research into technological bodies and vocal reproduction was published by the Canadian Electroacoustic Community's Journal eContact! in June 2010.



*Prototype 001 (Toothbrush Holder)*

**Sculpture**

**15"H x 6"W x 14"D**

**Joshua Johnson  
Hunter College**

Statement

*"To give oneself as a thing that feels and to take a thing that feels is the new experience that asserts itself today on contemporary feeling, a radical and extreme experience that has its cornerstone in the encounter between philosophy and sexuality . . . It would seem that things and the senses are no longer in conflict with one another but have struck an alliance thanks to which the most detached abstraction and the most unrestrained excitement are almost inseparable and are often indistinguishable."*

-Mario Pernolla, *The Sex Appeal of the Inorganic* (New York/London: Continuum, 2004)

We collect scraps of ourselves, diffused through a thousand different objects and assembled around us like an armor of personality. Carefully clad, we set to work on what remains, the blood and brain, its gross feelings and abscesses. The labor of oneself is expressed in the constant editing of Facebook, the tailoring of playlists, the brightening of teeth, and a thousand little rituals demanded by a contemporary culture.

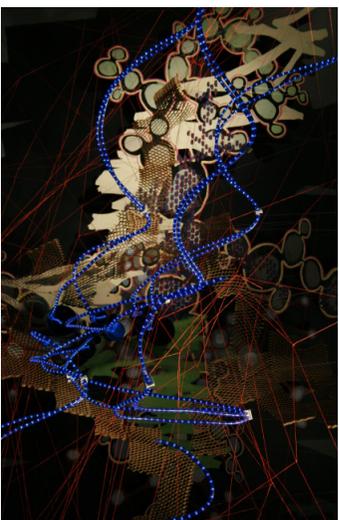
I am interested in objects that are sympathetic with our object-selves; objects whose scalloped shells divot with our own creaking joints and sagging skin. Prototype 001 (Toothbrush Holder), 2010 is an example of this.

Bio

Joshua Johnson was born 1981 in Michigan. He attended Western Michigan University in Kalamazoo, Michigan and graduated with a BFA in Painting and Philosophy majors. He has shown at the now defunct Riviera Gallery in Brooklyn in 2005 and 2006, the Republic Exhibition at POCHRON Studios in D.U.M.B.O. in 2009, and the Crane Arts Center in Philadelphia in 2010. He has also helped curate Video Feedback exhibition at the Hunter with the ACE student curatorial collective. In addition, he has written several articles and reviews for the defunct ArtCal magazine. He is currently attending Hunter College's MFA in New York.



*Digital Immigration*  
**Installation**  
**125" x 156" x 144"**



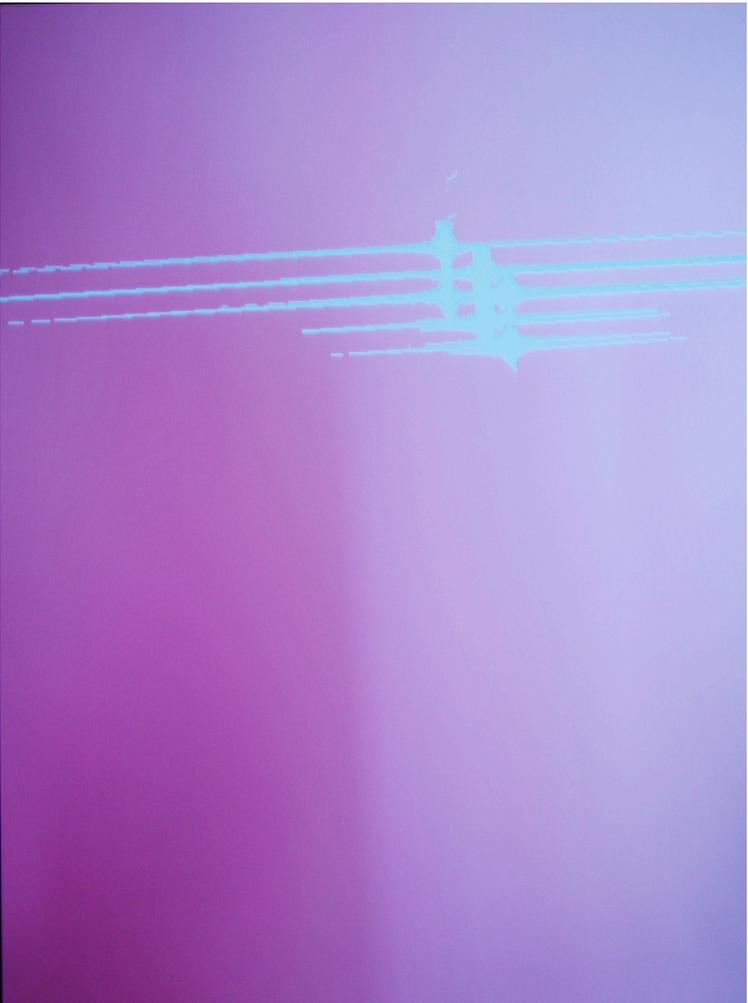
**Steven Stradley**  
**Michigan State University**

Statement

My work responds to the reconstructed neurology based on technological input. Digital immigration refers to the acceptance of digital media by an older generation in order to maintain stride with the younger generation, or digital native. As humans, we shift our practices to align with current technological advances. By so doing, we also reconstruct the neuropath ways that inform our methods of task completion and daily living. By creating shifting layers of information in the work, I consider the technological input into the human psyche and its transformation from one state to another.

Bio

Steven Stradley is a native of Salt Lake City, Utah where he was born and raised. He has always been interested in an art career as he has always enjoyed image making and the process of creation. He graduated from Utah State University in 2006 with a Bachelor of Fine Arts degree in Painting and Art Education. He taught junior high art in the past four years before deciding to further his education at Michigan State University. He is pursuing a Master's of Fine Arts degree in the Department of Art. He will graduate in Spring 2013. The art process and discovering new ways to create and layer images is of fundamental interest to him. His work involves painting, drawing, and installation media to convey concepts related to experiential impacts on identity and interconnectivity within systems.



*XTNZ - self-portrait as virtual world*  
**Java3D/Virtual World**  
**Endless**

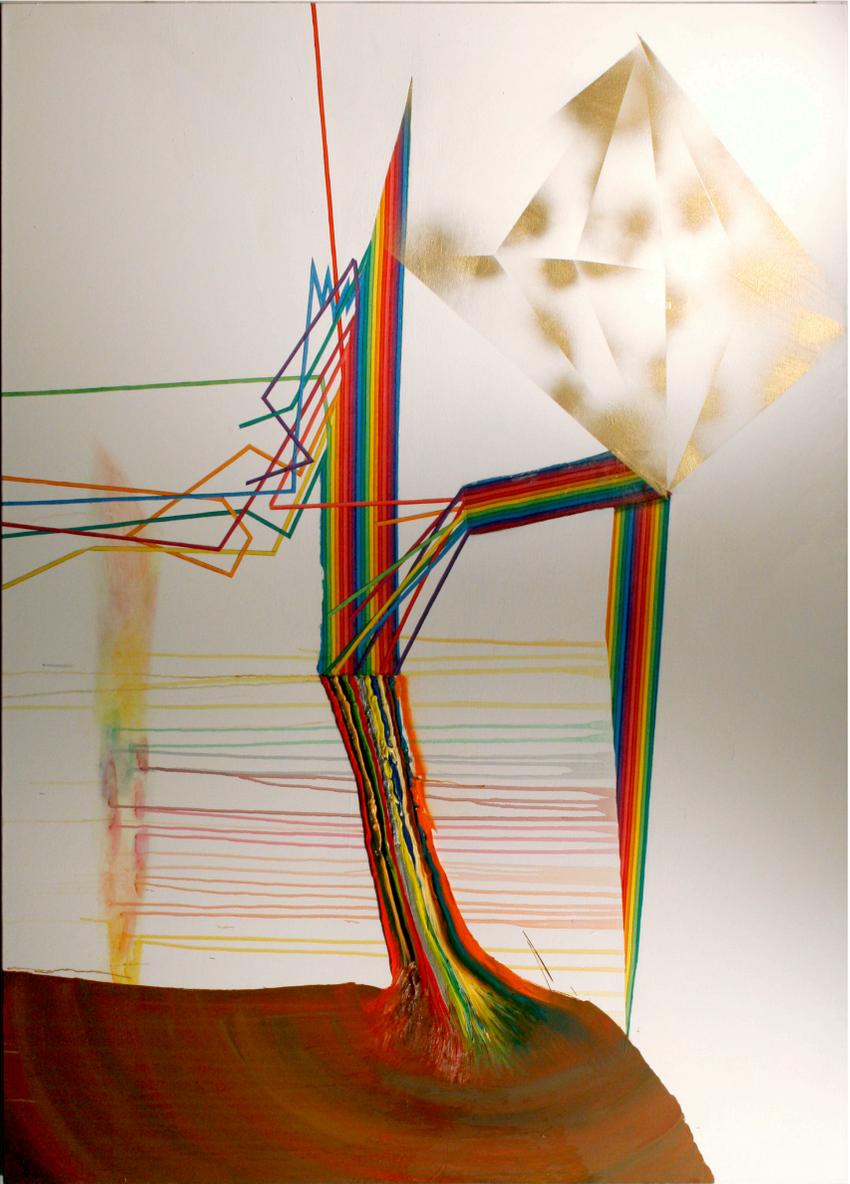
**Rui Filipe Antunes**  
**Goldsmiths College, University of London.**

Statement

XTNZ is focused on the exploration of the possibilities of using artificial life in the context of art. The aim was the development of an ecosystem based on a real-time three-dimensional PC based system sustaining a "living" virtual environment. The entities populating this virtual world have been designed to be active and responsive. They behave and interact with each other, they reproduce according to eventual interactions and they change their own properties (such as visual appearance or dimensions). An unpredictable visual representation of the world will emerge, shapes will evolve in time according to the creatures interaction. All creatures textures and sounds are initially from human origin (such as bones or muscles tissue images as the creatures skin or kissing or chewing sounds as the creatures screams).

Bio

Researcher on Art and Computational technologies at Goldsmiths, University of London. With a previous background in Computing and Fine Arts, has exhibited in different galleries, festivals and curatorial projects since 1998, including recently FILE RIO 201 0 in Rio de Janeiro and Lá Fora in Lisbon.



*After School Special*  
**Oil and Fabric on Canvas**  
**72" x 52"**

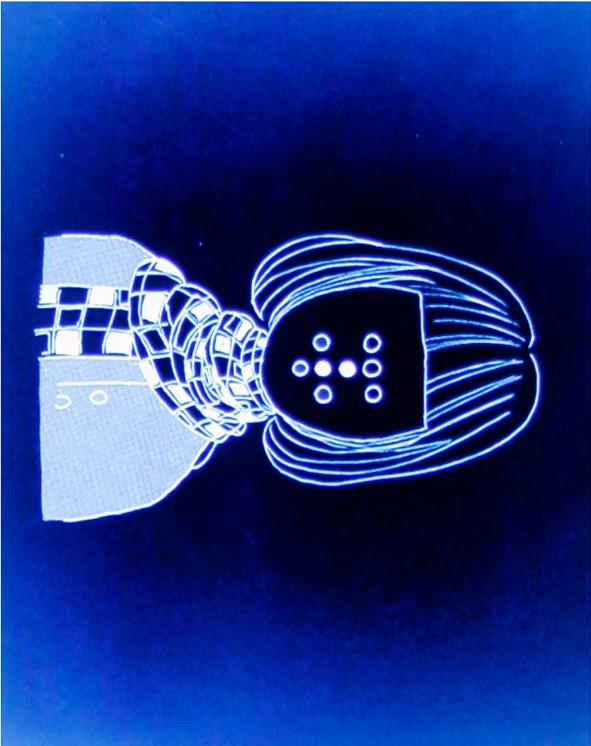
**Biff Bolen**  
**University of South Florida**

Statement

Something that I think about often, "How do I as an artist address my daily and inevitable dependence on technology, and how do I do this with paint? Hardly new technology." Since electronic technology (ie. computers, cell phones) is not something that the average person can produce, our involvement in technology is directly related to our role as consumers. The role of marketing and design is to produce a product that appeals to the largest group of consumers, therefore eccentricities and personal taste are forgone to produce a product whose look is devoid of human touch (think automobile design now vs. the 1950s). In the paintings I often use fabric, then go on to replicate the fabric in paint. I am interested in the evidence of human involvement in the mechanical representation and attempt in reproduction. My hand shakes, a line is not exactly straight. What decisions would I make, as an image maker, that would be uncommodifiable. The boxes are made by taking photographs of pieces of wood, modifying them in Photoshop, printing them out and using a transfer process to build objects and structures. Here I am interested not only in a collaboration with the technology (camera, computer, printer) but in the tangible evidence of my fallible hand in the application. Using this technology to create and image of negative space and emptiness could be seen as a metaphor for the frustration we all feel as technology replaces physical human interaction with our so called "virtual" lives.

Bio

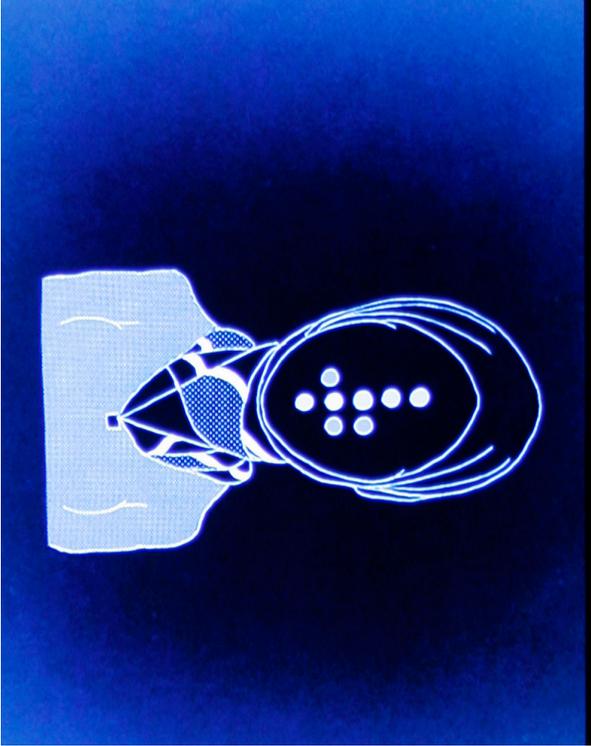
Born October 17, 1977 in Sumter, S.C. to Ann and Barry Bolen.  
 Lives in Tampa, FL.  
 Currently pursuing MFA at the University of South Florida.



SIGNAL

Animation

1 min 52 sec



**Nobutaka Aozaki**  
**Hunter College**

Statement

Signal is a black and white hand-drawn animation and encyclopedia. It represents a variety of people, classified with ethnicity, occupation, taste, etc., with the dot patterns inspired by Braille. Instead of facial features on their faces. In this work, I attempt to situate the viewer similarly with my experience of confronting language barriers and suggest them to think about the communication through the perspective of alien. The resulted image evokes the communication in post-human digital age, in which all languages are connected in single computer language.

Bio

Nobutaka Aozaki is a Japanese artist based in New York. He was born in 1977 and grew up in Kagoshima, Japan. He has attended School of Visual Arts in NY and is currently an MFA candidate at Hunter College in New York City. His predominant medium is video that investigates issues of identity and communication. His recent exhibitions include Jamaica Flux at Jamaica Performing Arts Center, NY, BABEL at Space 37, NY, and Transplants exhibition at International Video house, Philadelphia.

1.

the universe has no center and no edges  
the universe was created by god  
the universe will unfold as it should  
the universe is shaped exactly like the earth

2.

i always wanted to see montana.  
i always felt different  
i always drink plenty of milk  
i always sleep through my alarm  
i always wake up with a stuffy nose  
i always think something is wrong with me  
i always needed time on my own  
i always get what i want

3.

we saw the sea  
we were promised jet packs  
we went to the moon  
we had two bags of grass  
we lost our gold  
we lived our lives in black  
we found a baby bird  
we laid rubber on the georgia asphalt  
we discovered neptune together  
we got married  
we died they rejoiced

## Jason Judd Northern Illinois University

### Statement

In contemporary society there is an ever-increasing democratization of information, images, and ideas on the Internet. This new democratic web allows the blog culture, Google search, flicker, and YouTube to lend themselves as digital ready-mades. The inherent illusory promise of authorship among the web provides a platform for appropriation and a ground for re-contextualization of content. This re-contextualization of mass web media is realized with a close eye to contemporary art history. My ideas are realized through half truths, romantic notions, and distorted common sense.

### Bio

(Bio according to Google 'scribe' application, which is an application that helps complete sentences for you) Jason Judd is an artist living in the same way that the world is waiting for you. Jason was born with an innate sense of style and comfort. His work deals with issues of power and the glory of his majesty and the world of the living room and dining room with a view to share videos with friends. Jason likes to think of myself as a person who is not board certified but still may be an excellent physician. Growing up he never thought about what he was looking for in a woman with a history of the world. Jason Judd's bio was last updated on May 1 at the end of the day and night to make sure that the information provided by the merchants and MyShopping.com.au assumes no responsibility.

1.

*the universe'*

**Automatic Google Fill Poems**

**projected installation  
variable**

2.

*i always*

**Automatic Google Fill Poems**

**projected installation  
variable**

3.

*we'*

**Automatic Google Fill Poems**

**projected installation  
variable**



*Mandroid Seduction*

**Video**

**1 min 4 sec**

**Micah Bowers**  
**Purdue University**

Statement

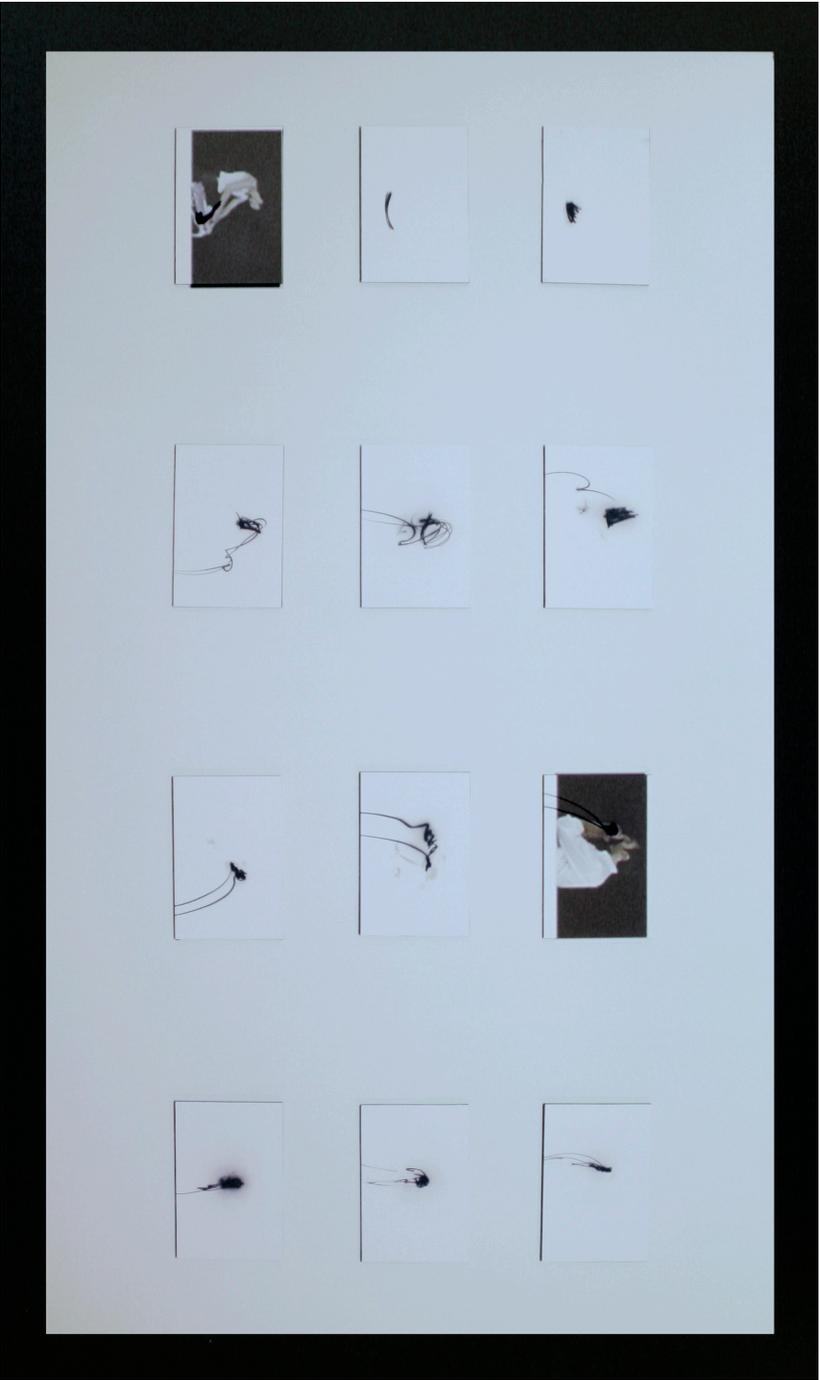
Mandroid Seduction is straightforward...male androids having a blast dancing to a funky beat. Far-fetched? Not really. Take a look at the Roxxy doll. An era of on-demand robo-sex is fast approaching.

Sure, human on robot sex sounds taboo and seems like a silly notion, but it's not far-fetched. Outside of the industrial sector, robots haven't been good business, but with sex driving the dollar (see: porn industry), robot technology will see exponential improvement in the next 20 years. With these developments will arise a whole new set of issues related to health, ethics, distribution, gender representation, and so on. So, sit back, relax, and watch Mandroid Seduction a few times through...it won't be long before you can have one of these hunks gyrating in your living room.

Bio

Micah Bowers is a graduate student in Electronic Time Based Art at Purdue University. His sound and video experiments are a mix of uncanny and strangely humorous elements.

[www.micahbowers.com](http://www.micahbowers.com)



*In Gesture*  
**Projection, Photographs**  
**5' x 8'**

**Michael St. John and Jenny Garnett**  
**Columbia College Chicago**

Statement

In *Gesture* is an ongoing catalog of sketches generated from the daily routines of the human body. By dressing their subjects in clothing equipped with infrared light, artist-researchers Jenny Garnett and Michael St. John abstract gestures into points of light in three-dimensional space. Documentation through video and slow-shutter photography reveal new patterns in movement beyond the flesh, reframing the modus operandi of the everyday body. Digital post-production of the photographs then translates these images into line sketches for the viewer.

This iteration of *In Gesture* consists of a 5'x8' wall installation of sketches—prints of each daily movement, documented from four vantage points, hung in rows. Projections of video thumbnails accompany each of the sketches, informing the viewer of the bodily movement that created each work. The projected thumbnails move across the installation, selectively illuminating individual prints and thus revealing the motion that created the pattern.

Bio

Jenny Garnett is an artist living in Roanoke, Virginia and an MFA student at Columbia College-Chicago's Interdisciplinary Arts and Media department. In her practice, Garnett puts together series of instructions in order to investigate the body and its relationship to space, geography and other bodies. The results of the systems include drawings, prints, video, installations and performance.

Michael St. John is a kinetic sculptor, performer, and writer from Battle Creek, Michigan. He currently resides in Chicago, pursuing his MFA in the Interdisciplinary Arts and Media program at Columbia College. Much of Michael's work explores narrative through physical exertion, setting absurd, repetitive, or strenuous parameters on his body to create visual narratives in the moment. These performances—or, as he likes to think of them, derangements—take shape as persona work in video, interactive media environments, and live durational performance installations. *In Gesture* is a collaborative iteration of these concepts.



CCES 002

**Bonsai tree, succulent plant, water, toaster  
oven, fans, Steel, copper, wood, acrylic, glass.  
34" x 68" x 18"**

**Marissa Benedict and Luis Palacios (GRAFT)  
The School of the Art Institute of Chicago**

Statement

CCES 002 is the second in our series of mobile, climate controlled environmental systems. Constructed with reconfigured and repurposed domestic objects, CCES 002 is a living model of atmospheric symbioses. Built to recreate the ideal environmental condition of two exotic houseplants – *Fockea edulis* (a tuberous succulent native to South Africa) and *Serissa foetida* (a bonsai native to subtropical regions of Asia) – the piece speaks on both a literal and metaphorical level to systems of collaborative exchange.

While aridity and humidity are rarely experienced simultaneously in an external (natural) setting, CCES 002 reveals the basic interdependencies of climate through the principles of evaporation and condensation. Utilizing a toaster oven and two fans, water is drawn into the air by the hot, dry atmospheric conditions preferred by *Fockea edulis*, generating a level of humidity preferable for the adjacent *Serissa foetida* bonsai.

Although the basic needs of both plants are sustained through automated electronic systems, the highly sensitivity nature of the bonsai and the dictates of traditional pruning require GRAFT to participate in ongoing acts of manual maintenance.

Bio

GRAFT is an artistic collaboration co-founded by Marissa Benedict and Luis Palacios. Connected conceptually and formally by our interest in fusing living organisms and functioning mechanisms, our work emphasizes the interdependence and fragility of both natural and artificial systems.

As a collaborative duo, our combined practice engages “grafting” as both a literal (biological) action and as a metaphorical term. With each collaborative effort we synthesize art and science, industrial manufacturing and unique construction. We bring together the absurd and the critical, the logical and the poetic. Instead of reinforcing the divisions inherent in dichotomous relationships, GRAFT seeks to explore often overlooked mutual dependencies, locating our work in moments of tenuous balance. Through the synthesis of organic and synthetic components we hope to generate pieces which create unexpected connections between seemingly disparate elements, questioning the traditionally accepted boundaries between the “natural” and “man-made”.

To date, our collaborative activities include the research and production of tree anomalies, the re-construction of environmental systems via de-constructed domestic appliances and the systematic study of exotic houseplants.

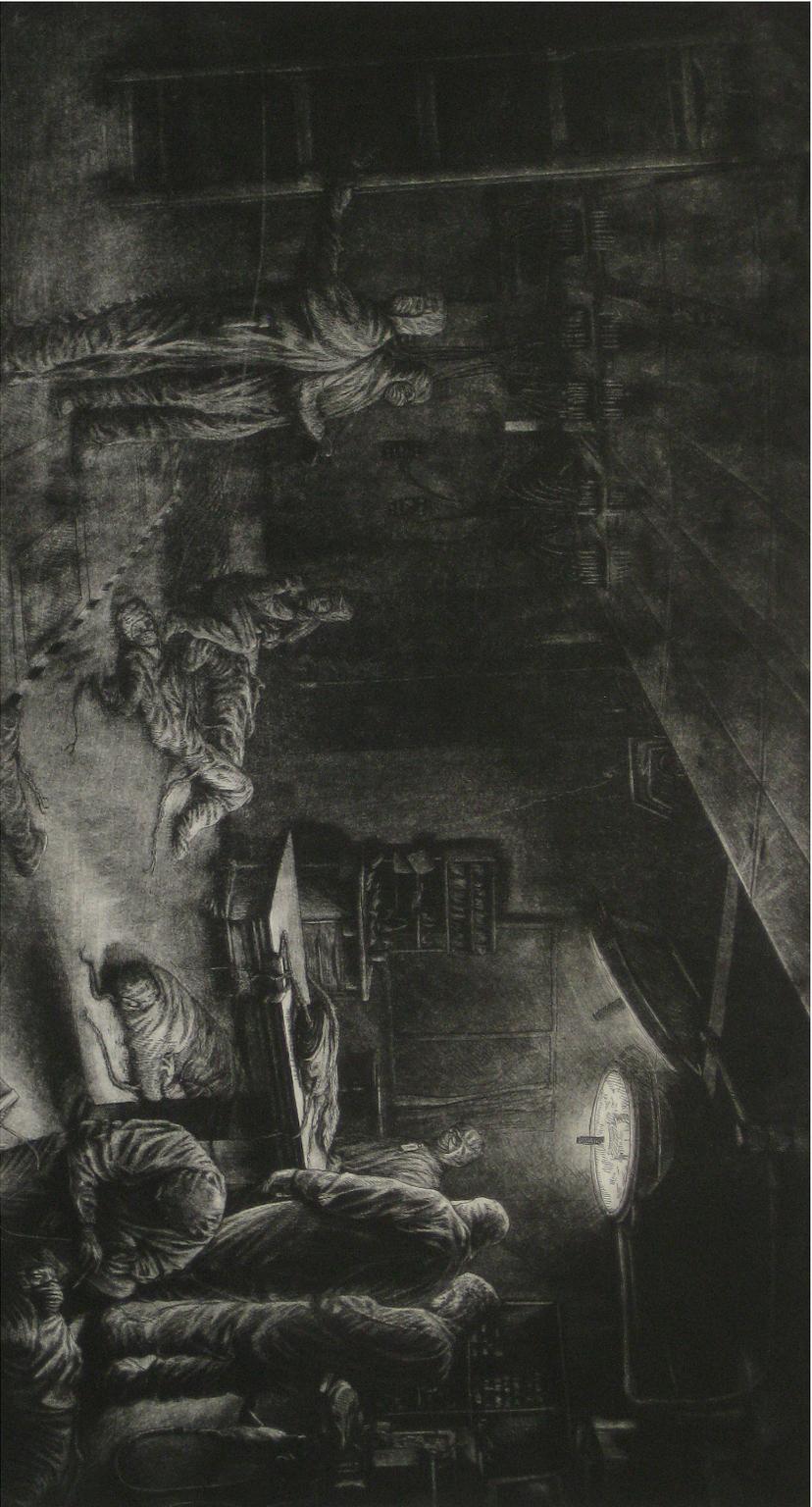


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**Aquatint & Etching**  
14" x 24"



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**Aquatint & Etching**  
**14" x 24"**



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**Aquatint & Etching**  
14" x 24"

**Douglas Bosley**  
**University of Wisconsin, Madison**

Statement:

I use intaglio and lithography to create a hypothetical narrative that explores questions raised by post-human philosophy. Specifically, I am interested in how people use technology to transform themselves and their environments. Major themes also include the obfuscation of computation and biology, the unforeseen consequences of valuing information above materiality, and the redefinition of intelligence as a property of subject-object systems rather than a property belonging only to human subjects.

Bio

Born and raised in the upper Mojave Desert of Southern California, Douglas Bosley eventually found himself in rainy Washington by 1997. In 2001 he began his studies at Edmonds Community College with an interest in visual arts and was soon introduced to social sciences and critical theory. Earning his Associate of Arts degree, Douglas transferred to Western Washington University where he studied fine art and explored theories of post/human philosophy and cybernetics. He graduated in 2009 with a bachelor's of fine arts degree in printmaking and is currently pursuing graduate work at the University of Wisconsin – Madison.



*I Want to Speak: JFK 1961*  
**Video Installation**  
**14 min**

*I Want to Talk: Mao 1956*  
**Video Installation**  
**16 min**

**Alfred Dong**  
**University of Delaware**

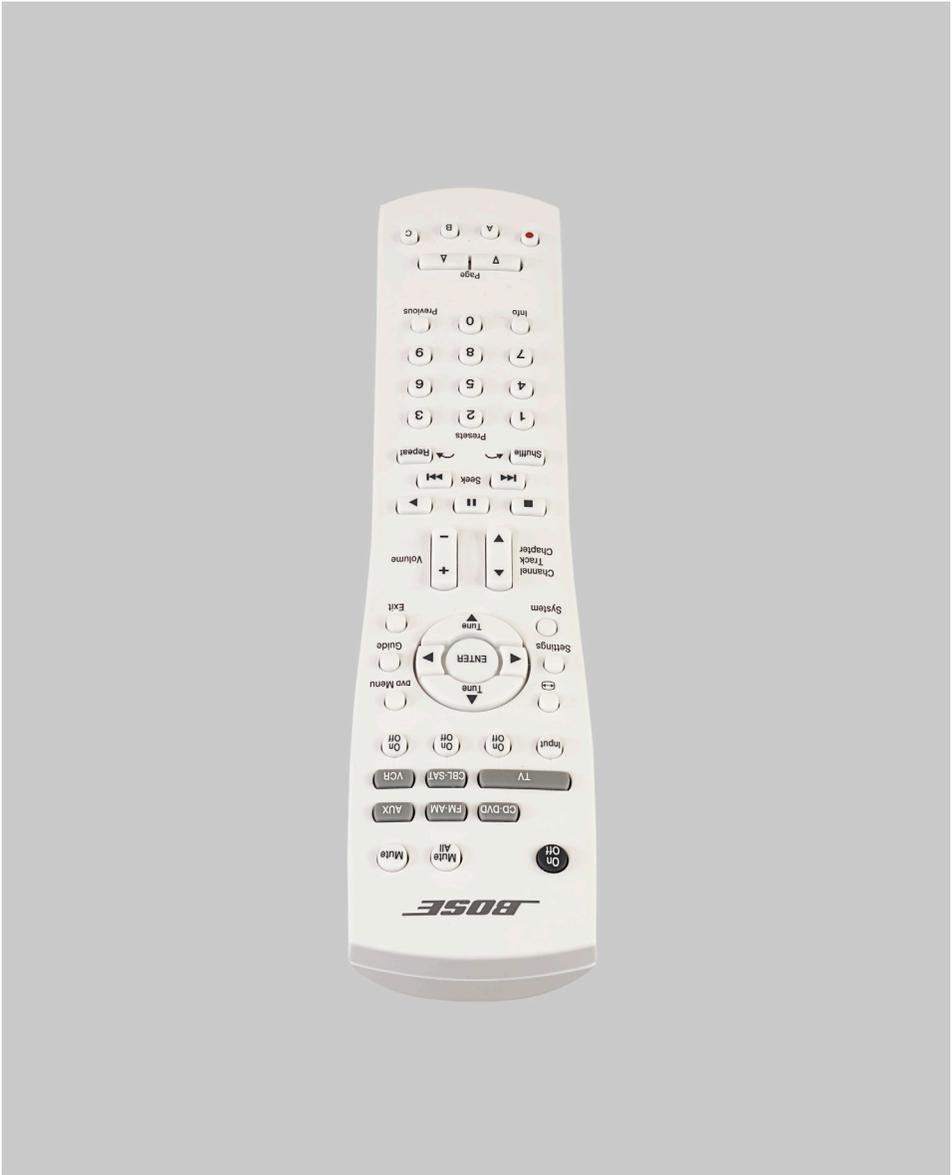
Statement

This video project integrates an image of Chairman Mao Zedong, who is the first Chairman of People's Republic of China, with his speech to responsible cadres of the National Association of Music Workers and some other comrades which held in Beijing at 24 August 1956. As the text of Mao's speech could be translated by the artist into other languages, audience are able to have living experience through the screen seeing the most important man in China say his words of significance in English. Through animation of the still image, artist investigate in what extend consciousness of human being could be manipulated in a pro human era where a multitude of advanced media and technologies can radically shape and filter an original event or experience.

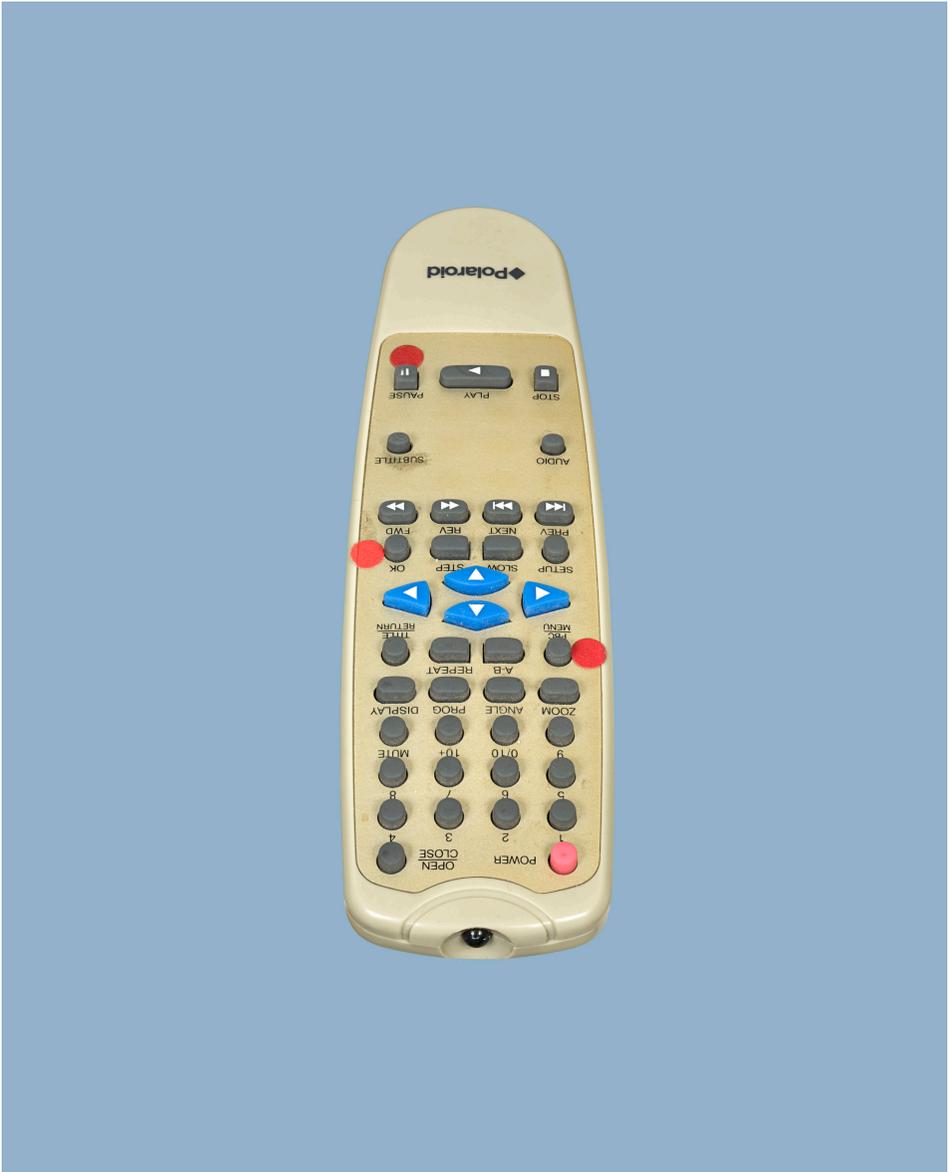
Bio:

Alfred Dong was born in China. He is an award-winning filmmaker and visual artist, Alfred was trained by Chinese, American and Italian cultures. His works reflect the attitude and philosophy of human life in global context and is dominating by mainstream culture. With broad interests in various disciplines, Alfred Dong intends to use the most basic materials as the carrier of art and to generate ideas from the most ordinary behaviors such as speaking, performing and living. The most ordinary objects or behaviors in daily life thus carry powerful meaning to inspire the viewers to reflect on their own lives, decisions and attitudes which they have faced or will face.

Alfred Dong's films were screened at China,USA, France and Netherland. His artworks and performance have appeared in solo exhibition at the Public Art Center, China. His works have exhibited in Delaware Center for the Contemporary Arts, Moscow Biennale for Young Art, Moscow Museum of Modern Art, PFAC Biennial, Crane Arts Center and SUF Gallery at Florence, Italy. Alfred Dong lives and works in China and USA.



*DVD Remote Control*  
**Archival Pigment Print**  
**20" x 16"**  
**2008**



*Universal Remote Control*  
**Archival Pigment Print**  
**20" x 16"**  
**2009**



*AC Remote Control*  
**Archival Pigment Print**  
**20" x 16"**  
**2008**

**Andy Mattern**  
**University of Minnesota**

Statement

An extension of the body, the remote control quickly transmits the will of its operator, acting as the bridge between the individual and the machine. Use is recorded through physical wear and human scale is implied by shape and design, but although these devices are built for our hands, how much agency do viewers truly possess, and to what extent can we mobilize our minds as audience members and consumers? Moving forward into an era of ubiquitous smart technologies and entertainment which caters to user preferences, will we become increasingly the passive objects of control, or will we remain in command?

Bio

Andy Mattern studied studio art at the University of New Mexico and the University of Oregon, earning a Bachelor of Fine Arts summa cum laude in 2002. Since that time, he has shown in numerous group shows such as Here & Now (Katherine E. Nash Gallery, Minneapolis, MN) and solo exhibitions such as Moontowers (Lawndale Art Center, Houston, TX). Currently, as a Graduate Instructor at the University of Minnesota, he teaches photography and is pursuing a Master's of Fine Arts. He lives and works in Minneapolis.

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POST-HUMAN // FUTURE TENSE

EXHIBITION

CURATED BY

VICTORIA BRADFORD, MICHELLE GRAVES,  
NICOLAS RULEY AND NICHOLAS SAGAN

JURIED BY

JOHN MANNING, MELLISSA POTTER  
AND JASON SALAVON

POST-HUMAN//FUTURE TENSE



EXHIBITION

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