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Courting emotional contagion:
Tina Gonsalves’ Chameleon

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Abstract
This paper engages with the recent computer-mediated video installations of Australian media artist Tina Gonsalves. Gonsalves’ interactive video Chameleon (2008-2010) explores the scientific notion of “emotional contagion”, the dynamics of how emotions spread from one person to another in social contexts. An ambitious work at the interface of media art, neuroscience and advanced “affective computing” being developed at the MIT Media Lab, Chameleon interprets the notion of empathy as a kind of code that can be simulated in an installation context. The work continues and expands upon the artist’s interest in the intimacies and vulnerabilities of human emotions. It is a genuinely interdisciplinary work that breaks new ground in terms of the dialogue between art, science and technology.

Keywords: emotional contagion, social networks, empathy, affect and computing.
It starts with a sideways glance. The eye is mobile, hyper-sensitive, acutely attuned to its surroundings. Other receptors are simultaneously at work too. Light, temperature, the threat of danger, the presence of others all impact upon the visible drama of change. Reflecting psychological as well as physical responses to its environment, the chameleon becomes something other than itself. Its status as a thing in the world is always bound up with its relations to that world. It responds to change but affects it as well. White, sleek and invisible on the page, it slowly manifests facets of black along its sleek lines, alphabetic letters tessellating across its body likes words on parchment. It has become its environment.

This relational approach to being is the stuff of London-based Tina Gonsalves' most recent work *Chameleon* (2006-ongoing). Gonsalves has an impressive pedigree as an intermedia practitioner. As an artist she has evolved with the various media that constitute her explorations into the intimacy of the human-computer interface, from 2D imagery to video to complex adaptive environments. But Gonsalves is not interested in media for their own sake. Like her Australian counterpart, Linda Dement (Dement), Gonsalves approaches the space of interaction from the perspective of a deeply personal encounter between work and audience that is emotionally charged, visceral and intimate.

Media art has progressed sufficiently as a practice that its initial affiliations with CD ROM and the internet are now officially part of its history. What now constitutes the time-space of media art is diverse, conspicuously interdisciplinary and adventurously unfamiliar. Collectives such as London-based Blast Theory (led by Matt Adams, Ju Row Farr and Nick Tandavanitj) have moved their interventions to the street and the pedestrian relations of mobility, using mobile telephony and other locative media devices to create distributed, time-based media art events. *Can You See Me Now?* (2001), for example, critically responds to the ubiquity of mobile telephony and its penetration "into the hands of poorer users, rural users, teenagers and other demographics usually excluded from new technologies". From within the architecture of a tactical pursuit game, it converges players within actual locations (the Blast Theory “runners” on the streets of Sheffield) and virtual, telematic spaces (anyone anywhere in the world), integrating ambiguous and unprecedented relations between individuals occupying different co-ordinates of place and time (Blast Theory, 2001). The Tissue Culture and
Art Project (Oron Catts and Ionat Zurr) also breaks new ground, blurring the boundaries between installation and laboratory experiment in their pursuit of bio art. The Tissue Culture and Art Project experiment under sterile, laboratory conditions in gallery and exhibition spaces with tissue cultures and tissue engineering technologies. Bio art projects, such as *Semi-Living Food: “Disembodied Cuisine”* (2003), involved the growth of living tissue (from frog skeletal muscle over biopolymer) that constituted a “semi-living” steak. Dissociated from a body and cultured as a form of edible flesh, *Semi-Living Food: “Disembodied Cuisine”* critically engages with issues to do with genetic engineering and modification of food, as well as projecting a “future in which there will be meat (or protein rich food) for vegetarians and the killing and suffering of animals destined for food consumption will be reduced” (Tissue Culture and Art Project, 2003).

Stelarc’s ongoing dialogue with the technologized body also confronts expectations as much as the senses, queering the art-space of the gallery into something that also resembles a bio-hazardous zone. In his 2005 collaborative installation with Nina Sellars, *Blender*, for instance, subcutaneous fat and other tissue was extracted from both artists using liposuction then “blended” into a large industrial vat, dramatically enacting their interest in “alternative corporeal architectures and bodily functions”. Part atrocity exhibit, part weird science experiment, *Blender* engages with “some of the more contentious issues surrounding the blending of contemporary technology with corporeality” (Stelarc and Sellars, 2005). Gonsalves’ most recent work, as evidenced by *Chameleon*, also consolidates an ongoing dialogue between art and other paradigms, such as biotechnology, medicine and the life sciences.

The ambitious *Feel* series (2006-ongoing) crystallizes this understanding of art as a poetic of strange, unlikely and often unnerving encounters between physical bodies and technology, between different ideas and disciplines. This series of installation works is underpinned by a poignant question: “How do we know how we are feeling?” Such a question is perhaps taken for granted in a culture in which the phrase “how are you?” presumes an immediate and unequivocal response. As Gonsalves pertinently observes in this respect, we “have little control when strong feelings sweep us away, overwhelming us and causing havoc in reasoning” (Gonsalves 2008). The *Feel* series simulates personal encounters between visitors to the gallery and large-scale projections of virtual subjects. In *Feel: Ferment* (2006), an impassive face stares out at the visitor, accompanied by a reflective voice-over describing states of calm, relaxation and growing
tranquility. The narrator speaks in the manner of a hypnotist, cajoling the subject into an emotional comfort zone. This is intercut by an abrasive, cacophonous soundscape that increases in tension and volume, precipitating changes in the demeanour of the subject’s face, which becomes an agitated palimpsest of extreme emotional signatures. For Gonsalves, this work dramatizes the interplay of surface and depth in relation to appearances and what they either reveal or conceal. Consistent with the *Feel* series as a whole, this work engages with the problematic of reading emotions in others and ourselves which, for the artist, “is central to empathy and social understanding” (Gonsalves 2008).

*Chameleon* (2008-2010) is indicative of and extends the dialogue and praxis Gonsalves has initiated between the arts, science and technology in the *Feel* series. Currently, Gonsalves is an Honorary Artist in Residence at the Wellcome Department of Neuro-Imaging at the Institute of Neurology at UCL in the UK and Visiting Artist at the MIT Media Lab working with the Affecting Computing Group in the US, as well as Visiting Artist at Nokia Research Labs, Finland. Like the figure of the chameleon solicited at the beginning of this discussion, Gonsalves moves with stealth and ingenuity into those areas once thought foreign to artists. Adapting to, as well as exerting her own influence on these exotic habitats, she garners a *dramatis personae* drawn from the fields of psychology, social neuroscience, emotion and affective computing. Gonsalves’ immensely rich collaboration with emotion neuroscientist Hugo Critchley, social neuroscientist Chris Frith and affective computer scientists Rosalind Picard and Rana El Kaliouby, generates a common-ground of shared, interdisciplinary inquiry into notions of social networks, empathy, affect and computing.
This art-science collaboration galvanizes discrete discourses that are exploring the same psycho-social conditions, collapsing the silo approach to research that too often fails to take advantage of alternative insights or different disciplinary points of view. If we think of the chameleon as an organism that effectively responds to its environment through mimicry, regardless of its difference, then Gonsalves’ collaboration in *Chameleon* reveals a hybrid approach to contemporary art practice that results in an experience that is more than the sum of its diverse parts. The theoreticians had better get cracking on a name to categorise the form.

Gonsalves describes *Chameleon* as a “poetic interactive video and sound art installation driven by emotional expression of [the] participant” (Gonsalves 2008). This is familiar conceptual territory for the contemporary art goer.
But there is more to it. “Through partaking in an art experience, participants will gain a personal insight and perspective of how mimicry can often build empathic relationships and trust to form cohesive social groups” (Gonsalves 2008). The implications of this are profound. The notion of publication in relation to research has the potential to be dramatically shaken up when an “art experience” in a gallery is deemed the intellectual equivalent of traditional academic outcomes. Practice-based research has at last been recognized internationally within the Academy as a vital and robust form of scholarly inquiry. In addition, then, to the most recent bibliographical references on the set texts for Affective Computing 101, I can envisage gallery information details for the Chameleon installation.

Collectively, Gonsalves and her collaborators are interested in using advanced emotion and affective computing technology to explore the “scientific foundations of emotional contagion – the phenomena of how emotions spread from one person to another in social groups” (Gonsalves 2008). The Chameleon installation is a kind of performance
laboratory, a space of inquisition and enactment. Gonsalves’ artistic sensibility absorbs scientific hypothesis and technological possibility into an interface, a psycho-somatic stage, at once theatre of cruelty, emotional catharsis and critical insight.

Figure 3. Tina Gonsalves, Chameleon Project, Selection of sadness channel (Simon), 2009.

Gonsalves draws both conceptual inspiration and technical support from the scientific and computing communities. Drawing on theories of “emotional contagion” and affect, as well as utilizing advanced sensing and monitoring techniques such as bio-feedback and facial emotion analysers, she renders in Chameleon a “more holistic and embodied view of the relationship between human subjects and technology” (Gonsalves 2008).

The chameleon metaphor works well here to contour the psycho-social interests of Gonsalves and her collaborators. Think of the gallery space less as a static built environment where the art is, than a social ecology where human subjects and digital
personalities interact in unpredictable emotional encounters. Gonsalves describes this dynamic *mise en scène* in the following way:

A series of multiple networked monitors surround the participant. The content of audiovisual footage is a pre-shot database of facial emotional expressions of a select group of humans. Each face, presented on each monitor, will develop its own visual algorithmic code (personality) based on affective and social neuroscientific studies. All the faces on the monitors constantly adjust to any emotional response from the virtual social group as well as the affective state of the participant, attempting to build an empathic emotional circuit with them. (Gonsalves 2008)

As the eponymous reptile disappears into its surroundings, so too empathy incites the participant to respond to and duplicate the emotions of others, be they digital or human.

*Figure 4.* Tina Gonsalves, installation view of Chameleon Project, prototype 09, Fabrica, Brighton, UK, October 2009 (photo: Phillip Carr).
Chameleon is also, in many ways, a poetic meditation on the role and pervasiveness of surveillance and other monitoring, sensing and diagnostic technologies within contemporary society, medicine and industry. Drawing on the most advanced research into biometrics, Gonsalves leaves no trace of human emotion beyond the scrutiny of scanning technology. As with the Feel series, the physical movement, heart rate and facial expression of human participants are all sensed, processed and communicated in various iterations of the Chameleon project. This information is in turn “sensed” by the virtual subjects projected on to the walls of the gallery, who communicate emotional states back into the space through their own facial demeanor. Even more dramatically, some subjects speak directly to the audience, having first recognized their emotional state, then, accordingly, responding in such a way that the visitor is implicated in an emotional drama not of their making. If we think of the chameleon as a semiotic...
creature, it reads its environment as a complex tissue of signs and connotative super-abundance. Similarly, Gonsalves describes *Chameleon* as a “facial emotion, expression reading art project that highlights awareness of our inner selves, as well as our innate tendency to synchronize and connect with others” (Gonsalves 2008).

*Figure 6: Tina Gonsalves, Chameleon Project, prototype 06, University College London Hospital Foyer, London, 2008.*

In *Chameleon* there is an intimate conceptual and technical connection between social and computer networks. In purely anthropological terms, the computer network is an analogy of the subtle, overt and myriad channels of communication that integrate individuals into social beings and the higher orders of community to which they belong. Similarly, the very concept of social relations bears uncanny resemblance to the informational circuits that connect discrete nodes into a higher order or network, as well as the vectors of information exchange that flow within them. Michael Benedikt intuited
something of this reciprocal enfolding of the human and the machine in a decisive and influential definition of cyberspace written nearly two decades ago:

Cyberspace: A common mental geography, built, in turn, by consensus and revolution, canon and experiment; a territory swarming with data and lies, with mind stuff and memories of nature, with a million voices and two million eyes in a silent, invisible concert of enquiry, dealmaking, dream sharing, and simple beholding. (Benedikt 1991 2)

This intimacy between the human and the informational has been given other names, such as the post-human. For Gonsalves and her techno-savvy collaborators, it is nothing so epochal. Chameleon reveals and attests to, in the spirit of Norbert Wiener’s cybernetics, the essentially adaptive and empathic nature of emotive beings (virtual, human or otherwise), responding through largely unseen feedback loops of sensation to others and to their environment.

And so the chameleon changes once more. Letters slowly vanish before your eyes in a subliminal dissolve of unbecoming as it morphs into otherness, transforming into a tabula rasa, a blank page to be written at another time.
Notes

1. It should be noted that Stelarc was already anticipating the posthuman future of developments in bio art and prosthetics before the intervention of the new medium of the CD ROM. His iconic Third Hand project dates back to the late seventies and his sensory compartment events began in the late sixties. Stelarc’s body of work as a whole reveals how central the human-technology interface has been to the development of media arts practices. See Darren Tofts, Interzone: Media Arts in Australia, Melbourne, Thames & Hudson, 2005, pp.42-44.

References


Chameleon exhibition history:

Chameleon Project, prototype 02, Dana Center, Science Museum, UK Feb 2008
Chameleon Project, prototype 01 and 03 Banff Center, Canada, March 2008
Chameleon Project, prototype 04, ICA, London. May 2008
Chameleon Project, prototype 06, University College London Hospital Foyer, London, July 2008
Chameleon Project, prototype 07, Dana Center, Science Museum, UK Feb 2009
Chameleon Project, prototype 07, Lighthouse, Brighton, UK March 2009
Chameleon Project, prototype 07, Sharjah Art Gallery, American University Cairo, Egypt, May 2009
Chameleon Project, prototype 06, Jerwood Gallery, Natural History Museum, London, June 2009
Chameleon Project, prototype 07, Affective Computing and Intelligent Interaction, Amsterdam, Netherlands, Sept 2009
Chameleon Project, prototype 08, Lighthouse, Brighton, UK August 2009  
Chameleon Project, prototype 09, Fabrica, Brighton, UK Oct 2009  
Chameleon Project, prototype 07, Superhuman, RMIT Gallery, Melbourne, Nov 2009

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