Tina Gonsalves
The Chameleon Project
2008–2010 / Multi-channel video installation silent endless loop

The Chameleon Project (2008–2010) is a chronological progression of 10 artwork prototypes merging art, neuroscience, and technology. Each prototype explores emotional contagion, transforming scientific, technical, and visual theories into poetic interactive installations driven by emotions of the audience and the characters on the screen. The art pieces strive to create a feeling of empathy with the audience, drawing attention to how we innately and continuously synchronise with the facial expressions, voices, and postures of others by unconsciously infecting each other with our emotions. The later prototypes in the series attempt to implicate viewers in an emotional drama, using the audience's emotions to drive the emotional dialogue.

For a decade, Tina Gonsalves has explored the intimacies and vulnerabilities of human emotions, creating many short films, mixed media, and installation works. Her work has been exhibited and screened extensively, including at the Australian Centre for Photography, Sydney, Barbican, London; the Pompidou Centre, Paris and the Institute of Contemporary Arts, London. Over the last few years her work has investigated the intersections of art, technology, and science. Gonsalves is currently working with world leaders in psychology, emotion, and social neuroscience and emotion computing to research and produce moving image artworks that respond to emotions. She is currently honorary artist in residence at the Institute of Neurology at UCL in London, visiting artist at the Media Lab at the Massachusetts Institute of Technology in Boston, USA, and is developing her work at the Banff New Media Institute in Canada.

Helen Sloan has been Director of SCAN Media Arts Agency since 2003 and has worked as a freelance curator, writer and researcher of digital arts nationally and internationally since the early 1990s. Located in Bournemouth University’s internationally renowned Media School which houses the National Centre for Computer Animation, SCAN works with artists and researchers to commission and distribute high quality innovative digital arts to a range of audiences. Helen’s current areas of interest are Media Arts and the Creative Economy, Digital Environments and Sonic Arts.
Much of the current scientific work that builds on Darwin's approach to expression and emotion is drawn from Paul Ekman's forty-year-old visual database of facial expressions representing emotional states. Artist Tina Gonsalves has created a new catalogue adding moving images to the study with an aim of creating more engaging and emotionally probing stimuli.

Over the last year and a half, Tina Gonsalves has asked volunteers from all over the world (everyday people, actors, visual artists) to be filmed expressing emotions. She induced these emotional states using various techniques; created scenarios in the studio where the emotions are reactions to staged events; employed classical psychoanalytical techniques such as encouraging the volunteers to imagine different personal emotional scenarios from their past and to re-enact them as if in the present. Her approach has been informed by Stanislavsky techniques of embodying emotional states. By the end of the project Gonsalves aims to shoot in Africa, Asia, Europe, and the Americas.

Tina Gonsalves wrote in her studio notes in March 2008 while working in Canada: "It's taken a while to get comfortable asking people to evoke emotions. It's been exhausting, because it feels so personal. I have sourced some artists, some actors, some people off the street! It's been a varied response, ranging from deep, deep crying for half an hour to much laughter and very light expression. It's been hard to watch people cry and stand over the other side of the camera documenting it. For some, sadness has been very close to the surface, and recent events such as loss make sadness the easiest to access." Whereas she notes in April 2009, working in Paris: "It's harder to coax Parisians to reveal emotions... I need to spend more time getting to know participants, to develop a more trusting relationship. I am asking them to give a lot, and it's hard without a closeness. The studio time needs to be much longer than it was in Canada..."

The emotions expressed and monitored in laboratories don't often correlate to the emotions that form the fabric of our everyday lives. Because of the freedom of the artist, the scientific collaborators of the Chameleon Project are liberated to conduct research in ways beyond the highly controlled experiments that they are usually restricted to. The artist sees the model of the Chameleon Project as being adaptable to science experiments. The aim is to create a more ecological and engaging experimental tool to monitor emotions, so that participants can experience emotional exchanges more naturally - closer to our day-to-day social interactions. The scientific collaborators agree that this will be informative in generating novel research ideas and in devising focal studies to create a tool to
help people who don't naturally understand emotional interactions, such as people with autism, depression, or alexithemia, a condition in which the person is unable to describe emotions in words.

The studio and the gallery spaces are somewhat controlled, yet allow more freedom than the scientific laboratory. By placing works in waiting rooms, cafes, galleries, and museums, the Chameleon Project uses a whole range of public spaces, bringing the scientific study of social emotions one step closer to real social interactions.

The artist collaborated with neuroscientist Chris Frith, who has formulated a theory of emotional contagion. With the support of a technologist, the theory was translated into a software code to make the computer emotionally intelligent, thereby replicating, learning, and adapting to emotional exchange in social interactions. From Prototype 07 of the Chameleon Project onwards, the audiences' emotional expressions have become part of the work. In these works the emotional expression of the individual is recorded by a camera. This information is then relayed to the computer software, which in turn seeks out an appropriate response picked from the existing video image database. The corresponding image is then displayed as an instant reaction to the audience member. The artwork thereby attempts to build an empathic dialogue with the audience, as the audience become increasingly aware of the consequences of their emotional expressions.

Although emotions are with us every day, a concrete scientific definition of what emotions are still lies on shifting ground. For most people, lived emotions are complex and subjective, they are physiologically, cognitively, and contextually driven, and influenced by mood and temperament. The monitoring technology and the scientific methods widely used today still grapple with these complexities.

From Tina Gonsalves's studio notes written in September 2008: "We are only exploring the six basic emotions. Interestingly, because it has only been these six emotions that most scientific researchers categorised... it makes me wonder about the scientific emotion research... There seem to be limited emotions being explored, visually underwhelming databases being used, and the non-ecological settings such as the lab to test responses... Using small groups of subjects with narrow representation, what does the knowledge that science is building about emotions actually mean?"
The Chameleon Project presents a genuine and rare collaboration across the boundaries of arts and science providing challenging and revealing new models for experimentation through art installations, research papers, and novel, more dynamic models for scientific research that incrementally reveal the emotional exchange, mimicry, and contagion across social groups.

The Natural History Museum is showing Chameleon Prototype 06, in which a group of people socialise. For example, if one person becomes agitated, how will it infect the emotional harmony of the group? Over time behavioural patterns and hierarchical and social power structures emerge as the figures constantly search for an emotional homeostasis.

The core collaborative Chameleon team is: Tina Gonsalves, artist, director and producer; Professor Hugo Critchley, Emotion Neuroscientist, Brighton and Sussex Medical School; Professor Chris Frith, Social Neuroscientist, Wellcome Trust Department for Neuroimaging; Professor Rosalind Picard, Director of Affective Computing Group at the Media Lab, MIT; Dr Rana El Kalioubiy, Affective Computing Group, MIT; Helen Sloan, Director SCAN media arts agency, curator and co-producer. With input from: Dr Nadia Bianchi-Berthouze, UCL Interaction Centre, University of London; Dr Bruno Averbeck, Institute of Neurology, UCL; Matt Iacobini, UCL Interaction Centre.

Additional computer programmers: Evan Raskob, Christian Topfner and Jeff Mann, Yousef Abdallah Kashef, Abdelrahman Mahmoud.