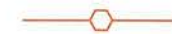


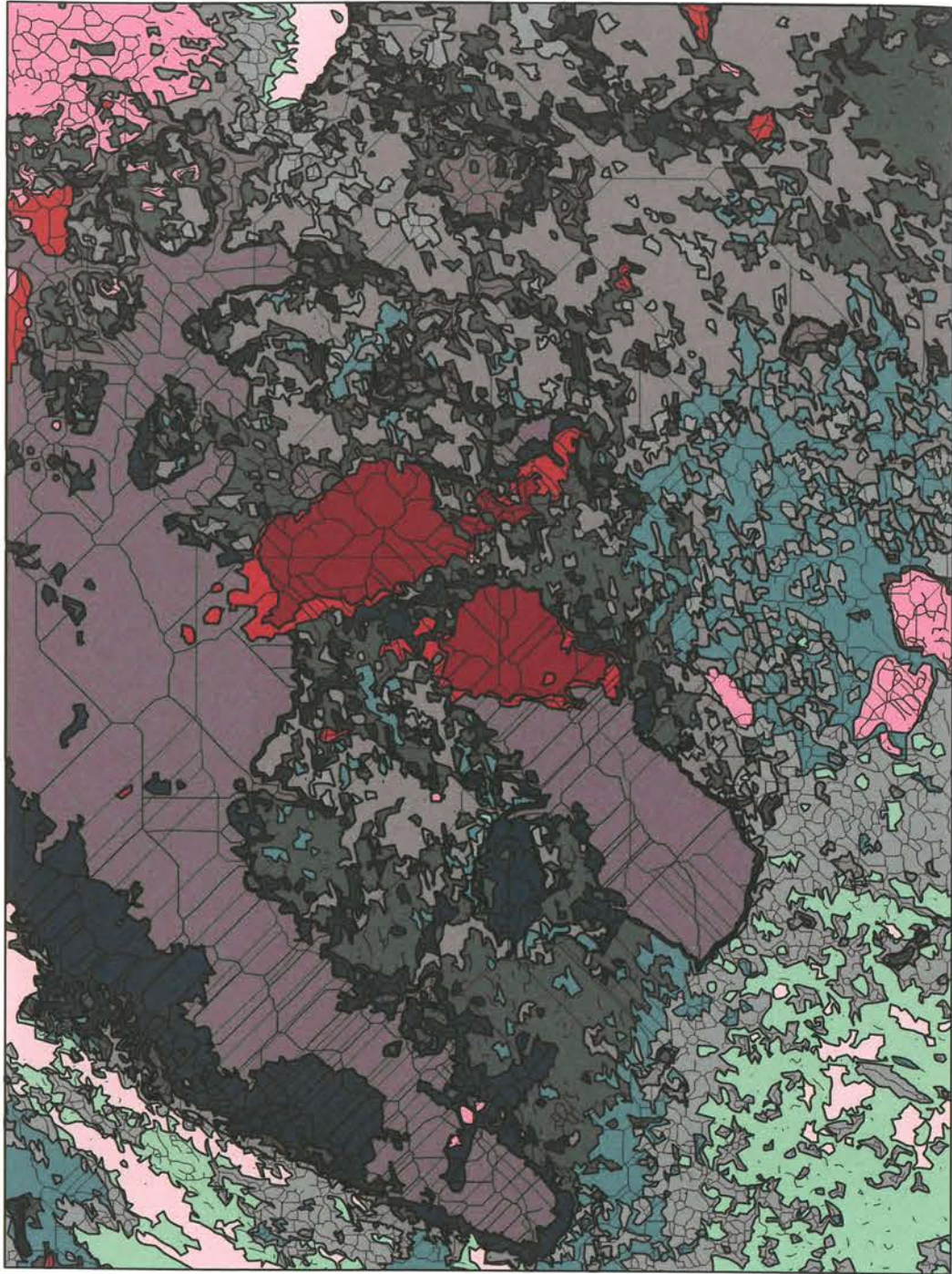
CURATED SPACE

AXNS  
COLLECTIVE



Founded in 2011, AXNS Collective takes an interdisciplinary approach to public engagement, forging bonds between art and neuroscience. **Unknown Quantities** invited co-founders Cosima Gretton and Rachel Stratton to curate a space to share their work and research.





Jon Adams, 228, 2012,  
digital manipulated photograph

# ART X NEUROSCIENCE

by  
MARTHA CRAWFORD AND COSIMA GRETTON



Neuroscience has become a  
cultural phenomenon.



For decades people have been considering the intersection between art and neuroscience. In recent years, however, blockbuster exhibitions in London such as *Brains* at the Wellcome Collection and the series, *Wonder: Art and Science on the Brain* at the Barbican, have created an exciting and high profile trend. Curatorial collective AXNS (Art X Neuroscience) explores how the two disciplines mutually benefit each other and enrich our understanding of creativity, psychology and the brain. In March 2013, we curated *Affecting Perception: Art & Neuroscience* at the O3 Gallery in Oxford. Featuring ten leading artists who had suffered from neurological conditions, it explored health, the brain and creativity. The exhibition was accompanied by a programme of workshops for Sixth Form students and a seminar series from artists and academics. The aim was to engage the public in academic debate and developments in neuroscience, to explore the basis of creativity and to de-stigmatise neurological conditions.

One impetus for curating *Affecting Perception* was that many recent attempts to explore the intersection in art and neuroscience lacked clearly defined goals. In order to rectify this, AXNS defined three areas of focus: neuroscientific exploration of the neural basis of art, analysis of art to deduce brain functions, and finally, the intersection of art with recent discoveries and conceptual issues in neuroscience.

The first of these areas — and one of our aims as a collective — is to explore the neural basis of the aesthetic experience. In doing so we hope to dispel some of the art world's resistance to this form of analysis, and to show how, when encountering art, understanding neurological processes can increase our appreciation of art rather than diminish it.

Using imaging, researchers have already made interesting observations about which areas of the brain are active when we experience beauty. However, this is a rudimentary technique that does not necessarily provide a satisfactory explanation of what the aesthetic experience is. It is no more helpful than saying that love is caused by a surge of neurotransmitters. We know there is more to it than that.

Part of the reason that trying to find the "neural location" of the aesthetic experience is so unsatisfactory lies in the application of

objective scientific methods to an intrinsically subjective experience. The beauty of a piece of art is embedded in our own unique conscious experience, which cannot be objectively measured or compared to that of others.

A further challenge, from a scientific perspective, to studying what happens when humans interact with art is that it requires a definition of "aesthetic experience", a problematic task since this varies from artwork to artwork. On one side there is the intellectual and visceral experience induced by much conceptual or controversial art; and on the other, the experience of visual beauty. In her essay for the catalogue of *Affecting Perception*, art historian Francesca Bacci explains it as "a dialectic movement between two extremes: on the one hand, a rewarding sensation of recognition, of confirmation of our internal expectations, and on the other the surprise that comes from the subversion of our beliefs."

In the marriage of neuroscience and art, issues often arise from their differing forms of rhetoric. Whereas science requires specific definitions to form hypotheses, art defies this kind of categorisation; thus the two disciplines can sometimes appear at odds. We believe that it is in this white space between the two that each can learn from the other. Clearly science cannot continue to take the same approach to art as it does to its own discipline. It cannot continue to apply complex and little understood concepts in neuroscience to artistic observations. Neuroscience is not ready to make leaps from cellular physiology to cultural phenomena.

The second objective in AXNS's mission statement is to explore the neuroscience of perception through art. This is by no means a new phenomenon, nor is it one confined to the sphere of science. Ernst Gombrich and Rudolf Arnheim explored art, perception and visual illusion, and artists have long identified peculiarities in the way our brains perceive the world. They have used these to play with the visual image.

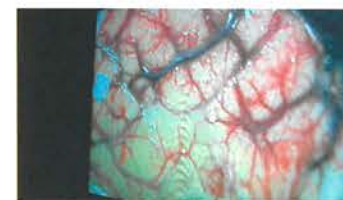
*Affecting Perception* included artists suffering from different neurological conditions that had either influenced their art without intention, or become a source of inspiration. The aim was to explore how the artists' conditions affected their practice and ultimately to show how altered brain function affects perception. We were encouraged to find that visitors left with an insight into the

artists' altered experience of the world, and an appreciation of the fragility of their own reality as a construct of their brain.

Defining artists by their medical conditions is a controversial undertaking which we deliberately highlighted in order to facilitate discussion and even criticism of our project. We tried to avoid imposing misleading interpretations by focusing on connections the artists had already made between their condition and their work. The aforementioned essay by Francesca Bacci discussed issues surrounding medical categorisation. Bacci positioned AXNS among other "historians, critics or curators [who] categorise artists according to a period influenced by events or experiences" and ultimately questioned whether "it [is] so different to define a period of production by physiological, anatomical or pathological brain changes".

De-mystifying and de-stigmatising neurological conditions were the primary goals of *Affecting Perception*. Our feedback indicates that we did achieve this among some members of the public who attended our seminars. One woman, for instance, wrote that her perception of autism had altered and she now viewed it as an "ability not a disability." There were some general misconceptions that we did not manage to dispel, however. Many students at the workshops held on to the belief that "creativity is in the left side of the brain and logic in the right."

Striking the appropriate balance between accessibility and oversimplification is an area that AXNS continues to work on. We question whether it is right to teach students that their capabilities are so anatomically fixed. The dichotomy between left and right further polarises art and science, portraying artists and scientists as if literally inhabiting separate halves of our brain, whereas in truth, artists and scientists are cut from the same cloth: both are curious and explorative, seeking the truths behind our every day experiences.



Jon Adams,  
Stills from video of awake  
craniotomy, 2012

The third part of AXNS's overall mission is the promotion of new artistic projects that explore the discoveries and conceptual issues that arise from brain science. Neuroscience has become a cultural phenomenon and we want to explore how this manifests itself in the arts.

For some artists, it is a conscious association. Artists are increasingly holding residencies in laboratories and hospitals. Jon Adams, one of the artists included in *Affecting Perception*, suffers from Asperger syndrome and has been collaborating with Professor Simon Baron-Cohen, a leading autism researcher at Cambridge University. Likewise artists such as Tereza Stehlikova, Anaïs Tondeur and Rosalyn Driscoll are collaborating

with the newly created Centre for the Study of the Senses at the Institute of Philosophy.

Yet it is our belief that there is a further, less determinable effect of neuroscience on art. We believe that the conceptual ideas that come out of neuroscience are beginning to infiltrate a general zeitgeist. Many artists are beginning to look to media, such as Augmented Reality [AR], that alter perception and produce artworks that are in constant flux. AR is based on the premise that every viewer should have a unique experience and that perception is not a fixed term. This is the same principle that we sought to convey in *Affecting Perception* and explore further in our **Unknown Quantities** article about AR artist, Tamiko Thiel.

*Affecting Perception: Art & Neuroscience* was held at the O3 Gallery in Oxford in March 2013.

Visit [www.axnscollective.org](http://www.axnscollective.org) for upcoming events or follow @axnscollective