

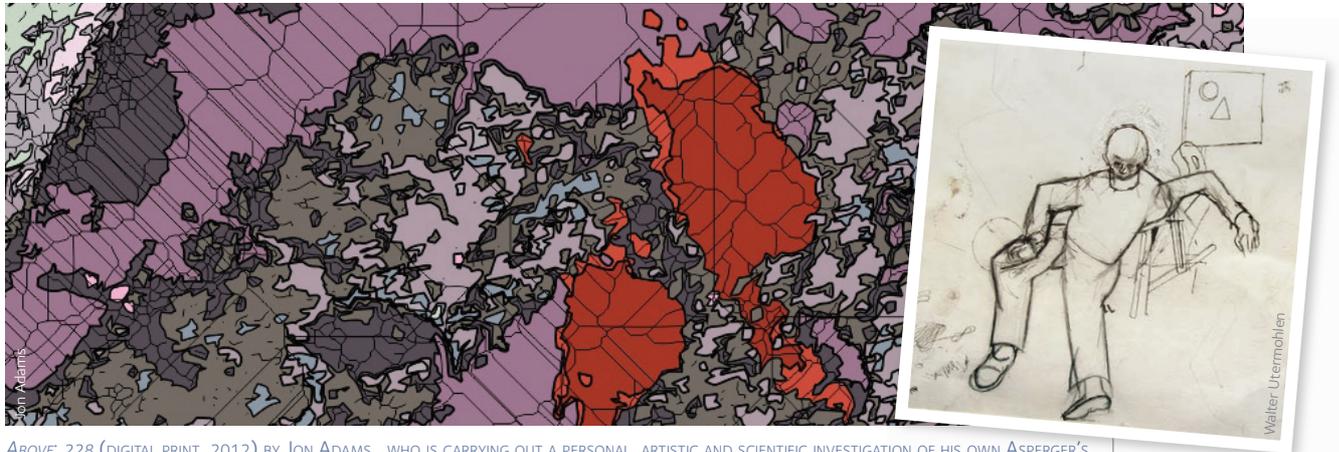


LITTLE RICHARD (PERMANENT MARKER ON PAPER, 2012)
BY JON SARKIN, WHO AFTER A SEVERE STROKE HAD PART
OF THE LEFT HEMISPHERE OF HIS BRAIN REMOVED

THE ART OF NEUROPSYCHOLOGY

What can looking at a piece of art reveal about neurological conditions?

Jamie Condliffe previews an exhibition that hopes to shed some light



ABOVE: 228 (DIGITAL PRINT, 2012) BY JON ADAMS, WHO IS CARRYING OUT A PERSONAL, ARTISTIC AND SCIENTIFIC INVESTIGATION OF HIS OWN ASPERGER'S SYNDROME; AND INSET: *BROKEN FIGURE* (MIXED MEDIA, 1996) BY WALTER UTERMÖHLEN, WHO HAS BEEN DIAGNOSED WITH ALZHEIMER'S DISEASE

For most people, contemplating a piece of art is more than admiring its aesthetic value. Rather, it's a prompt, a cue from which meaning and emotion can fill our brains with thoughts and questions. What's less clear, though, is how people with neurological conditions – from dementia to brain damage – perceive art. A forthcoming project, *Affecting Perception*, hopes to go some way to redressing that balance. Through a combination of art, seminars and school workshops, its organisers, Martha Crawford, Cosima Grettton and Rachel Stratton, hope to explore the links between art and neuroscience.

The trio are members of the AXNS collective, a London-based group with an interest in art and neuroscience. Together with the University's Department of Experimental Psychology they hope to kickstart people's thinking about neurological conditions, engaging them at a tangible level through art and debate to prompt questions about how brain conditions can affect perception in humans. The aim is to both entertain and educate. 'I think we're experiencing a movement towards looking at science through a creative lens,' explains Crawford. 'So we're trying to engage the community with the kind of learning usually kept in the University.' Of course, understanding neurological conditions is valuable intellectually – but it's an important step in breaking down the stigma attached to them, too.

Nobody understands that better than the Oxford academics who are leading seminars as part of *Affecting Perception*. 'There's a very coarse level of understanding of neuropsychology outside of academia,

and people are sometimes scared of neurological conditions,' explains Professor Glyn Humphreys. 'I think anything we can do to raise awareness has to be a good thing.' That's why he'll be taking the chance during *Affecting Perception* to talk about his studies of patients with visual agnosia: a condition where patients can't associate visual stimuli with meaning.

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While visual agnosia is rare, as it requires both sides of the brain to be damaged, it is of great interest both medically and artistically. Artists are often told to dissociate meaning and aesthetic in order to explore the two more thoughtfully; Humphreys' research digs deep into the neurological condition to understand how the two are separated in otherwise healthy patients. These aren't merely academic questions though. Humphreys and his colleagues feed their academic work into developing treatment and diagnosis schemes for patients with neurological conditions too, and are currently working on a large-scale study which will lead to a standardised test of cognition for stroke patients – something which has until now been missing.

While patients with agnosia struggle

to make the most of their senses, others suffer quite the opposite problem. Professor Charles Spence, who will also be speaking as part of *Affecting Perception*, studies synaesthesia – that rare and curious condition where stimulation of one sense leads to automatic experiences in a second. Numbers that appear as colours, perhaps, or visual motion which appears to be associated with sounds. But there are more subtle forms of synesthesia – called cross-modal correspondences – which affect us all. They include the kinds of subliminal messages that marketing folk adore: red stars make most of us think of carbonated or bitter flavours, for instance, which may account for some of the success of Heineken and San Pellegrino.

The effect can achieve more than selling drinks, though. 'Many artists have claimed to be synesthetes, from Kandinsky to Hockney,' explains Spence. 'But other artists have used the synesthesia common to us all to good effect too.' The painting *Foghorns* by Arthur G Dove, for example, subtly uses colour, shape and size to evoke the deep, rumbling tones of the marine call, and its effect is uncanny. Through studying works such as these – and the artists who produced them – our academics can garner a better understanding of the brain. Fortunately for the rest of us, *Affecting Perception* should allow a rare and comprehensible insight into that world too.

▶ *Affecting Perception* runs from 2 to 31 March 2013 at venues across Oxford; admission is free. Details at <http://axnscollective.org>