

Exploring the Brain through Art

Susan Aldworth and Andrew Carnie are artists interested in exploring the human body and mind. Their work in the 2020 exhibition *Illuminating the Self* responds to the neurological condition epilepsy and medical research led by Newcastle University.

The research project, called CANDO, is developing a new light-based therapy to control seizures in people with focal epilepsy. Epilepsy is a condition of the brain where cells become over-excited causing seizures. Seizures can appear as a loss of awareness or control over the muscles amongst other things. The research uses vectors to introduce light-reactive proteins into brain cells. An implant will monitor the brain for abnormal activity before delivering blue light stimulation to cells if required. The light-reactive proteins will respond to the blue light, altering cellular activity to prevent seizures. This technique is known as optogenetics.

Watch the documentary by North East filmmaker Alan Fentiman about the *Illuminating the Self* exhibition. The film follows Aldworth and Carnie over the project as they research and develop their work. For the film visit <https://youtu.be/ndPbzHAhktM>.



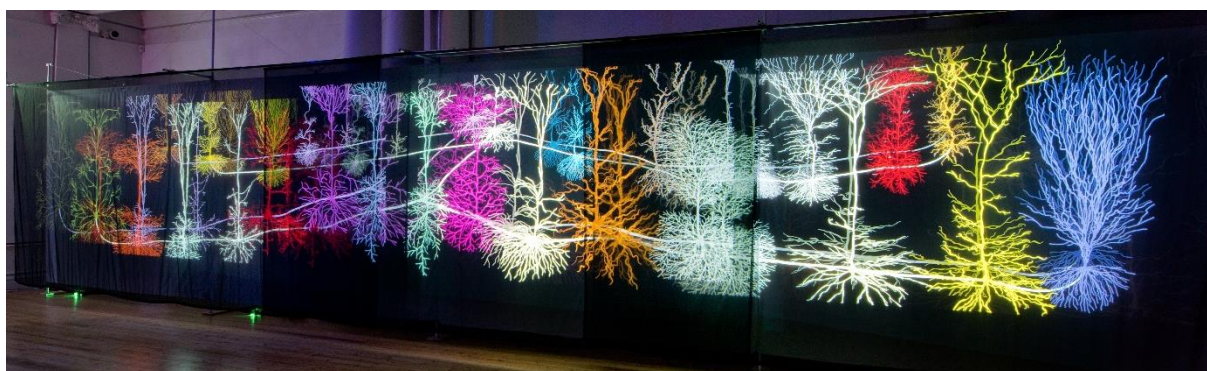
Out of the Blue, installation of 106 embroidered items of underwear, 2020. Susan Aldworth.



Crack of Light, LED strips with 12 min repeating HD video, 2019, Andrew Carnie.

You might also want to read the essay by curator Lucy Jenkins on the exhibition. This is available along with other information at www.cando.ac.uk/illuminatingtheself. View more exhibition photographs at www.flickr.com/photos/187455968@N05.

If you would like to explore Susan and Andrew's other work, check out their own websites, susanaldworth.com and www.andrewcarnie.uk.



Blue Matter, 28 min four channel HD video, 2019, Andrew Carnie.

Write about the similarities and differences in the work that the two artists created?

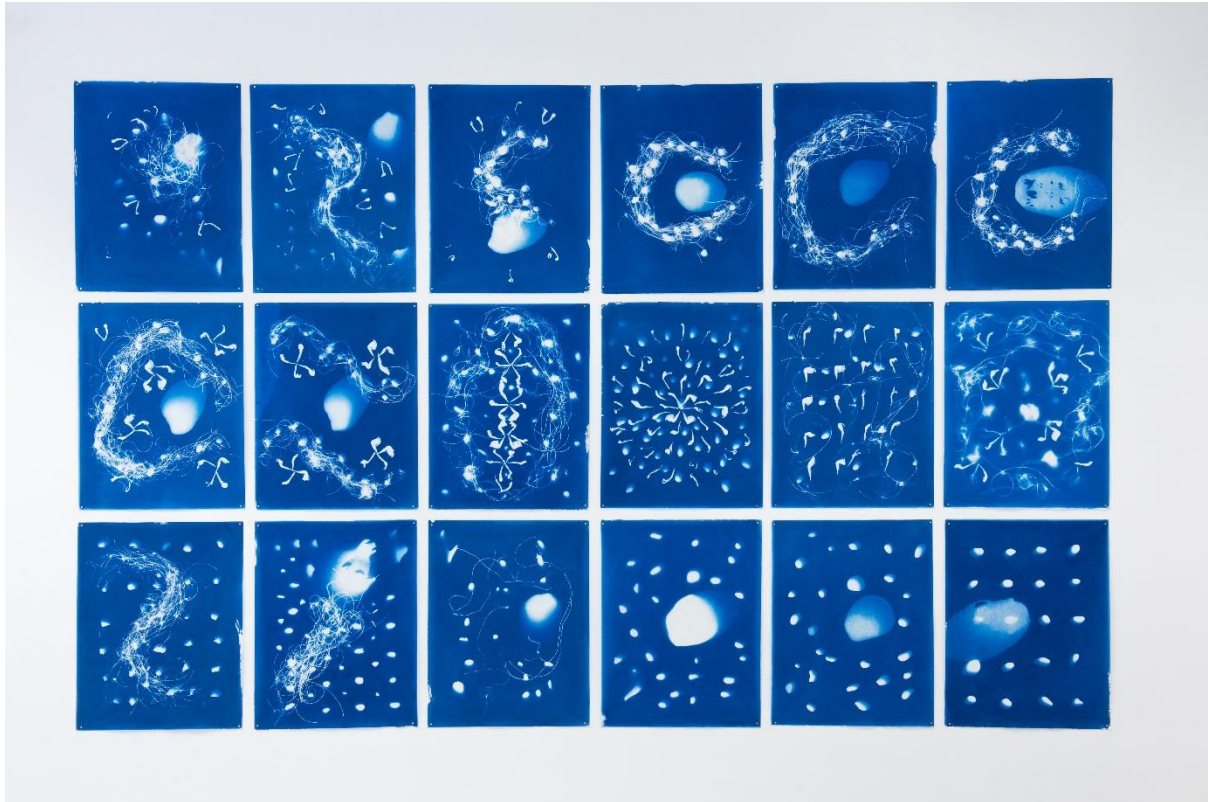
How do the similarities reflect the science and engineering behind the research?

Do you think that their work complements one another?

Create work inspired by *Illuminating the Self*

Susan Aldworth inspired work:

Susan created two pieces of work titled *Out of the Blue*. One of these pieces was comprised of a series of 18 prints. The work represents the abnormal synchronization of firing neurons that occurs across the brain in epilepsy, echoing the patterns and shapes of brain activity.



Out of the Blue, installation of 18 cyanotypes, 2020, Susan Aldworth.

In science, the electrical activity of the brain is often shown as a brainwave as electrical activity within cells builds before undergoing a period of rest. The whole cycle can then start again.

Develop a series of images that represent the activity of the brain.

This might reflect the change in the brain at a particular time or for a particular medical condition. It could even represent how the activity of the brain changes over a day.

Susan's installation piece *Out of the Blue* consists of over 100 items of clothing embroidered with the words of someone living with epilepsy. Each item of clothing has a particular word connected to epilepsy that has been displayed prominently on the back. They have been embroidered in a way that helps the viewer to understand the word.

Create a piece of word art for a word connected to the brain or epilepsy.

Think about how you might display the word to help portray its meaning.



Out of the Blue, installation showing close-up of embroidery, 2020, Susan Aldworth.



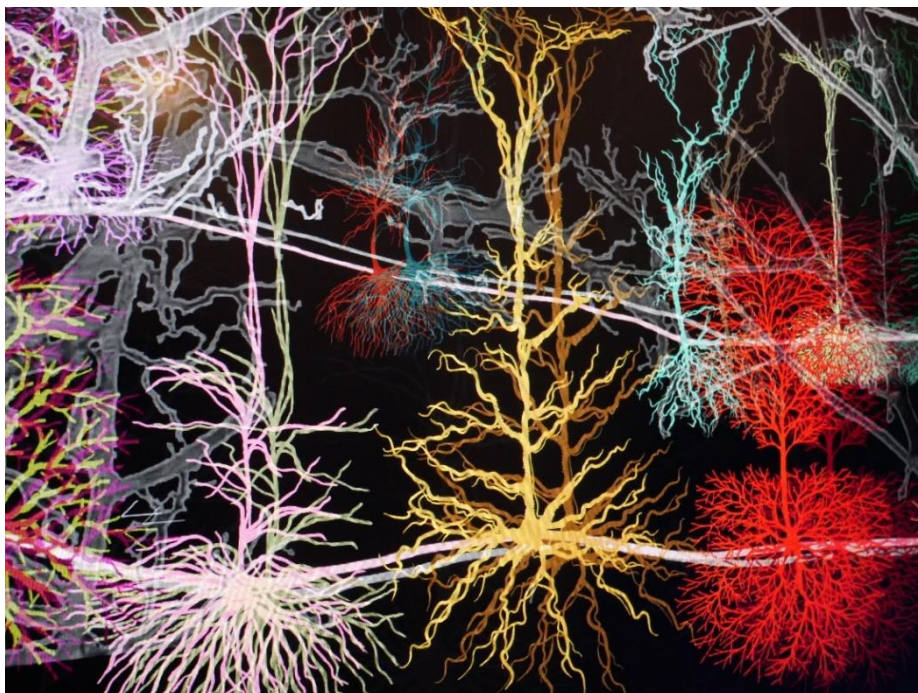
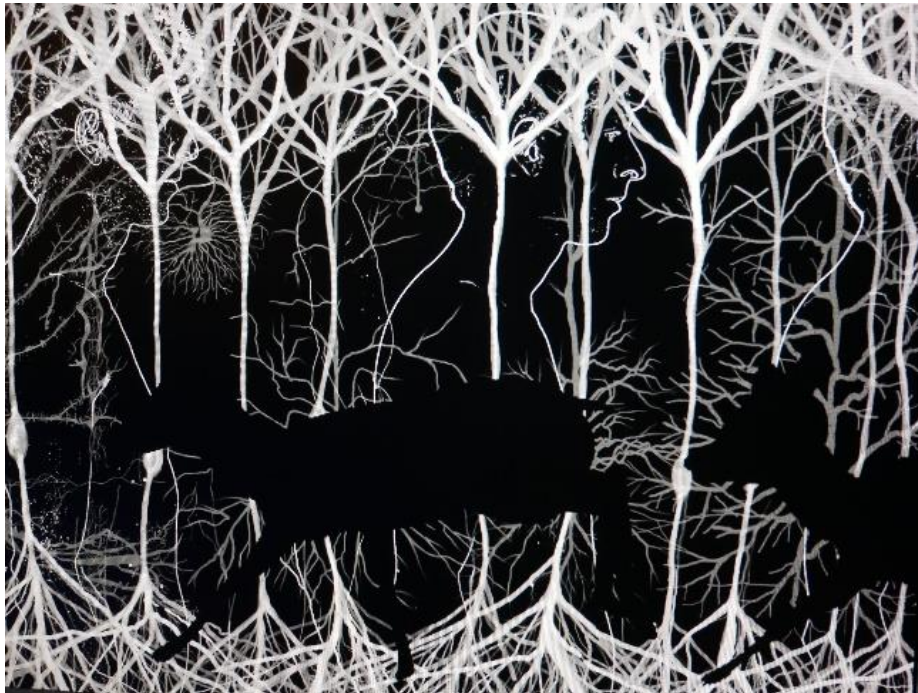
Out of the Blue, Overloading, 2020, Susan Aldworth.

Andrew Carnie inspired work:

Andrew's video work *Blue Matter* takes the viewer on a journey inside the brain. Inspired by the similarities between cells called neurons and trees, he immerses the viewer in an imagined landscape of the brain. A landscape that is filled with visual metaphors. Deer run through the neuronal trees. Watchtowers appear, keeping an eye over the forest. Are these monitoring for abnormal behaviour or something more sinister?

Using Andrew's analogy of the brain as a forest, create your own landscape scene of the brain.

What sort of things might be living within the landscape? What colours are there within the landscape? Is there anything happening within the image? Is anything hiding?

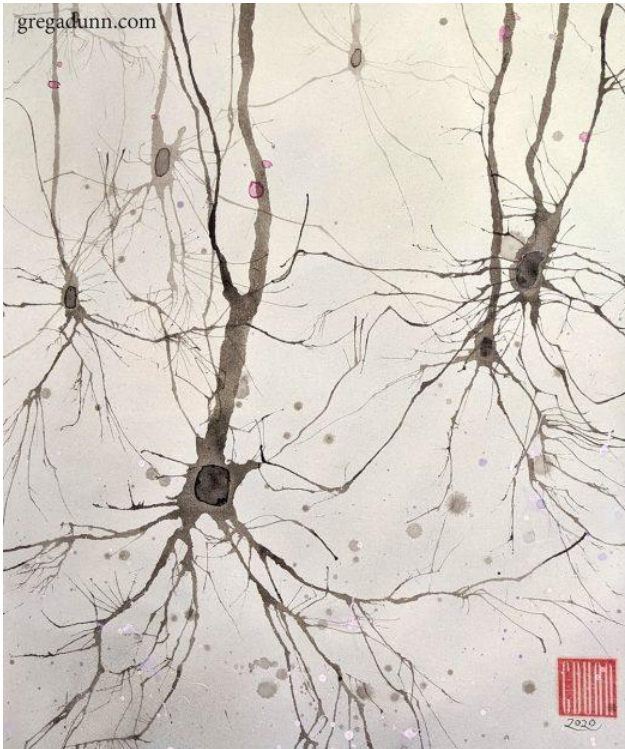


Blue Matter, stills from 28 min four channel HD video, 2019, Andrew Carnie.

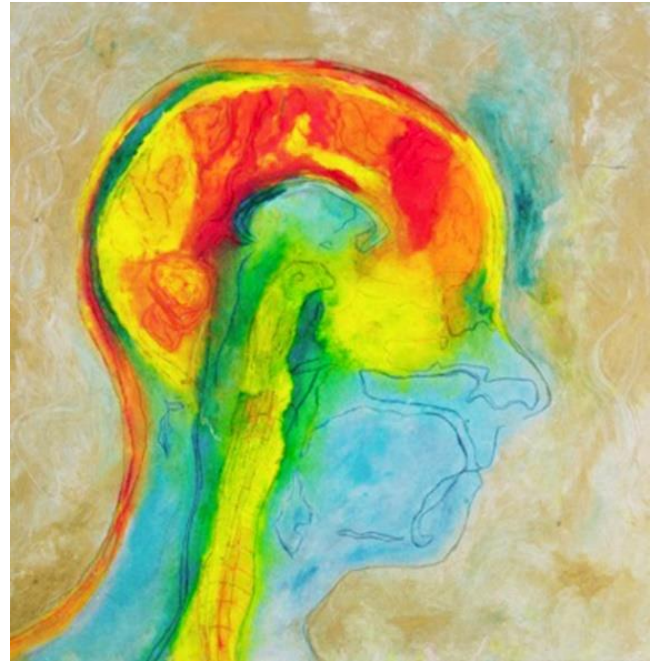
Further Work:

A lot of Aldworth and Carnie's work revolves around exploring and understanding the brain. A topic that has also fascinated many other artists.

Below are two more images by artists whose work is inspired by the brain. Greg Dunn, who has a doctorate in neuroscience, likes to explore in his work the anatomy of the brain. Elizabeth Jameson's image, *Mind on Fire*, is based upon an MRI scan of the artist's brain. An MRI is a scanning technique that uses strong magnets to look inside the body.



Detail image from *Cortex in Golden Pastels II*, Greg Dunn. 70" x 20". Ink and 22K gold on sized xuan paper.



Mind on Fire. Elizabeth Jameson. Drypoint etching on Paper.

Research another artist who has explored the brain in their work.

How have they represented the brain? Have they focussed on how it works, or do they try to explore how the brain translates into thought and the mind?

For further ideas read the following BBC article about an art exhibition on consciousness that was shown at the Wellcome gallery.

<https://www.bbc.co.uk/news/magazine-35585875>

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