

Exhibition

Mind over matter



Wellcome Library, London

States of Mind: tracing the edges of consciousness

Wellcome Collection, London, UK, from Feb 4–Oct 16, 2016

For more information see <http://www.wellcomecollection.org/statesofmind>

Dictionaries define consciousness as the state of being aware of and responsive to one's surroundings, but consciousness is more complex than lexicographers suggest. The subject has long engaged philosophers and scientists. Despite having established that conscious experience originates in the brain, neuroscientists struggle to explain how subjective, individual perceptions and experiences arise within its physical matter. The philosopher David Chalmers has described this process as the "hard problem" of consciousness. An engrossing year-long exhibition at Wellcome Collection took a tangential approach to consciousness by focusing on states at the edge of consciousness, rather than simply on conscious or unconscious states. Divided into four thematic sections, historic scientific objects and artworks were complemented by interactive displays and contemporary artists' responses to the themes.

Science & Soul explored the mind-body problem through various historical artworks. The 17th century philosopher René Descartes formulated the theory of dualism, believing that mind and body were connected via the pineal gland. The early 20th century scientist Santiago Ramón y Cajal identified the role of neurons and the importance of their myriad interconnections in brain activity. The view of the brain from Descartes' *De Homini* (1662) is crude in comparison with Ramón y Cajal's delicate drawings of neurons and glial cells. Although neuroscience was initially the preserve of anatomists and histologists, the molecular biologist Francis Crick was instrumental in establishing consciousness as a legitimate area of scientific enquiry in the mid-20th century. Recent research, showing that letter-colour synaesthesia can be learned through training, raises the possibility that similar perceptual changes might provide insights into the relationship between the brain and consciousness.

Sleep results in a state of altered consciousness; our brain remains active, but our perception is reduced. *Sleep & Awake* examines how the transition between the sleeping state and wakefulness is disrupted in sleep disorders such as somnambulism and sleep paralysis. Sequences of a horror film *The Cabinet of Dr Caligari* (1920), featuring a somnambulist whose actions are controlled by a sinister psychiatrist, are exhibited alongside contemporary artist Goshka Macuga's tranquil figure *Somnambulist* (2006). The converse disorder is the poorly understood phenomenon of sleep paralysis. After regaining consciousness, people with this disorder cannot move and often experience auditory and visual hallucinations. A preparatory sketch for Henry Fuseli's *The Nightmare* (1781), lent by the British Museum, bears a striking resemblance to an attack of sleep paralysis.

A key aspect of human consciousness is conscious selfhood, the experience of being a particular individual.

Language & Memory explores how two human attributes facilitate conscious selfhood. The acquisition of language enables communication and the sharing of subjective experiences. Excerpts from Mary Kelly's seminal work *Post-Partum Document* (1975) describe her infant son's acquisition of language and her own sense of loss at his developing independence. Normal conscious experience is also dependent on memory. Loss of memory can devastate human consciousness, as explored in a sequential programme of three major installations, each for a period of three months.

The first of three installations by different artists in the *Language & Memory* section, *The Whisper Heard* (2003) by Imogen Stidworthy, contrasted the language acquisition of a young child with that of a patient with aphasia after a stroke. The responses of the patient with aphasia to a narration of a passage from Jules Verne's science fiction novel *A Journey to the Centre of the Earth* (1864) explore concepts of language, meaning, and identity. Next was Kerry Tribe's video installation *H.M.* (2009), which used two synchronised reels of footage with a 20 s delay between them to reflect the experience of Patient HM (Henry Molaison) whose long-documented case history advanced scientific understanding of memory. Finally, Shona Illingworth's multiscreen installation *Lesions in the Landscape* project (2015) explored the impact of amnesia and the erasure of individual and collective memory by examining one woman's personal experience of memory loss alongside the sudden evacuation of the remote island of St Kilda in 1930.

Being & Not Being explored disorders of consciousness caused by brain disease or trauma, ranging from coma to locked-in syndrome. In a coma state, conscious experiences are absent and brain activity is much reduced; consciousness is intact in people with locked-in syndrome, but they are unable to communicate or move (beyond eye movement). Usually, patients are categorised as either clinically unaware (persistent vegetative or wakeful but unaware) or as minimally conscious (displaying some, usually intermittent, awareness of themselves or their environment). Aya Ben Ron's film *Shift* (2009) poignantly documents the lives of clinically unaware patients, their families, and health-care staff. Although it is difficult to assess levels of consciousness in people with these conditions, in another exhibit, Adrian Owen's research shows that it's possible to communicate with some patients who are clinically unaware by asking them to imagine doing a particular physical activity (eg, playing tennis). Their brains respond identically on functional MRI to those of control participants imagining the same activity. Research into consciousness continues to astound us.

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