

## **Philosophy (24/06/2025): Report by Pete Redgrave**

### **I experience therefore I am....**

Following a previous introductory meeting about consciousness I lead this month's group discussion for a second helping of consciousness.

Since time was, and for all those who have thought about it, a fundamental problem is how can personal subjective experience (consciousness) possibly be generated by a physically constituted brain and body. This conundrum is known in philosophical, psychological, neuroscientific and machine intelligence circles as the 'hard consciousness problem'. Thinking about consciousness will be constrained by the individual ideas and examples we've been exposed to along the road. My road has been neuroscience where the strict modus operandi is having facts drive the quest for explanations, and explanations drive the search for facts.

At the outset, it's always good to have an agreed language so at least we know what the other guy is talking about. Philosophers use the term 'qualia' for our subjective experiences. For example, qualia refer to the subjective feeling of pain when stung by a bee, the sweet taste of a strawberry, the eye watering smell of an onion, or the saturated blue of a Teesdale gentian. Consciousness, however, is not limited to our sensory derived view of the external world, we can also introspect about our internal emotions, intentions, memories, and ideas. Presiding over all our subjective experiences is the spotlight of selective attention. Volitionally, we can move the focus our conscious awareness from one mental state to another, thereby providing trains of thought and a subjective sense of self.

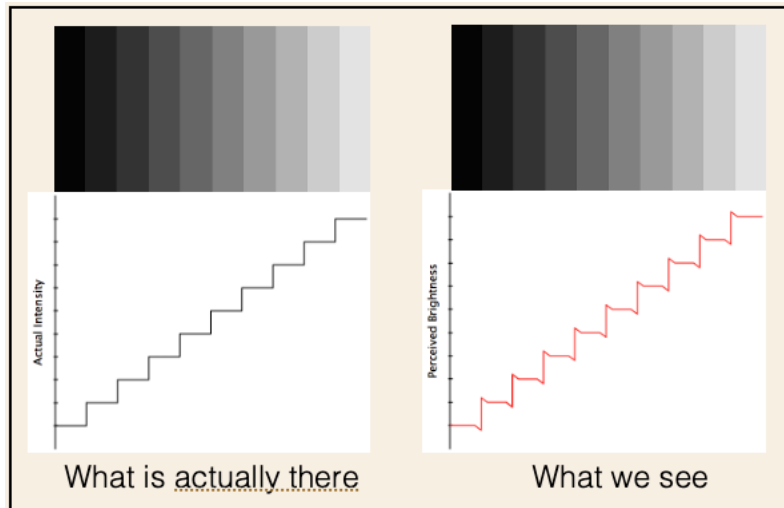
Increasingly, the investigation of consciousness has become a hot topic in contemporary neuroscience, evolutionary biology and machine intelligence. This interest is founded on the supposition that consciousness is physically based and can be legitimately investigated. Specifically, the assumption is that when computations of the right kind are performed in a physical system, like the brain, this will constitute both necessary and sufficient conditions for consciousness to emerge. Put another way, subjective awareness is an emergent property of a particular kind of processing performed in the physical world. Perhaps this emergence is analogous to the emergent wetness you get when mixing two gasses together in the correct proportions (H<sub>2</sub>O).

Supporting the assumption of physically based consciousness is the tight, one-to-one correlation between brain neural activity and reported subjective experience (see figure). It seems that no aspect of consciousness (sensations, emotions, intentions, memories, ideas, etc) can operate independently of underlying neural activity. All classes of mental experience can be evoked or suppressed by stimulating or inhibiting neurones in appropriate regions of the brain. Psychoactive drugs would be just one example of physical events altering subjective experiences ("Is it my round again?"). Alternatively, when human subjects are placed in an MRI brain scanner and asked to respond to sensory events or concentrate on different aspects of their internal mental life, specific, regionally distributed brain regions spring into action.

However, despite evidence of a seemingly complete dependence of conscious experience on underlying brain activity, even a hard-nosed materialist like me acknowledges the gap between neurons firing and emergent subjective experiences – the hard consciousness problem remains unresolved. But, if (and it's a big 'if'), conscious experience can emerge from the right kind of computations in physical

systems, then it's probably not if, but when machine intelligence starts having feelings. Over to you for a comment HAL.

ps. The implications of artificial machine intelligence will be the topic of discussion in Philosophy's August group meeting....



**Mach Bands:** Our uneven subjective experience of even grey bands is wholly determined by the process of neuronal lateral inhibition in our visual system. No amount of volition can suppress this illusion.

The next philosophy meeting on Tuesday 22<sup>nd</sup> July at 10am at Enterprise House will be a presentation and discussion on Plato's Forms led by Christine. Do come and join us!

The following meeting will be on Tuesday 26<sup>th</sup> August at 10am at Enterprise House, which will continue the Consciousness topic. All welcome.