

2.6 Qualia, emotionally tagged memory

What is the correlation between physical processes and our conscious perception of feeling and emotions. Physical processes are the actions of neurons, for example when we feel pain. An experience why pain feels like pain has been named qualia. The experience of pain isn't sufficiently explained by the actions of neurons.

The concept of consciousness is closely related to the concept of our self.

There so far is no verifiable or falsifiable model of how physical processes are responsible for qualia, and this has lead to many strange theories.

But here now a logic concept that accounts for qualia from a purely materialistic perspective.

I assume qualia are, and consciousness in general is, a coupling of emotionally tagged information and memory.

Emotions can be physically explained. They are states of neurons and neurotransmitters causing physical responses, from increased heart rate to penile swelling. If we construct a thought experiment of a human body with all physical functions that accompany emotions but zero memory capacity, emotions could be classified as being reflexes only. There would be no qualia, no experience.

For qualia to exist, there has to be at least short-term memory. The more long-term memory is, the more explicit the qualia.

You can even conduct a self-experiment on this hypothesis. Handle your own cooking utensils in a careless manner in dim light. If you burn your hand on a frying pan, the first thing that happens is a non-conscious reflex of withdrawing your hand. It takes some fractions of a second for you to realize that you experience and experienced

pain. This happens because neurons at the location where you burned yourself still fire, even after you withdrew your hand in a reflex. Now for the conscious experience of pain, or any qualia, it is necessary that the physical processes are coupled with information, even just the fact that you withdrew your hand, and stored into brain memory. The sequence of stored instances may be very high, even thousands per second. The recall of stored sequences of emotional states associated with any kind of an informational frame result in consciousness, or awareness, even self awareness.

This is not mysticism. This can be tested by scientific methods.

Stored information (something seen, heard, etc) alone is no qualia. Computers store such information.

Processed information is no qualia. Chess playing computers process information better than humans.

Withdrawal reflexes are no proof of pain. Mimosas also exhibit such reflexes.

Pain only exists when neurons fire, see local anesthesia. Even when neurons fire, there has to be a neurotransmitter bridge to the thalamus to evoke the biochemistry of emotions, from heart rate to endorphin-induced euphoria.

Cortical storage of information is necessary for qualia. Drugs that interfere solely with memory functions can be used as effective anesthetics, even though the thalamus functions to produce neurochemical signals of emotions.

Without remembering, no qualia. A psychological trauma requires memory, even if the memory is subtle and not available for immediate recall.

Not all information stored in our brains is always readily available, but often can be recalled with a little effort. You may have learned a second or third or fourth language a decade or more ago, and then forgot much of it, or rather transferred the knowledge to passive memory, because you never used it. But then, if the occasion arises, the language returns to active memory much faster than it was in active memory when you first learned it.

You can't do that with a word you heard under narcosis.