

## **The brain and consciousness**

DiPs at the Blue Mugge meeting on Mon 9<sup>th</sup> November 2015 7.45pm to 9. 15 pm (or thereabouts)

These notes prepared by Mugge newcomer Ian Millward, who will facilitate the discussion on Monday. This is obviously an ambitious and difficult philosophic theme - which we have discussed several times at the *Mugge* over the years. Notes for these earlier sessions can be seen at [www.raymondwilliamsfoundation.org.uk](http://www.raymondwilliamsfoundation.org.uk) > Pub discussions> Past Notes > Same title, in alphabetical order...

It is impossible to explore the links between the brain and consciousness without considering current thinking and evidence of evolutionary theory and genetics. Of special relevance is the evolution of language and the human brain.

Perhaps the most well-known pre-scientific views of the brain and consciousness are those of Descartes who in the 16<sup>th</sup> and 17<sup>th</sup> centuries developed the notion that the body and soul are not connected and that the concept of mind (or consciousness) resides in the pineal gland of the brain. Hence he thought humans have free will.

This view has been dominant for the last 3 hundred years, although Spinoza challenged it during Descartes lifetime but was considered a heretic and excommunicated. Spinoza wrote:

***“The thinking substance (mind) and the extended substance (matter) are one and the same”.***

Francis Crick later called this the ‘astonishing hypothesis’ as he strove to pin down the structures of the brain that manifested the phenomenon we call consciousness. In the 1980’s he wrote:

***“A person’s mental activities are entirely owing to the behaviour of nerve cells,...atoms, ions and molecules that make them up and influence them”***

In other words he denies the existence of free will. Many scientists e.g. Gazzanica, regard ‘free will’ as an illusion, albeit a powerful and useful one. Sam Harris says:

***“Thoughts and intentions emerge from background causes of which we are unaware and over which we exert no conscious control”***

The background causes he refers to are mainly our genetic inheritance and each person’s unique lifelong environmental history interacting with their perceived world at a given moment. This does not suggest a determinist view but that there cannot be effect without cause.

The philosopher of consciousness, Nick Humphrey argues:

***“Consciousness is an ‘impossible fiction’ that works wonders to improve our lives. The belief in free will and the immortal soul themselves emerged as evolutionary consequences of how the human brain evolved.***

What is the evidence for this? **Some relevant evidence**

1. How successful are weight loss programmes?
2. Only an experienced naval officer can distinguish an exocet missile from a fighter aircraft on an oscilloscope under battle conditions!

### **A couple of experiments!**

So what is unique about our human brain?

1. It is the most complex thing in the universe.
2. Only human brains have 2 hemispheres.
3. Human brains have the most developed frontal lobes.
4. We have the most brain cells and neural connections of any mammal.
5. There is no gene or part of the brain that ensures our consciousness.

What is its evolutionary history?

1. Lost City Hydrothermal Fields.....4 billion years ago
2. Emergence of eukaryotic cells ...a merger of bacteria cells living inside a microbe.....2 billion years ago (similar to mitochondria cells).
3. Hominid brain diverged from chimpanzee brain.....about 6 million years ago.
4. Human brain develops 2 hemispheres.....about 2.5 million years ago
5. Emergence of the homo sapien brain with the FOXP2 gene mutation essential for language.....about 100,000 years ago.