**John Eccles on Consciousness – summary by Wendell Krossa**

There is very little material out there on the wonder of being human, in contrast with the demonization of humanity which is abundant in religious writing, ideological material and environmental thought.  One good expositor on the wonder of human being is [Sir John Eccles](http://nobelprize.org/nobel_prizes/medicine/laureates/1963/eccles-bio.html) (Nobel Laureate). He has books such as ‘The Wonder of being Human’, ‘Human Mystery’. The quotes below are from ‘The Self and Its Brain’, ‘Evolution of the Brain’ and ‘Creation of the Self’.  Eccles is a neuroscientist who deals with mind/brain issues.

For instance, he offers a real sense of amazement over such common things as sight.  He traces the how-it-works details of visual input and what happens in the brain, but then leads you to the absolute mystery of how we actually see what we see.  ‘In some mysterious way the retinal picture appears in conscious perception but nowhere in the brain can there be found neurons that respond specifically to even a small zone of the retinal image or the observed picture’.  It is the self that sees something from all the visual input which is a mass of electrical signals, not a real picture.  ?It is there conjectured that the reconstitution of the perceived image is due to the self-conscious mind that scans and reads out from the appropriate feature, recognition elements of the visual areas.  The fully reconstituted image is thus consciously perceived.  It is reconstituted only in a fragmentary manner by the visual areas of the brain, though these areas of course are instrumental in the reconstitution’. So also, I would imagine for hearing and feeling.   
  
‘Lesions of the brain stem and medial thalamus may result in coma of man and animals’.  This complete and permanent loss of consciousness is probably due to damage to the reticular activating system.  However, these lesions of the brain cannot be regarded as providing evidence with respect to the location in the brain of the ‘seat of consciousness.’   Unconsciousness results because of the removal of background excitation of the cerebral cortex that is requisite for wakefulness.  ‘It would seem that theses lesions involve structures whose activity is necessary but not sufficient for consciousness.’   
  
‘A new theory relating to the manner in which the self-conscious mind and the brain interact, is that it is a very strong dualism and raises the more severe scientific problems in relationship to the interface between the world of matter-energy, in the special instance of the liaison area of the brain, and the world of states of consciousness that is referred to as the self-conscious mind.’  The hypothesis is that the self-conscious mind is an independent entity, actively engaged in reading out from the multitude of active centers in the modules of the liaison areas of the dominant cerebral hemisphere.  The self-conscious mind selects from these centers in accord with its attention and its interests and integrates its selection to give the unity of conscious experience from moment to moment.  It integrates its selection to give unity even to the most transient experiences.  The self conscious mind exercises a superior interpretive and controlling role upon the neural events.  The experienced unity comes not from a neurophysical synthesis, but from the proposed integrating character of the self-conscious mind’.   
  
‘Conscious phenomena in this scheme are conceived to interact with and to largely govern the physiochemical and physiological aspects of the brain processes.  They tend to restore the mind to its old prestigious position over matter, in the sense that the mental phenomena are seen to transcend the phenomena of physiology and biochemistry.  It can be claimed that the strong dualist interactionist hypothesis that has been developed here, has the recommendation of its great explanatory power, but most importantly it restores to the human person, the senses of wonder; of mystery and of value’.   
  
‘The question ‘where is the self-conscious mind located?’ is unanswerable in principle.  It makes no sense to ask where the feelings of love, hate, joy, or fear are located; or such values as truth, goodness and beauty which apply to mental appraisals. These are experienced’.   
  
‘What about the miracle and mystery of waking to consciousness every day?   Some people have found the idea of the emergence of consciousness incredible and impossible to understandable.  It is a miracle, but it may be no more of a miracle than our waking up in the morning and recreating full self-consciousness out of more or less nothing?  Although the re-creation of consciousness happens every day, I think that this is probably as miraculous as the first occurrence of consciousness, and that it is almost as difficult to understand- if we really want to understand it’.   
  
From ‘Evolution of the Brain, Creation of the Self’ - Eccles shows the huge gulf of difference between humans and apes.  It is far more than just 2% of genes; it is a universe of different consciousness and thinking; of mind.   
  
‘There was apparently a clear qualitative difference between human and ape languages’.  Eccles goes over much research on training apes to speak and respond to sign language. ‘Human language is outside the capacities of other species, even in its most rudimentary form.  The initial high hopes of being able to communicate with apes at a human level have been disappointed.  There seemed to be nothing of interest that the apes wanted to communicate, and it was as if they had nothing equivalent to human thinking’.   
  
Again more material in this book on vision – ‘At no stage in the nervous processing, can neurons be found that would be instrumental in an eventual reconstruction of the picture, each carrying within itself some particular picture, as with the mythical grandmother cells that tell you when your grandmother is being seen; yet we perceive the picture.  The immense diversity of the patterned activity of neurons carries the coded information that could be used for reconstruction of the picture, but such an holistic operation apparently cannot be done by the machinery of the cerebral cortex.  However, it is accomplished in the conscious experience that, in a magical manner, appears when we open our eyes, and that changes from moment to moment in synchrony with the visual inputs’.   
  
‘We are apt to regard the person as identical with the ensemble of face, body, limbs, etc. that constitute each of us.  It is easy to show that this is a mistake.  For example, amputation of limbs or loss of eyes, though crippling, leave the human person with its essential identity. This is also the case with removal of internal organs.  The human person survives unchanged after kidney transplants or even heart transplants.  When we consider the brain as the seat of conscious personhood, we can also recognize that large parts of the brain are not essential’.   
  
Eccles also comments on ‘the apparent enigma that non-material mental events can act on the synapses of the brain’.   
  
‘In order for us to have radical freedom, it looks as if we would have to postulate that inside each of us was a self that was capable of interfering with the causal order of nature’.  ?Science has not accounted for morality, truth, beauty, individual responsibility or self-awareness.  In which case a valid and central part of human experience lies outside of science.’   
  
‘A supernatural event took place at the time of man’s first appearance; before which our ancestors were protohuman mammals, and after which, through the divine gift of a soul, they were truly human. I believe that there is a Divine Providence operating over and above the materialist happenings of biological evolution; that eventually resulted in the creation of the human genotype.  But for the stupendous hominid eventuality, Planet Earth would have continued indefinitely with its biological infestation, as it has been called. This is supremely wonderful in itself, but it would have been deemed to be forever conceptually dead; a continuing darkness without any glimmer, if not for the transcendent illumination and meaning that has been given by the cultural evolution of the self-conscious, creative homosapiens’.   
  
‘I maintain that the human mystery is incredibly demeaned by scientific reductionism; with its claim that promissory materialism accounts eventually for the whole spiritual world in terms of patterns of neuronal activity. This belief must be classed as a superstition.  We may conclude by saying that biological evolution transcends itself in providing the material basis; the human brain; for self-conscious beings whose very nature is to search for hope meaning in the quest for love, truth, and beauty’.   
  
One of the great mysteries is how something non-material (the mind) , can influence and move the material (our bodies and physical reality around us).  This breaks to supposedly closed and causal reality of the material realm. We intervene as non-material selves to move material reality; we do it all day long.  It is an incomprehensible mystery; just like the mystery of waking to consciousness every day, or seeing things all day long. Wow.   
  
Hence the hypothesis of [dualist interactionism](http://www.rpi.edu/~brings/SELPAP/ECCLES/eccles4/node3.html).