

## The Distinctively Human Self

E. Stan Lennard, M.D., Sc.D.

*“Unfortunately there is an obsession by ‘advanced’ thinkers to discredit traditional value systems as obsolete, presumably because they had a religious base. So the challenge is to replace traditional values by an ethic based on scientific rationalism or on a more evolutionary basis. The characteristic feature of all these value systems is their materialistic basis, though it may be concealed.”(1)*

Sir Karl Popper and Sir John Eccles defined self in their comprehensive work published in 1977, The Self and Its Brain (2):

“...the self is not a ‘pure ego,’ that is, a mere subject. Rather, it is incredibly rich. Like a pilot, it observes and takes action at the same time. It is acting and suffering, recalling the past and planning and programming the future; expecting and disposing. It contains, in quick succession or all at once, wishes, plans, hopes, decisions to act, and a vivid consciousness of being an acting self, a center of action. And it owes this selfhood largely to interaction with other persons, otherselves, and with World 3.

“And this all closely interacts with the tremendous ‘activity’ going on in its brain.”

The highest mental experience is “knowing that one knows,” self awareness or self-consciousness.(3) It is the most fundamental characteristic of the human species(4) and emerges from levels of linguistic communication not shared by non-human animals.(5) Mind and language are more than physical entities. Distinctively human language enables man to bridge the gulf between mind and matter. Human language reflects a preternatural, spiritual component in humans that does not exist in other creatures and lifts them to a unique eminence in the cosmos (6), made in the image of God.

Searle (7) has asked how thoughts and feelings, if truly mental, can affect anything physical and make a difference. He states, “Nothing is more common in nature than for surface features of a phenomenon to be both caused by and realized in a micro-structure, and those are exactly the relationships that are exhibited by the relation of mind to brain.” He believes that the mind and body do interact but are not different things. Mental phenomena are merely features of the material brain without meaning, caused by and realized in the brain’s microstructure. Neural processes correlate with behavior, intention and emotion. (8) However, William A. Dembski comments on the stance of Searle, “Correlation is not causation” [of behavior, intention and emotion].(9)

Bruce L. Miller, neurologist at the University of California, San Francisco, contends that clinical data has identified one area of the brain that controls much of the sense of self.(10) He studied 72 people with frontotemporal dementia, a degenerative brain disease, seven of whom manifested dramatic changes in

personality (the type of clothes they wore, the food they ate, and their political and religious beliefs). Using MRI and SPECT imaging techniques six patients had sustained the most degenerative damage to their brain's right frontal lobe, and the seventh had the most in the right temporal lobe. Miller proposes that the architecture of self-maintenance lies in the right frontal lobe where awareness and self-reflection patterns are influenced. He describes the self as including beliefs, values and the way people dress. He went on to say, "The self is anatomy and biology, and it develops through experiences. It is the coding of these experiences into our brain that is the key to maintenance of self. When we lose that coding, the self becomes fragile, and it is easily tilted over....It may be deflating to some people that the very essence of who they are – including their beliefs and values – is merely another anatomical process."

Dembski points out that a full materialist account of mind needs to understand localized brain excitations in terms of other localized brain excitations. Instead, we find localized excitations, such as anger, having to be explained in terms of semantic contents, such as insults. According to Dembski this admixture of brain excitations and semantic contents hardly constitutes a materialist accounting of mind or intelligent agency.(9)

Self-consciousness is "knowing that one knows."(11) It is self-awareness that emerges from levels of linguistic communication unique to humans. It is a most fundamental characteristic of the human species that has recently been discounted in chimpanzees found not to have an awareness of their own thoughts.(12) Self-awareness cannot be pinpointed in the brain (13), contrary to Miller. Popper (14) conjectures that the locus of interaction between the self and the brain is in the speech center, again testifying to its unique functional importance in human beings who can communicate with God through the Holy Spirit (15, 16). Popper places self in what he calls World 2 (14). Here reside subjective experiences, thought processes, states of consciousness, the mind, the soul and (I propose) the spirit. The materialist posits that immaterial mental events, such as thinking, cannot act in any way on electrophysical structures such as neurons since the domains of matter and energy are sealed against this interaction. Popper maintains that the physical brain which resides in what he calls World 1 and consists of matter and energy is not sealed off from effects outside of matter and energy and *interacts* with World 2. The bridge between mind and brain is the flow of information. There is no net energy expenditure in this interaction, countering the objection of materialists who claim that such bridging violates the law of conservation of energy. But by what means does this flow of information occur?

Popper's colleague, Sir John Eccles (17), proposes a role for quantum mechanics in the interaction between mental intention (World 2) and transmission of neural signals to World 1 electrophysical structures. A colleague and coauthor of Eccles, Henry Margenau (18), proposes that the constituents of synaptic vesicular transmission are small enough to be governed by probabilistic quantum laws. Mental events, including intentions and planned thinking, initiate the release of presynaptic vesicles and their contained transmitter molecules by changing the probability of their emission from a presynaptic vesicular grid. The

event does not violate the conservation laws of physics. The extremely small size of the portion of the grid affected in the transmission places it within the range of quantum mechanics and Heisenberg's uncertainty principle. It is now recognized that transmission of synaptic vesicles is governed by changes in probabilities (19). Mental intention can select by *choice* vesicular transmission across synaptic clefts to other electrophysical neural structures. In other words, neural transmission of information occurs between World 2 and the physical neural structures of World 1. The mind-brain interface, or bridge, is crossed, and the materialist objection is addressed!

Knowledge in the objective sense, man-made culture (art, music, values, personal relationships, beliefs), language and civilization all reside in Popper's World 3 and are constructs of the mental activity of man. Popper's three worlds encompass all experience and existence and are fully interactive. The behavioral changes observed by Miller (10) in patients with frontotemporal dementia that were reflected in clothing, food preferences and values actually reflect distortions in Popper's World 3 and are separate from Popper and Eccles' concept of self, or mind (2).

A final refutation of Miller addresses the "fragility" of the self. (10) Eccles (20) explains that the basic connectivities of the human brain are built by genetic determinism before birth in readiness for the subtle changes in synaptic connectivities that develop throughout life in the learning process. The self, however, remains in continuity with the past and extends into the future. Neural connectivities are plastic, changing over time with experience, and we have suggested how they may be impacted by non-material, mental events (17, 18). The self is comprised of unique accumulated experiences over a lifetime, and our behavior, memories and the whole content of our inner conscious life are dependent on these experiences. No matter how extreme the changes at given decision points caused by circumstances, one remains the same self, durable through a lifetime.

The self makes man distinctively human. The human mystery is demeaned by the claim of scientific reductionism to account for all the non-material world as emerging from patterns of neuronal activity. Contemporary neuroscience persists in claiming that mind ultimately reduces to neurophysiology. (21) Eccles' response is, "This belief must be classified as a superstition...we are spiritual beings with souls existing in a spiritual world as well as material beings with bodies and brains existing in a material world." (22)

*"Within [a] richer world of both material and nonmaterial things, physical laws lose their status as absolutes and become subject to principles that may be quite metaphysical (principles like intelligent agency and divine providence)." (9)*

## References

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