

Brain/Mind

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Lets look at what would be involved in the identity of mind and brain states. Modern physiological theory has it that the brain processes in two different ways involving the left and right sides of the brain (Damasio, 1994; Hoyenga & Hoyenga, 1988; Jaynes, 1976; Ornstein, 1972). The left side of the brain is coordinated with the right side of the body. It processes language, mathematics, logic etc. The right side of the brain is coordinated with the left side of the body. It processes art, religion, intuition, etc.

Looking at the issue of identity, we are really thinking of relative identity of two things because total identity would be one not two things. We are not thinking of total body similarity of two people. We are thinking of some degree of similarity less than total neurological isomorphism between two or more people. The right and left sides of the brain start out as roughly mirror images of each other but some corresponding segments develop into different specializations. No two persons' brains are exactly alike. Generally there are roughly equivalent structures of about the same size in about the same place on each side in the brain. Gross factors that may effect similarity of brain states between two people could be gender or handedness or neurological injury. Generally the character of men and women is seen to correspond to right or left brain characteristics, men being left brained, women being right brained. Perhaps this is myth (Ornstein, 1972, p. 36; Hoyenga & Hoyenga, 1988, chap. 9). In the population, 95% of people are right handed and the left side of the brain generally processes what the left side processes and the right side generally processes what the right side processes in the rest of the 95%. Of the 5% of the population that is left handed, a portion of that population processes like right handers and a portion of that population processes some mental material with different parts of the brain on different sides of the brain than do right handers. When various neurological structures are injured or totally destroyed, corresponding brain segments on the other side of the brain can sometimes take over processing tasks (Damasio, 1994, chap. 4).

Two alternative brain philosophies now compete as conceptual frameworks to understand the brain. One, psychobiology, originally conceptualized by Eccles (1953) and philosophically extended with the aid of Popper (1977) traces the activity of a single nerve

cell and its effects on other cells and other cells effects on it. In a textbook on psychobiology, Hoyenga and Hoyenga (1988, chaps. 1 & 13) describe the alternatives. The emphasis in psychobiology is on sensations and perceptions and other mental events but not as in traditional physiological psychology which sees mental events as intervening variables (reasons in higher animals) that somehow increase or decrease the effect of an independent variable on a dependent variable. Investigation in psychobiology is focused on the activity of a rather small number of neurons rather than on localizing functions in various parts of the brain that correspond to behavior (Why not consciousness states?), as does traditional physiological research. The psychobiology approach tries to bypass the use of consciousness states as factors in brain research. Or, perhaps more accurately, to reverse the direction of study from neurological activity to consciousness rather than the reverse.

What does Laird Addis have to say that might be of relevance to the identity of two or more sets of brain and conscious states? Addis (1989, p. 19) believes that given parallelistic laws brain states and conscious mental states both occur together. He divides possibly construed consciousness states into primary (consciousness states proper), secondary (sensations, emotions, sense data, after images) and tertiary (dispositional) mental entities (1989, p. 5 & 6). His definition of a conscious mental state is "a particular exemplifying an intentional property and a mode property" (1989, p. 149). Secondary mental entities are actually not states of consciousness but objects of states of consciousness. As for tertiary mental entities "to have a disposition is to have some (non-dispositional) property that enters into a law of a certain form." Abstractly stated this is $[Dx \text{ 'means' } ((f) (fx . (y) [(fy . O1y) O2y]))]$ where 'D' is a dispositional predicate and 'O1' and 'O2' are observational predicates and 'f' is a predicate variable (Addis, 1981, p. 205).

As for two (or more) persons doing the identical behavior (having the disposition to do the identical behavior) Addis (1981, p. 224) holds that: (1) Two qualitatively identical people and therefor dispositionally identical people would do the same thing in the same situation. (The converse is not true. Two or more people who would have the same disposition to do something need not be qualitatively identical, because the 'same' disposition may have more than one dispositional grounding property.) The above is

consistent with the theory of his teacher Gustav Bergmann.

A false dichotomy is being set up between the two competing approaches - traditional and neurobiological . There is no conflict between using human mental dispositional consciousness states or reasons as opposed to their underlying physiological processes. What must be made clear is that reasons which are dispositions actually correspond parallelistically to a neurological property which operates lawfully in a certain situation to cause certain other neurological properties and states of consciousness, that is new dispositions and behaviors. The false dichotomy is that one must either study neurons and their activity or study states of consciousness. If consciousness is used it becomes (as Popper seems to have conceptualized it) an intervening variable competing with the independent physiological variable, with the result of emergentism. This seems confusingly both okay and not okay to Popper and the Hoyengas - good if it ultimately comes to be discovered as the nature of consciousness, bad if it enters into neural research. (A note of regional Eastern Iowa/Western Illinois interest: The Hoyengas are psychology professors at Western Illinois University in Macomb, IL. Another emergentist consciousness researcher, the A. I. philosopher Kenneth Sayre (see Sayre, 1976) is represented at Marycrest University in Davenport, IA by his student Gary Monnard. And of course the University of Iowa is in the region.)

Julian Jaynes (1976, chap. 3) theorizes that human beings in as late as the Greek Heroic Period and in the Jewish Biblical Period processed information bicamerally. That is that thoughts in their brains that came from the right side of their brains were literally thought to come to them from the gods, God, angels, demons, or some other extra body entity. Thoughts from the left side of the brain were generally thought to correspond to themselves. A writer as late and as important as Thomas Aquinas may have still been thinking bicamerally. The idea that the brain is a closed or at least relatively closed system may have first been conceptualized by Occam (or possibly Duns Scotus) with the theory of natural signs. It seems to me different cultures and various people in various cultures are at various stages of assimilating the insight of the Scottish School of Philosophy.

We can and do share right brain type experiences - that is, gross nonspecific experiences: (1)physical awarenesses, such as sex, dance and athletic muscle

awarenesses; and (2) Quasi-symbolic non-linguistic and non-mathematical awarenesses, such as pictorial art, music, drama, movies, and religious awarenesses. We might think of popular cultures fixation on sports and Hollywood, as as a special kind of learning.

We often think of learning as trying to understand or match intellectually or mentally what the teacher is saying, but we could just as well think of learning as trying to match a teacher's brain states. Learning at foundation is matching to various degrees your brain states with the brain states of someone else. We no longer learn directly from gods, angels, or in modern times space aliens. We think of ourselves as learning in our heads. But more accurately the mental words and images that we experience are literally nowhere and the learning takes place in the creation of new physiological brain states.

Julian Jaynes holds that the major mode of conveying knowledge of language and even mathematics is metaphor or analogy. The right side of the brain works by metaphor. We see patterns as wholes and slight variations in these whole patterns. Metaphor gives us shading to fill in all the similar but slightly different aspects of meaning i.e., brilliant, bright, clear and in the opposite direction, dull, fuzzy, and obscure. In mathematics the reality pictured by this equation is almost the same reality as that pictured by that slightly different equation. Whole sub mathematical disciplines form around similar kinds of equations. But language and mathematics are sequential operations and it is the left side of the brain processes language and mathematics. More study seems to need to be given to how the sequential is related to the holistic.

Artificial intelligence has two ways of representing information. Analog computers use similar but not the same physical structures to convey the same meaning or activity. A physical switch, atomic pulse, or current can be configured to the same meaning. A water float or metal spring or growing and decaying organic material can be equivalent in function or meaning. Digital computers build from simples: yes/no, on/off, either/or to complexes. (Digital is really misnamed binary.)

“An entity is a natural sign if, by its very nature, it represents some other entity or would be entity, that is, if it is an intrinsically intentional entity” (Addis, 1989, p. 29). We are thinking about what states of consciousness are about, the Noema or intention of a state of consciousness. Quasi natural signs are such things as dreams, visual art, music, etc. The

presented symbol, mental or physical, refers to a next level symbol which stands for content. For example: A dream of a house is a natural sign of a house but also at the same time a quasi natural sign for a repressed wish for sex with one's mother, the real meaning. The second content is not a directly a result of intentional attention (Addis, 1999, p. 95-98).

Our phenomenological experience of brain functioning is here and now, a situated but varying center of activity, thoughts, perceptions, etc. These modes attend or focus on an intention or natural sign or quasi natural sign with intermediate words, equations, visual art objects, musical sounds; and, combinations of words, equations, visual and auditory symbols (drama, religion, movies, the internet, books, speeches, etc.), that point to natural signs and quasi natural sign intentions.

As to phenomenological subjective intentional experience we could possibly for clarity of conceptualization reduce all the above to a red dot focused on or centered in an actual or mental field of vision against a black background that fills out the field of vision. If quasi natural signs exist we would have to drop back to say a black dot that represents a red dot. For two or more persons to have an identical indiscernible mental experience might be possible, as they could share the same intentional natural sign of something. The last paragraph of Addis' book *Natural Signs* cautions us of the need for further philosophic study of the nature of particularity and properties to supplement the scientific study of the mind and brain and therefor thoughts about the dots above are actually just a beginning. .

Given all the variations going on in mental operations we must have very complex corresponding brain structures in various series of combinations of right/left brain coordinated operations. These accompanying physical brain states of such an experience trivially could not be identical as no two physical things can ever be absolutely identical without being the same thing. But more interestingly they could and would have to be functionally identical physiologically but not structurally identical as we have learned that no two brains are absolutely structurally physiologically identical. (Even identical twins are not structurally physiologically identical given differing developmental experiences.)

Also, following Julian Jaynes, we can assume that if someone is having a mystical experience, that experience which may be perceived as inter psychic is actually intra-psychic. If one looks for the source of such experiences now seen as within the mind one

is pushed back to various possible complex brain state configurations that correspond to these experiences in ways as described by Damasio (1994) and the Hoyengas (1988).

Appendix

For contemplation the following not exact but suggestive table is included:

LEFT BRAIN	RIGHT BRAIN
man	God
sequential	metaphorical
digital	analog
science, language, mathematics	art, music, drama, religion, movies,dreams
practical	theoretical
parts	wholes
simple to complex	gestalt
centered here and now	God's eye view

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