A GEOMETRICAL APPROACH TO THE MIND-BRAIN PROBLEM.

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The classical dualist theory of mind derived from Descartes is that a mind is a non-extended entity or thinking substance. Descartes identified the mind with the ego and its thoughts, which appear to introspection not to possess spatial extension or spatial parts. However, *images*, which are certainly in the mind, and *sense-data* also are *spatial* entities, and so it is logically possible to relate them to the brain, which is also a spatial entity. There are various possible spatial relations between images and sense-data on the one hand and the brain on the other: (i) they may be *inside* the brain, i.e., structurally identical with patterns of nerve impulses in the brain; (ii) they may be *outside* the brain, i.e., *in a space of their own not identical with physical space*. Images and sense-data are spatial entities having spatial parts and bearing spatial relations to each other, and they may be said to be in space—the private space of the individual.

There are then two ways of relating such a spatial system to the physical world: (iia) there may be no spatial relations between the spatial system of a man's mind and the physical world or (iib) the two spaces may be conjoined to form a higher-dimensional spatial system. That is to say there may not be only *one* space-time in the universe but *many* space-times. There is the common physical world containing material objects and then there may be also, for *n* human individuals, *n* private mental worlds containing sense-data and images (and perhaps a pure

Ego), each of these worlds spatially separate and distinct and linked only by causal relations. On the other hand the universe may not consist of only one three-dimensional space but, for n human individuals, of one $(3n+3)$-dimensional manifold, of which the physical world would be only *one* cross-section and each man's own private mental space (or world) *another* cross-section.

This theory is merely an extension of Prof. H. H. Price's theory of images to apply to sense-data as well. The causal relations between the brain and the spatial mental world may be identified with Ψ v and Ψ k. A "penumbra" of these forces extending beyond their proper target (the brain) can account for all forms of E. S. P., including precognition if we combine this theory with Broad's (1953) development of Dunne's theory of precognition. We may suppose that the physical world and the various mental worlds intersect at some point and are in relative motion, thus generating the "now" point of time according to Hinton's suggestion. Thus this theory can supply the missing concrete interpretation of Dunne's theory, for the spatial system, which in that account intersects the physical Hinton universe to produce Observer I's field of observation and the "now" of time, may be identified as the spatial system of the mind in which images of all kinds and sense-data are located.