

1035-Q1-1360 **Carl E. Behrens*** (cbehrens@crs.loc.gov), 5107 Cedar Rd., Alexandria, VA 22309. *Are Euclid's Postulates Really Essences?*

The Greek theory of Essences, say Lakoff and Nunez, holds that every thing is a kind of thing; that kinds, or categories, exist in the world; that everything has essences that make it the kind of thing it is, and that these essences are causal. They also argue that Euclid's postulates are the essence of plane geometry, and further, that all mathematical subjects, by which a few axioms lead to all other truths, are example of the theory of essences. The idea that categories have an existence of their own has persisted in many forms. Hersh, for example, identifies what he calls "social objects" in this way. Sonatas, the Supreme Court, and numbers, are examples of such objects, which he says have causal roles in society. Empiricists, on the other hand, reject the theory. J. S. Mill wrote: "A class, a universal, is not an entity per se, but neither more nor less than the individual substances which are placed in the class. There is nothing real in the matter except those objects, a common name given them, and common attributes indicated by the name." Such generalizations exist as concepts in human minds, but their causality is only that of the individual objects aggregated. This talk will explore the influence on mathematical philosophy of the theory of essences. (Received September 19, 2007)