

Eros and Mathematics: Some Speculations

by

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The following speculations are based upon Freud's hypothesis that Eros is the basic force in the universe, binding together all things, and creating order out of the chaos caused by Thanatos.

Similar viewpoints are to be found in many philosophers, such as Whitehead, who conceives of "creativity" as a central metaphysical principle. If Love is the basic law governing all natural processes, it follows that the ultimate scientific insight would be an understanding of the workings of Eros.

The quest to formulate in equations the basic rationale of all natural movements has been the aim of mathematicians and logicians through the ages, since the time of Pythagoras. According to Freud's line of thought, the mathematician, in this quest, is really seeking to understand Eros. In psychoanalytic terms, we may say that mathematics is a function of the ego. It is a major intellectual instrument for assisting the organism's instincts in adjustment and fulfillment. As we know, higher mathematics and logic are necessary for the development of advanced technology and scientific insight. Increase in knowledge of logic hence means a strengthening of the ego. The ultimate goal of the mathematician or logician (the unification of all branches of man's knowledge under a small number of formulae) is equivalent to the complete understanding of Eros (the basic rationale of all natural processes), which would provide for a maximum actualization of the organism's instincts, under the perfectly rational guidance of the ego.

Mathematics has been regarded by a long line of think-

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ers, from Plato to Husserl, as an "eidetic discipline"—a deductive system resting upon *a priori*, self-evident truths which are to be found by some form of introspection. The truths of mathematics (or logic) do not require empirical verification, but are true because they are derived from axioms which we find by a type of soul-searching.

Introspection, of course, is a function of the ego, which seeks to understand the nature of the instincts, thereby bringing them under rational guidance. We may say, then, that the ultimate aim of the logician is to seek within himself for understanding of Eros. Since, according to Freud, all of the productive drives are derived from Eros, what the mathematician seeks within himself is knowledge of Love. Hence, the Platonic tradition is correct in asserting that the basic axioms of logic can be found by seeking within ourselves. The Truth resides within each man, in his life-instinct. By understanding the way in which our creative powers operate, the ego improves its function of bringing the id under the guidance of reality.

Eros manifests itself in the union of the masculine and feminine components; when each is attuned to the other, creativity occurs. Thus, the inner quest to understand Eros is intimately connected with the problem of the harmonious blending of the male and female elements within each person. Here we may regard ourselves as being, to some extent, antedated by one of the founders of mathematics and logic, Pythagoras, who conceived of Reality as the harmonious blending of opposites, and who believed that mathematics expressed the key to this harmony.

It is instructive to note that, running through pre-Socratic, Platonic, and neo-Platonic philosophy is the notion that "all numbers are generated out of an undifferentiated dyad." It is also of interest to note that in ancient times all odd numbers were regarded as male, and all even numbers as female. (1) This may be connected with the fact that modern logicians have found that all of mathematics can be deduced from three basic concepts, "1," "0," and "+." In ancient times, these symbols represented the male

and female principles, along with the symbol of eternity, or copulation—the joining of these sexual principles. By the way, logicians define “1” as “the class of all classes containing one member”, and “0” as “the class of all classes containing no members.” (The etymological root of the word “member” is “a bodily limb.”)

The intimate connection between the quest for all-explaining logical or mathematical formulae and problems of sexual harmony is also indicated in the fact that in ancient times the universe was believed to operate according to moral principles. What we now call “scientific laws” were then identified with moral laws immanent in the universe. That is to say, the cosmos was believed to be ordered by a divine justice.

Now what we mean by “justice” is the harmonizing of opposing principles into a loving union. Hence, justice and the workings of Eros may be identified. Eros is manifested by the joining together of the male and female principles into a loving fusion. Injustice may be regarded as the disharmony of the sexual components. Victor Calef has recently discussed the relationship between the quest for justice and problems of sexual differentiation. (2) He found grounds for the hypothesis that the drive for justice is connected with an inner need to reconcile the difference between the sexes, and to bring the male and female principles together into a harmonious union.

From the earliest times, mathematics has been closely associated with the quest for justice—the principle of divine order. Indeed, justice is frequently represented by balanced scales. Geometry and mathematics in antiquity are connected with the fair measurement of land and the numbering of goods to be traded. Mathematics was important in ancient astrology, the attempt to discern a man’s destiny by the stars.

Is it not possible that mathematicians and logicians seek for the basic principle of justice, or order in the universe (Eros), out of a deep, unconscious social insecurity within themselves? The need to understand Eros may stem from an implicit recognition of some inner imbalance, which must

be corrected. This quest for inner unity may also contribute to an understanding of some of the determinants of mathematical genius.

The problem of the ontological basis for logic and mathematics is very old in the history of thought, and opinion at present is sharply divided among notable thinkers. The speculations offered in this essay may prove germane to some of these important problems in the philosophy of science.

(For expository purposes, I have used the terms "mathematics" and "logic" as more or less synonymous in this essay. Actually, mathematics is now regarded as a branch of logic.)

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REFERENCES

1. Hastings' *Encyclopedia of Religion and Ethics*, Vol. IX, p. 406.
2. Calef, Victor: *Justice and the Arbitrator*. In "The American Imago," Vol. 7, No. 3 (Nov., 1950), pp. 259-77.