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► JOHN CORCORAN, *Aristotle's semiotic triangles and pyramids*.

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Imagine an equilateral triangle “pointing upward”—its horizontal base under its apex angle. A *semiotic triangle* has the following three “vertexes”: (apex) an expression, (lower-left) one of the expression's conceptual meanings or senses, and (lower-right) the referent or denotation determined by the sense [1, pp. 88ff].

One example: the eight-letter string ‘coleslaw’ (apex), the concept “coleslaw” (lower-left), and the salad coleslaw (lower-right) [1, p. 84f].

Using Church's terminology [2, pp. 6, 41]—modifying Frege's—the word ‘coleslaw’ *expresses* the concept “coleslaw”, the word ‘coleslaw’ *denotes* or *names* the salad coleslaw, and the concept “coleslaw” *determines* the salad coleslaw—recalling Frege's principle that sense determines denotation.

Church [2, p. 6] wrote:

We shall say that a name *denotes* or *names* its denotation and *expresses* its sense. [...] Of the sense we say that it *determines* its denotation, or *is a concept* of the denotation.

Aristotle seems cognizant of distinctions going beyond those in semiotic triangles. The expression *Aristotle's semiotic pyramids* seem warranted by Aristotle's *Categories*, 1a1:

When [two] things have a name (*onoma*) in common and the concept (*logos*) of being (*ousia*) which corresponds to the name in each case is different, they are called same-named (*homonuma*). Thus, for example, both a man and a picture [of an animal] are called animals. These have only a name in common. In each case the name's concept of being [an animal] is different; for if one says what *being an animal* is for each of them, one will give two distinct concepts.

Semiotic triangles and pyramids in Aristotle's logic are compared to those in Church's [2].

[1] JOHN CORCORAN, *Sentence, proposition, judgment, statement, and fact, Many Sides of Logic*, College Publications, 2009.

[2] ALONZO CHURCH, *Introduction to Mathematical Logic*, Princeton, 1956.