TRUTH AND EXISTENTIAL IMPORT IN ARISTOTLE'S LOGIC

Ivan L. Little
Texas Tech University

Aristotle's logic reflects his concern that predicates be carefully assigned to the proper subject in all sentences and that all terms designate. He provides for errors in both cases in a simple, coherent system that intertwines truth and logic. His famous definitions of "true" and "false" are introduced by a formulation of the law of excluded middle: "There cannot be an intermediate between contradictories, but of one subject we must either affirm or deny any one predicate. This is clear . . . if we define what the true and false are." Since the definitions are formal truth rules, they are presented below as if they *mark* places for the insertion of two pairs of contradictory statements. The first statement in the first pair is to be placed at (1a) because it is negative and false and it is contradicted at (2a) by another statement that is affirmative and true. In the second pair, the first statement is affirmative and false at (1b); and its negative, true contradiction goes in the (2b) slot. Thus marked, the definitions are

> To say of (1a) what is that it is not, or of (1b) what is not that it is, is false, while to say of (2a) what is that it is, and of (2b) what is not that it is not, is true; so that he who says of anything that it is, or that it is not, will say either what is true or what is false (*Met.* 1011^{b} 23-29).

As an example of a contradictory pair, we can place 'No ravens are black' at (1a) and counter it at (2a) with 'Some ravens are black.' Or at (2a) we can insert the *A* and *I* statements, 'All men are animals' and 'Some men are animals,' as it is proper to predicate 'animal' of each 'man.' The *E* and *O* statements then appear at (1a) because they err in denying the predicate to the subject. When universals "over-quantify" the subject-predicate relation, as in 'All men are white' and 'No men are white,' the four categorical sentences occupy the four places in the truth rules. The *A* is at (1b), the *E* at (1a), the *I* at (2a) and the O at (2b). The rules give truth values and reasons for their assignment.

Since the above sentential terms designate, truth values rely on a presumed correspondence between subject-predicate complexes and thing-attribute complexes. For Aristotle this is crucial to knowing the world; hence a basic question is "whether the connection of an attribute with a thing is a fact" or "whether a thing is thus or otherwise qualified" (*Post. An.* 889b 21-27). However, if quantity is also considered, we conclude that true affirmations agree that things are *thus* qualified and quantified (when they are) and true negations that they are *otherwise* qualified and quantified (when they are). False statements then disagree in both cases.

Moreover, we can see that if a sentential term fails to designate anything, there is no thing-attribute complex with which the subject-predicate complex can correspond. Hence it is precisely within this context that Aristotle approaches the issue by noting that "for some objects of inquiry we have . . . a different kind of question to ask, such as whether there is or is not a centaur or a God." Here 'is or is not' means "'is or is not without further qualification' . . . as opposed to 'is or is not (e.g.) white.'" It would be false to say, 'All centaurs are white' or 'Some centaurs are white,' because it is only "when we have ascertained the thing's existence" that "we inquire as to its nature," i.e., assign or ascribe qualities to it. Hence, 'No centaurs are white' and 'Some centaurs are not white' are true, for we now deny that what *is not* (does not exist) *is* (e.g.) white.

Aristotle illustrates the same point by saying that if Socrates does not exist, 'Socrates is ill' is false, but 'Socrates is not ill' is true. "Thus it is in the case of these opposites only, which are opposite . . . with reference to affirmation and negation, that the rule holds good, that one of the pair be true and the other false" (*Cat.* 13^{b} 29-35). Since this appears to be a statement of the principles underlying the truth rules, it seems safe to assume that sentences with nondesignating subject terms belong, when affirmative, at (1b), and when negative, at (2b). This assures us that Aristotle provides for errors in designation.

The truth rules also indicate that the square of opposition holds in cases of nondesignation, so the modern rejection of certain relations on the square should be restricted to the predicate calculus where it is pertinent. Our concern is with the capacity of the Aristotelian system to cope with problems arising from its own assumptions. It withstands, e.g., the frequent criticism that when the class *S* is empty, the true statement, 'No *S* are *P*' entails by classical rules a false proposition such as 'Some *S* are non-*P*.' We see now that (1b) prevents this derivation and we detect an emergent cautionary rule that statements with nondesignating subjects cannot be obverted, for there is nothing to obvert.[1] The system can also cope with a problem that arises when it is observed that 'No *S* is non-*P*' is as true by (2b) as 'No S is P.' This shift to 'is' rather than 'are' as the verb is deliberate, for the obverses of the converses reveal themselves more clearly if they are stated as 'All of non-*P* is in non-*S*' and 'All of *P* is in non-*S*.' By the ordinary rules, these negations and affirmations are contraries, but they are true when and only when *S* is empty. The negations together banish *S* from the logical universe, and the affirmations together declare that non-*S* is the logical universe, since it contains *P* and non-*P*. This means that nondesignation lifts the logical relations to a higher or more general level.

Thus it does not appear untoward to say that Aristotle's system is consistent in its general outlines and is capable of accounting for truth and error in designation and nondesignation.

NOTE

1. 'Some *S* are non-*P*' is appropriate at (1b) along with its contradictory, 'No *S* are non-*P*' at (2b), but is inappropriate in a deductive sequence.