A. Benitez, La Silogística de Aristóteles

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BOOK REVIEW

A. Benitez, La Silogística de Aristóteles, edited by Guillermo Escolar, Madrid, 2020, 22 €, (paperback), 284+12 pp., ISBN: 978-84-18093-27-2

In *La Silogística de Aristóteles*, Antonio Benítez (i) offers a critical analysis of two contemporary interpretations of Aristotle's syllogistic of assertoric propositions (*Corcoran and Łukasiewicz*), and (ii) proposes to demonstrate the benefits of a mereological interpretation of the non-modal Aristotelian syllogistic. Benítez's strategy for accepting or rejecting the interpretations of Łukasiewicz or Corcoran is to confront them with the Greek texts in the Ross or Minio-Paluello edition. To these, he adds the English version (in translations due to Smith or Akrill and occasionally Łukasiewicz himself) and the Spanish version, most of the time due to Miguel Candel Sanmartín. The book lacks an index of names. There are no bibliographic references at the end of the text. The translations used are presented at the end of chapter 1 (section 1.7., pp. 53–54). It is a well-produced volume from an editorial point of view.

The book is divided into four chapters: I *Ortega*, 1947; II *Łukasiewicz*, 1951; III *Corcoran*, 1972; IV *Otra interpretación* (Another Interpretation). The first chapter, dedicated to Ortega, is not very consistent with the other three, and its inclusion is somewhat *ad hoc*. Parts II, III, and IV are solidly connected, as they are all devoted to a critical analysis of Aristotle's (non-modal) syllogistic. In chapters II and III, Benítez presents the interpretations of Łukasiewicz and Corcoran. While developing the interpretations, Benítez points out the aspects with which he agrees and with which he does not. In chapter IV, Benítez presents his own interpretation of it using Aristotle's texts and applying mereology to them. This makes this part of the book the most interesting, original, and philosophically relevant. It is original since, in the case of historical texts and works by Aristotle or related to him, mereological interpretations are scarce (see *Henry 1972*); it is interesting and philosophically relevant because it presents the possibility of a different interpretation of basic aspects of Aristotle's logic. Benítez provides clear answers to some questions of great importance to generate a consistent interpretation of the Aristotelian non-modal syllogistic. I will mention three particularly interesting to current scholarship and develop them below: (a) Is the syllogism a type of inference with only two premises? (b) Is the theory of the syllogism a formal theory? (c) Since *ecthesis* is one of the basic rules of the underlying logic of the Aristotelian non-modal syllogistic, is there something that the mereological interpretation can give us (regarding *ecthesis*) that is not present in the other interpretations of the rule?

(a) For Łukasiewicz, syllogisms only contain two premises; for Corcoran, the syllogism is a type of reasoning that should not be limited to two premises (1974, p. 90). The theme is still valid and is defined in terms of interpretation; for example, Read *(unpublished)* maintains that a syllogism is an argument that can have more than two premises. Benítez proposes to settle this discussion by studying and discussing the ten passages cited by Corcoran in favor of his thesis. After 19 pages (pp. 122–141), he concludes (p. 141):

> It is possible to admit that Corcoran's thesis that Aristotle's theory of Syllogism as he [Aristotle] develops it technically in (Early Analytics I, 1–7 and 23–26), can be subsumed into a broader logical theory. Thus, of the ten passages provided by Corcoran to support his thesis, only two, as seen in section 4.5, can be taken into account.

(b) Benítez's position is that the syllogistic is a *formal* theory, but not a *formalistic* one, endorsing this distinction proposed by Łukasiewicz (*1957*, section 7). Łukasiewicz does not

consider Aristotelian syllogistic *formalistic* (unlike Stoic logic), because 'Modern formal logic gives, therefore, the utmost attention to precision of language' (*1957*, p. 16), and Aristotle's syllogistic lacks this precision and is therefore *formal*, but not *formalistic* (Łukasiewicz *1957,* pp. 16–17). For Benítez, the difference between a *formal* theory and *formalistic* one lies in its having (or lacking) a formal language. And a formal language is, for Benítez, a language formed from the principle of compositionality. However, since Aristotle never proposes this principle for categorical sentences (pp. 198–199), his is not a formal language (in Benítez's terms). In his approach, Benítez proposes an equivalence between *formalistic*, formal language, and compositionality. This is a more precise (and more restrictive) version of 'formalistic' than the one proposed by Łukasiewicz.

(c) Benítez has an original and well-founded position regarding the interpretation of the *ecthesis* or *rule of exposition*. The importance of this topic has continued to grow since it first appeared in the literature (*Thom 1976*). This rule is essential to carry out many of the conversions between forms of the second and third figure to the form of the first one; together with *reductio ad absurdum* and *exposition*, they are the three basic rules of the underlying logic on which the syllogistic is founded (*Parsons 2014,* p. 29). There is an interpretive line that understands *ecthesis* as a type of existential instantiation (*Lear 1980,* p. 4; *Smith 1982,* p. 113). Another line, originating from Łukasiewicz, maintains that this interpretation is wrong. It is not, strictly speaking, from Aristotle, but due to Alexander, and 'has no support in the text of the Prior Analytics: *Aristotle does not say that C is an individual term*' (*Łukasiewicz 1957,* p. 60). As can be seen, the controversy is basically about whether it is correct to accept singular terms in the Aristotelian syllogistic. Benítez's solution is to accept Łukasiewicz's thesis, 'individual terms are not part of the formal language of syllogistics' (p. 209), since 'the typical relations of Syllogistics are relations between genus and species. Aristotle's conception is that each species of a genus is a part of a whole'. (p. 210) When I write 'All A is B', I am not only asserting that all A is part of B, but that B is a whole taken into itself. This is the founding idea for Benítez of a mereological interpretation. Benítez develops it by taking Lesniewski's theory as a model. 'μ' is a primitive, which can be interpreted as a binary relation of the type $\mu(X,Y)$, which should be read as 'X is part of Y' and is characterized by being asymmetric, transitive and non-reflexive; 'XaY' says 'X is predicated of all Y'; 'XiY' says 'X is predicated of some Y'; 'XeY' says 'X is predicated of no Y'; 'XoY' says 'X is not predicated of some Y'. Benítez then presents eight axioms and six theorems that characterize the Aristotelian non-modal syllogistic (pp. 210–211). Benítez uses the *ecthesis* rule in proofs, but understood from a mereological perspective; the proof of AiB, therefore BiA (p. 218) is particularly interesting, since it is the proof in which Aristotle includes a new term C. The basic idea (p. 217) is:

> Now, if BiA then there must be at least one part of A that is said to be B. Aristotle calls that part Γ, a universal term, because, in effect, Γ is part of A, but taken in isolation, without relation to A, it is a whole. Now, from that part of A, Γ is said to be B, therefore, Γ is a part of B.

Γ is a part of A, precisely the part in which B occurs. Therefore, if BiA then there exists Γ and ($\mu(\Gamma, A)$ and $\mu(\Gamma,B)$) and $\Gamma \neq \emptyset$. Then $\Gamma \subset A$ and $\Gamma \subset B$. Since Γ is a subset, Γ is a part that itself is a whole. Benítez maintains the validity of the rule of *ecthesis* but does not require individuals (nor singular propositions) to apply it. What has changed, basically, is the interpretation; 'the universe of discourse is a set each of whose members is, in turn, a set' (p. 219). The interpretation of a universal term will consist of the set of all subsets ($X^U \subset U$) and universal terms whose extension is the empty set are not admitted. The advantage of Benítez's explanation is that it allows us to present a higher degree of consistency for the Aristotelian logical apparatus, since we do not have to credit Aristotle with proposing a different language for its underlying logic, based on interpretations that still carry the shadow of a doubt. In other words, it is a renewed and improved presentation of two of Łukasiewicz's theses since it presents

a deductive and semantic apparatus that articulates it: (a) syllogisms do not admit singular terms; (b) the *ecthesis* rule is used by Aristotle, but without transgressing (a). Benítez devotes the rest of the book to providing the demonstration of legitimate modes (chapter 7) and the challenge of illegitimate modes. *La Silogística de Aristóteles* makes new contributions to central topics of Aristotelian syllogistic, and it is of both historical and philosophical interest.

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