INTRODUCTORY READINGS ON ARISTOTLE'S LOGIC


"However that may be, Aristotelian syllogistic concerned itself exclusively with monadic predicates. Hence it could not begin to investigate multiple quantification. And that is why it never got very far. None the less, the underlying grammar of Aristotle's logic did not in itself block the path to polyadicity. The later Peripatetics were conservative creatures and they lacked logical imagination. Moreover, Aristotle himself had assured them that his syllogistic was adequate for all serious scientific needs. As for Aristotle, his service to logic is nonpareil, and it would be grotesque to chide him for lack of inventiveness. It is true that, in logical grammar, he did not climb above the level which he attained in the de Interpretatione. But the Analytics does not represent a fatal, or even a new, grammatical excursion. And the story of Aristotle's fall, like the story of the fall of Adam, is a myth." pp. 201-202


    "In this monograph Dr. Wilke attempts to distinguish within the text of the *Organon* the different strata which mark the stages of development in Aristotle's logic. This development, he believes, is essentially the history of Aristotle's discovery of the quantity of judgments and the ever increasing role of the particular proposition, which means the gradual emancipation of logic from its metaphysical (i.e. Platonic) background. In the development of the doctrine of modality Dr. Gohlke finds a second means of distinguishing different chronological strata and a third in the changing theory of method, particularly in the supposed alteration of Aristotle's attitude toward the object of demonstration."


"I provide a survey of the contents of the works belonging to Aristotle's *Organon* in order to define their nature, in the light of his declared intentions and of other indications (mainly internal ones) about his purposes. No unifying conception of logic can be found in them, such as the traditional one, suggested by the very title *Organon*, of logic as a methodology of demonstration. Logic for him can also be formal logic (represented in the main by the *De Interpretatione*), axiomatized syllogistic (represented in the main by the *Prior Analytics*) and a methodology of dialectical and rhetorical discussion. The consequent lack of unity presented by those works does not exclude that both the set of works called *Analytics* and the set of works concerning dialectic (*Topics* and *Sophistici Elenchi*) form a unity, and that a certain priority is attributed to the analytics with respect to dialectic."


Translated by Jonathan Barnes.


Zur Modernen Deutung der aristotelischen Logik (Band 5).

Translated from the Polish O zasadzie sprzeczności u Arystotelesa (1910) by Jacek Barski; with a preface by Joseph Bochinski-

Translated in Italian as: Del principio di contraddizione in Aristotele - A cura di Gabriele Franci e Claudio Antonio Testi; presentazione di Maurizio Matteuzzi - Macerata, Quodlibet, 2003.

Translated in French as: *Du principe de contradiction chez Aristote* - Paris, Édition Éclat, 2000


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"Aristotle's conception of identity is too large a subject to be analyzed in a single article. I will try to discuss here just one of the many problems raised by his views on sameness. It is not, perhaps, the most stimulating question one could wish to see treated, but it is a question about logic, where I feel a little more at ease than among the complicated and obscure riddles of metaphysics. My subject will be Aristotle's references to what is nowadays called 'Leibniz' Law'(*LL*): if two objects x and y are the same, they both share all the same properties.

(...) First, I will consider Aristotle's statements about (*LL*) and the analyses he gives of some supposed counterexamples to this principle. Secondly, the interpretations of his view among his Greek commentators will be taken into account and their distance from the position of the master evaluated. As Professor Moraux has taught us, the study of the Aristotelian tradition often gives us the opportunity of understanding Aristotle's own meaning better." pp. 57-58

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Zur Modernen Deutung der aristotelischen Logik (Band 7)

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Zur Modernen Deutung der aristotelischen Logik (Band 9)

"In keeping with the fundamental aims of the series *Zur modernen Deutung der Aristotelischen Logik* -- i.e. to make available articles otherwise difficult to trace -- the editors of this IXth volume present essays from Romania, together with a brief overview of the history of logic in Romania. Although the essays were published in two major international languages -- mainly in French, with some in German -- they appeared in Romanian journals which have a limited circulation in the West. Studies have been selected for their focus on major areas of Aristotelian logic: the theory of categories, syllogistics, logical principles and the theory of knowledge; an additional theme is the historical significance of Theophil Corydaleu's work. All these combine
to give a comprehensive view of contemporary Aristotle scholarship in Romania."


   Index: Introduction 9; I. The PNC as a law of reality and thought 17; II. The PNC as indemonstrable principle 69; Conclusion 111; Bibliography 119; Index of names 127-128.

"The aim of this study is to discuss the formulation of the principle of non-contradiction (PNC) based on the text of Aristotle. It does not deal with the whole Aristotle's *Metaphysics*. We take certain passages selectively from chapter 3 and chapter 4 of the *Metaphysics*, with a view to interpreting the PNC as a law of being. Our discussion focuses mainly on how Aristotle regards the PNC as a law of reality and a law of thought. Then we shall see the possibility of knowing the PNC by way of intuitive understanding. This leads us to affirm that the PNC is a supreme principle that we cannot demonstrate. The only way Aristotle thinks it possible to speak about the principle in question is by way of confutation, using a dialectical argument: in order to proceed with the confutational proof, the opponent must say something which is meaningful for himself and for others. Aristotle distinguishes proper demonstration from a dialectical argument. We shall also try to specify the dialectical method that Aristotle uses to prove the PNC.

This study has two chapters. The first chapter deals with the PNC as a law of reality and thought. This has two parts: the first part deals with *Metaph.* IV, 3, 1005b 19-20; IV, 3, 1005b 26-27; IV, 6, 1011b 15-20 and the second part analyses *Metaph.* IV, 3, 1005b 24-26; IV, 3, 1005b 28-31. These passages treat the PNC as a law of reality and thought respectively.

We shall interpret the PNC as a law of being from two points of view: first, based on the different types of opposition that Aristotle explains in the *Categories*, we shall see the meaning of «contradiction» that Aristotle understands in the formulation of PNC. Our conclusion will be that the greatest opposition that Aristotle has conceived in his whole work is the contradiction between being and non-being. The other oppositions such as contraries, privation and relatives, are oppositions that do not produce contradiction. As we shall see, the opposition between the relatives father and son, between privations vision and blindness, and between the contraries white and black, could not be predicated at the same time of the same subject in the same respect. But they are different from the sense of contradiction that Aristotle conceived in the formulation of the PNC -- because they do not distinguish absolutely the two extreme existences being and non-being." pp. 9-10


"To meet a dilemma between the axiomatic theory of demonstrative science in "Posterior analytics" and the non-axiomatic practice of demonstrative science in the physical treatises, Jonathan Barnes has proposed that the theory of demonstration was not meant to guide scientific research but rather scientific pedagogy. The present paper argues that far from contributing directly to oral instruction, the axiomatic account of demonstrative science is a model for the written expression of science. The paper shows how this interpretation accords with related theories in the "Organon", including the theories of dialectic in "Topics" and of deduction in "Prior
analytics".


From the Preface: "In this book I intend to show that the ascription of many shortcomings or obscurities to Aristotle resulted from persistent misinterpretation of key notions in his work. The idea underlying this study is that commentators have wrongfully attributed anachronistic perceptions of 'predication', and statement-making in general to Aristotle. In Volume I, what I consider to be the genuine semantics underlying Aristotle's expositions of his philosophy are culled from the Organon. Determining what the basic components of Aristotle's semantics are is extremely important for our understanding of his view of the task of logic -- his strategy of argument in particular.

In chapter 1, after some preliminary considerations I argue that when analyzed at deep structure level, Aristotelian statement-making does not allow for the dyadic 'S is P' formula. An examination of the basic function of 'be' and its cognates in Aristotle's philosophical investigations shows that in his analysis statement-making is copula-less. Following traditional linguistics I take the 'existential' or hyparctic use of 'be' to be the central one in Greek (pace Kahn), on the understanding that in Aristotle hyparxis is found not only in the stronger form of 'actual occurrence' but also in a weaker form of what I term 'connotative (or intensional) be' (1.3-1.6). Since Aristotle's 'semantic behaviour', in spite of his skilful manipulation of the diverse semantic levels of expressions, is in fact not explicitly organized in a well-thought-out system of formal semantics, I have, in order to fill this void, formulated some semantic rules of thumb (1.7).

In chapter 2 I provide ample evidence for my exegesis of Aristotle's statement-making, in which the opposition between 'assertible' and 'assertion' is predominant and in which 'is' functions as an assertoric operator rather than as a copula (2.1-2.2). Next, I demonstrate that Aristotle's doctrine of the categories fits in well with his view of copula-less statement-making, arguing that the ten categories are 'appellations' ('nominations') rather than sentence predicates featuring in an 'S is P' formation (2.3-2.4). Finally, categorization is assessed in the wider context of Aristotle's general strategy of argument (2.5-2.7).

In the remaining chapters of the first volume (3-6) I present more evidence for my previous findings concerning Aristotle's 'semantic behaviour' by enquiring into the role of his semantic views as we find them in the several tracts of the Organon, in particular the Categories De interpretatione and Posterior Analytics. These tracts are dealt with in extenso, in order to avoid the temptation to quote selectively to suit my purposes."


From the Preface to the first volume: "The lion's part of volume two (chapters 7-11) is taken up by a discussion of the introductory books of the Metaphysics (A-E) and a thorough analysis of its central books (Z-H-O). I emphasize the significance of Aristotle's semantic views for his metaphysical investigations, particularly for his search for the true ousia. By focusing on Aristotle's semantic strategy I hope to offer a clearer and more coherent view of his philosophical position, in particular in those passages which are often deemed obscure or downright ambiguous.

In chapter 12 I show that a keen awareness of Aristotle's semantic modus operandi is not merely useful for the interpretation of his metaphysics, but is equally helpful in gaining a clearer insight into many other areas of the Stagirite's sublunar ontology
(such as his teaching about Time and Prime matter in Physics).

In the Epilogue (chapter 13), the balance is drawn up. The unity of Aristotelian thought is argued for and the basic semantic tools of localization and categorization are pinpointed as the backbone of Aristotle's strategy of philosophic argument. My working method is to expound Aristotle's semantic views by presenting a running commentary on the main lines found in the Organon with the aid of quotation and paraphrase. My findings are first tested (mainly in Volume II) by looking at the way these views are applied in Aristotle's presentation of his ontology of the sublunar world as set out in the Metaphysics, particularly in the central books (ZHO). As for the remaining works, I have dealt with them in a rather selective manner, only to illustrate that they display a similar way of philosophizing and a similar strategy of argument. In the second volume, too, the exposition is in the form of quotation and paraphrase modelled of Aristotle's own comprehensive manner of treating doctrinally related subjects: he seldom discussed isolated problems in the way modern philosophers in their academic papers, like to deal with special issues tailored to their own contemporary philosophic interest.


Ristampato con il titolo: Dalla Topica all'Analitica in Teoria, 2, 1993 pp. 1-117


Reprinted Hildesheim, Georg Olms, 2001


Due volumi: I (1999); II (2002).


"Aristotle, as we all know, invented formal logic. Over the last fifty years or so, scholars have learned to recognize what he presented in the first few chapters of the Prior Analytics (An. pr.) is the real thing -- a system of formal logic, whether or not the inspiration for the discovery of the syllogism had anything to do with Platonic division. We no longer hear about the magical force of the middle term or the alleged demonstrative power of first figure syllogisms as opposed to, say, the superficial subtleties of Stoic logic. Although Aristotle's syllogistic covers only a small part of the field of modern mathematical logic, what he offered contained all the elements of a formal deductive system. He introduces the system of syllogistic moods by defining its technical terms, stating and justifying the primitive rules, and then providing formally correct proofs of the derivative rules. In other words, he
developed a complete system of natural deduction, limited indeed by the assumption that all propositions must be simple subject-predicate sentences, but otherwise flawless. (1)

Aristotle was interested both in logic as a theory and in its more humdrum uses in philosophical, or indeed everyday, argument, and more than half of the text of the Prior Analytics is concerned with the uses of logic in argument, rather than with either the exposition of a formal system or what we would call logical theory. This is what one should expect, since Aristotle invented formal logic for the purposes of his general theory of argument, not just as a formal theory of deductive proof or an 'underlying logic' for demonstrative science. (5) In order to show how the perspective of a general theory of argument differs from that of logical theory, I will argue that although syllogistic can be shown to be complete in the modern logician's sense, it was not considered by its author to be complete in the sense relevant to his project. A deduction system is complete in the modern sense if it allows one to deduce all (and only) the valid formulae.

What Aristotle has in mind when he set out to show that 'every deductive argument (sullogismos) is one of the (syllogistic) figures' (A23 40b20-22) was the claim that every valid deductive argument can be formulated as one or more syllogisms in the narrow sense. This, as Aristotle recognized, is not the case (A 44. 50b2-3). However, I will also argue that he thought syllogistic captured at least a necessary component of every valid deductive argument, and perhaps that it was indeed sufficient as an account of the logical form of scientific demonstration. Finally, I will illustrate the role of formal syllogistic in the theory of argument by a few examples from the second half of book A and from book B."

pp. 210-211


(5) Corcoran 'Aristotle's Natural Deduction System'. 98.


Zur Modernen Deutung der aristotelischen Logik (Band 10).

"Alexandru Surdu is an outstanding representative of the Romanian school of Aristotle research. The special characteristic of this school is that its members have not based their research solely on the An. pr. and the De int. but have also paid particular attention to the Categories. This volume contains a thorough modern interpretation of the Categories in which the author takes into account commentators in the Greek, Latin and modern traditions, for example Adolf Trendelenburg.

The symbolic-logical-mathematical presentation of the first chapter of the Categories with reference to the difference between the predicative types 'dicitur de' and 'inessse', especially in the case of the ante-predicative 'universal accidence' allows the author to elaborate the 'prejudicative forms' which carry no values of truth and do not come into being through assent or denial. Using an original interpretation of these 'prejudicative forms' the author is able to reveal forms and modes similar to those of syllogistics which have hitherto been unknown to either traditional or symbolic logic."


"We need to recognize, or to remember, the priority of being to truth and not to
conflate them. We need to explicate the origin of thinking (abstraction) as at one remove from immediate sense-experience. Syllogistic logic then emerges as a true causal account of reasoning in general; it is not some primitive attempt to outline a formal logical system. An account of suppositio as controlling the analogous uses of our finite store of words in reference to an infinite reality itself shaped by crisscross patterns of likenesses, governs the general picture supplied here."


———. 1990. "Negation and Quantification in Aristotle." *History and Philosophy of Logic* no. 19:131-150. "Two main claims are defended. The first is that negative categorical statements are not to be accorded existential import insofar as they figure in the square of opposition. Against Kneale and others, it is argued that Aristotle formulates his O statements, for example, precisely to avoid existential commitment. This frees Aristotle's square from a recent charge of inconsistency. The second claim is that the logic proper provides much thinner evidence than has been supposed for what appears to be the received view, that is, for the view that insofar as they occur in syllogistic negative categoricals have existential import. At most there is a single piece of evidence in favor of the view -- a special case of echthesis or the setting out of a case in proof."


The Logical Works of Aristotle

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Aristotle's *Prior Analytics*: the Theory of Modal Syllogism

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Aristotle's *Posterior Analytics*: The Theory of Demonstration

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On the website "Theory and History of Ontology"

Aristotle: Bibliographical Resources on His Logical and Metaphysical Works

Aristotle's *Categories*. Annotated Bibliography of the studies in English:

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