History of Logic from Aristotle to Gödel (www.historyoflogic.com)

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Selected Bibliography on the Logic of Aristotle: General and Introductory Readings

Contents of this Section

This part of the section The Logic of Aristotle includes the following pages:

Aristotle's Logic: General Survey and Introductory Readings

Selected Bibliography on the Logic of Aristotle: General and Introductory Readings (Current page)

Aristotle's Earlier Dialectic: the *Topics* and *Sophistical Refutations* (under construction)

Aristotle's *De Interpretatione*: Semantics and Philosophy of Language

Annotated bibliography of the studies in English

Bibliography of the studies in French, Italian, German, Spanish, Portuguese

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

Selected Bibliography on Aristotle's Theory of Categorical Syllogism

Aristotle's *Prior Analytics*: the Theory of Modal Syllogism (under construction)

Selected Bibliography on Aristotle's Theory of Modal Syllogism (under construction)

Aristotle's *Posterior Analytics*: The Theory of Demonstration (under construction)

Selected Bibliography on Aristotle's *Posterior Analytics* (under construction)

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:

First part: A - C

Second part: D - H

Third part: I - O

Fourth part: P - Z

Bibliographie des études en français sur les *Catégories* d'Aristote

Bibliographie der deutschen Studien zur Aristoteles *Kategorien*

Bibliografia degli studi italiani sulle *Categorie* di Aristotele

Annotated Bibliography of the studies in English: Complete Version (PDF)

Introductory readings

1. Allen, James. 1995. "The Development of Aristotle's Logic: Part of an Account in Outline." *Boston Area Colloquium in Ancient Philosophy* no. 11:177-205.
"At the beginning of the history of logic stands the theory set out in the *Prior Analytics*. Studies of this theory 'from the point of view of modern formal logic' have made it possible to appreciate as never before Aristotle's achievement as a logician. But the theory of the *Prior Analytic*s is itself the outcome of a development in Aristotle's thinking whose starting points do not lend themselves to study from the same perspective. My object in this paper is to sketch an account of these starting points. In this way I hope also to throw some light on Aristotle's eventual invention or discovery of logic." (p. 177)
2. ———. 2007. "Aristotle on the Disciplines of Argument: Rhetoric, Dialectic, Analytic." *Rhetorica* no. 25:87-108.
Abstract "According to an argument made by other authors, analytic—the formal logical theory of the categorical syllogism expounded in the Prior Analytics—is a relatively late development in Aristotle's thinking about argument. As a general theory of validity, it served as the master discipline of argument in Aristotle's mature thought about the subject. The object of this paper is to explore his early conception of the relations between the argumentative disciplines. Its principal thesis, based chiefly on evidence about the relation between dialectic and rhetoric, is that before the advent of analytic dialectic played a double role. It was both the art or discipline of one practice of argumentation and the master discipline of argument to which other disciplines turned for their understanding of the fundamentals of argument."
3. Aubenque, Pierre. 1968. "La dialectique chez Aristote." In *Aristotle on Dialectic: the Topics. Proceedings of the third Symposium Aristotelicum*, edited by Owen, Guilym E. L., 9-31. Oxford: Clarendon Press.
4. Bäck, Allan. 2000. *Aristotle's Theory of Predication*. Leiden: Brill.
5. Barnes, Jonathan. 1959. "Aristotle's theory of demonstration." *Phronesis* no. 14:123-152.

Reprinted in: J. Barnes, M. Schofield, R. Sorabji (eds.), A*rticles on Aristotle. Vol. 1: Science*, London: Duckworth 1975, pp. 65-87.

6. ———. 1996. "Grammar On Aristotle's terms." In *Rationality in Greek Thought*, edited by Frede, Michael and Striker, Gisela, 175-202. New York: Oxford University Press.
"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)

7. Bastit, Michel, and Follon, Jacques, eds. 2001. *Logique et métaphysique dans l'Organon d'Aristote*. Louvain: Peeters.

8. Bennekom, Riek van. 1986. "Aristotle and the Copula." *Journal of the History of Philosophy* no. 24:1-18.
"How is it to be explained that Aristotle recognizes more than once the distinction between the copulative and the existential senses of "einai", but ignores this distinction in the crucial passage *Metaphysics* "D" 7 dealing with the ten different categories and the corresponding ten senses of "einai"? The author argues that Aristotle's fundamental conception of being was a fused one: "x is f" implies, and even states, "x exists"; he terms this principle: existence extraction license (eel). That eel leads to absurdities with negative "kafautou" predications and that it fits ill with the new ontological theory being developed in *Metaphysics* "H" 2 seems to have escaped Aristotle. The distinction between copulative and existential "einai" is applied by Aristotle only to "kata sumbebekos" predications, and an examination of *De interpretatione* 21a25ff shows that even here the tendency towards a fused concept of being prevails."

9. Berg, Jan. 1983. "Aristotle's theory of definition." In *Atti del convegno internazionale di storia della logica*, edited by Michele, Abrusci, Casari, Ettore and Mugnai, Massimo, 19-30. Bologna: CLUEB.

10. Berti, Enrico. 1968. "La dialettica in Aristotele." In *Aristotle on Dialectic: the Topics. Proceedings of the third Symposium Aristotelicum*, edited by Owen, Guilym E. L., 33-80. Oxford: Clarendon Press.

11. ———. 1995. "Does Aristotle's conception of dialectic develop?" In *Aristotle's Philosophical Development: Problems and Prospects*, edited by Wians, William, 105-130. Lanham: Rowman and Littlefield.

12. Bochenski, Joseph. 1951. "Non-analytical laws and rules in Aristotle." *Methodos* no. 3:77-79.

13. Boger, George. 2001. "The Modernity of Aristotle's Logic." In *Aristotle and Contemporary Science. Vol. II*, edited by Sfendoni-Mentzou, Demetra, Hattiangadi, Jagdish and Johnson, David M., 97-112. Bern: Peter Lang.
"Below we gather five salient features of Aristotle's logical investigations in *Prior Analytics* A that reveal the mathematical nature of his studies: (1) He took logic to be a formal part of epistemology. (2) He treated syllogistic deduction metalogically, or metasystematically. (3) He explicitly formulated rules of natural deduction. (4) He modelled his syllogistic deduction system to demonstrate certain logical relationships among its rules. And (5) he distinguished logical syntax from semantics sufficiently to note the completeness of his logic. While each of these

features is remarkable in itself, when they are viewed together they reveal the striking philosophical modernity of an ancient logician." (p. 100)

14. ———. 2004. "Aristotle's Underlying Logic." In *Greek, Indian and Arabic Logic. Handbook of the History of Logic: vol. 1*, edited by Gabbay, Dov and Woods, John, 101-246. Amsterdam: Elsevier.

15. Bolton, Robert. 1990. "The epistemological basis of Aristotelian dialectic." In *Biologie, logique et métaphysique chez Aristote*, edited by Devereux, Daniel and Pellegrin, Pierre, 185-236. Paris: Éditions du CNRS.

16. ———. 1994. "The problem of dialectical reasoning in Aristotle." *Ancient Philosophy* no. 14:99-132.

17. Bolton, Robert, and Smith, Robin. 1994. "Logic, Dialectic and Science in Aristotle." *Ancient Philosophy* no. 14:3-151.
Special issue edited by Robert Bolton and Robin Smith.
Contents: Introduction by the Editors 1; John Corcoran: The founding of logic 9; Timothy Smiley: Aristotle's completeness proof 25; Gisela Striker: Modal vs. assertoric syllogistic 39; James G. Lennox: Aristotelian problems 53; Michael Ferejohn: The immediate premises of Aristotelian demostration 79; Robert Bolton: The problem of dialectical reasoning in Aristotle 99; Robin Smith: Dialectic and the syllogism 133-151.

18. Brunschwig, Jacques. 1990. "Rémarques sur la communication de Robert Bolton." In *Biologie, logique et métaphysique chez Aristote*, edited by Devereux, Daniel and Pellegrin, Pierre, 237-262. Paris: Éditions du CNRS.

19. ———. 1991. "Sur quelques malentendus concernant la logique d'Aristote." In *Penser avec Aristote*, edited by Sinaceur, Mohammed Allal, 423-428. Paris: Éditions érès.

20. Calogero, Guido. 1927. *I fondamenti della logica aristotelica*. Firenze: Le Monnier. Seconda edizione con appendici di Gabriele Giannantoni e Giovanna Sillitti, Firenze: La Nuova Italia, 1968.

21. Carson, Scott. 2000. "Aristotle on Existential Import and Non Referring Subjects." *Synthese* no. 124:343-360.

22. Cavini, Walter. 1985. "La negazione di frase nella logica greca." In *Studi Su papiri greci di logica e medicina*, edited by Cavini, Walter, Donnini Macciò, Maria Cristina, Funghi, Maria Serena and Manetti, Daniela, 85-126. Firenze: Olschki.
Indice dei Contenuti: Nota liminare 9;
LA NEGAZIONE ARISTOTELICA
1. La sintesi dichiarativa: supplemento di frase e contenuto descrittivo 11; 2. Negazione semplice e affermazione trasposta 17; 3. Le asserzioni indeterminate: trasformazione predicativa ed equivocità composta 26; 4. Portata esistenziale dell'affermazione 36; 5. Negative categoriche 41;
LA NEGAZIONE STOICA
1. Frammenti e testimonianze 47; 2. La teoria stoica degliaxiomata 48; 3. Negazione semplice e composta 51; 4. Opposti contraddittòri 57; 5. Ambiguità della negazione ordinaria 67;
APPENDICE - IL PAPIRO PARIGINO 2
Testo e traduzione 86; Commento 107; Bibliografia 122-126.

23. Celluprica, Vincenza. 1987. "Logica e semantica nella teoria aristotelica della predicazione." *Phronesis* no. 32:166-187.

24. Charles, David. 2000. *Aristotle on Meaning and Essence*. New York: Oxford University Press.

25. Chiba, Kei. 2010. "Aristotle on essence and defining-phrase in his dialectic." In *Definition in Greek Philosophy*, edited by Charles, David. New York: Oxford University Press.

26. Code, Alan. 1987. "Metaphysics and Logic." In *Aristotle Today. Essays on Aristotle's Ideal of Science*, edited by Matthen, Mohan, 127-150. Edmonton: Academic Printing & Publishing.
Reprinted in Lloyd P. Gerson (ed.), *Aristotle: Critical Assessments. Vol. I*. New York: Routledge, 1999, pp. 167-185.

27. Crivelli, Paolo. 2012. "Aristotle's Logic." In *The Oxford Handbook of Aristotle*, edited by Shields, Christopher, 113-149. New York: Oxford University Press.

28. Crubellier, Michel. 2008. "The programme of Aristotelian analytics." In *Dialogues, Logics and Other Strange Things: Essays in Honor of Shahid Rahman*, edited by Degremont, Cedric, Keiff, Laurent and Ruckert, Helge 121-147. London: College Publications.
Reprinted in *Revista de Humanidades de Valparaíso*, 10, 2017, pp. 29-59.

29. Cutler, Darcy A. 2005. "Aristotle and Modern Logic." In *Mistakes of Reason. Essays in Honour of John Woods* edited by Peacock, Kent A. and Irwine, Andrew D., 207-223. Toronto: University of Toronto Press.

30. Dancy, Russell M. 1975. *Sense and Contradiction: a Study on Aristotle*. Dordrecht: Reidel.

31. Deslauriers, Marguerite. 2007. *Aristotle on Definition*. Leiden: Brill.

32. Detel, Wolfgang. 2006. "Aristotle's logic and theory of science." In *A Companion to Ancient Philosophy*, edited by Gill, Mary Louise and Pellegrin, Pierre, 245-269. Malden: Blackwell.

33. Devereux, Daniel. 1990. "Comments on Robert Bolton's *The epistemological basis of Aristotelian dialectic*." In *Biologie, logique et métaphysique chez Aristote*, edited by Devereux, Daniel and Pellegrin, Pierre, 263-286. Paris: Éditions du CNRS.

34. Di Lascio, Ermelinda Valentina. 2014. "Aristotle: logic." In *The Routledge Companion to Ancient Philosophy*, edited by Warren, James and Sheffield, Frisbee C. C., 272-289. New York: Routledge.

35. Ebert, Theodor. 1977. "Zur Formulierung prädikativer Aussagen in den logischen Schriften des Aristoteles." *Phronesis* no. 22:123-145.

36. Evans, James David Gemmill. 1977. *Aristotle's Concept of Dialectic*. Cambridge: Cambridge University Press.

37. Fink, Jakob Leth, ed. 2012. *The Development of Dialectic From Plato to Aristotle*. Cambridge: Cambridge University Press.

38. Freibert, Beatrix. 2017. *Die aristotelische Logik : erklärt von ihren antiken Interpreten*. Heidelberg: Universitätsverlag Winter.

39. Gohlke, Paul. 1936. *Die Entstehung der Aristotelischen Logik*. Berlin: Junker und Dünnhaupt.
"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."
From: Harold Cherniss, review in *The American Journal of Philology*, 1938, 59, pp. 120-122

40. Gourinat, Jean-Baptiste. 2001. "Principe de contradiction, principe du tiers-exclu et principe de bivalence: philosophie première ou *organon*?" In *Logique et métaphysique dans l'Organon d'Aristote*, edited by Bastit, Michel and Follon, Jacques, 63-91. Louvain: Peeters.

41. Hintikka, Jaakko. 1993. "Commentary on Smith." *Proceedings of the Boston Area Colloquium in Ancient Philosophy* no. 9:286-296.
Commentary on: R. Smith, *What use is Aristotle's Organon?* (1999).
Reprinted in: Lloyd P. Gerson (ed.), *Aristotle. Critical Assessments*, Vol. I: *Logic and Metaphysics*, New York: Routledge 1999, pp. 20-27.

42. ———. 1995. "Commentary on James Allen *The development of Aristotle's logic: part of an account in outline*." *Boston Area Colloquium in Ancient Philosophy* no. 11:206-215.

43. Jacobs, William. 1979. "Aristotle and nonreferring subjects." *Phronesis.A Journal for Ancient Philosophy* no. 24:282-300.
"It is a widely accepted view amongst scholars that Aristotle believed that the subject of an assertion might fail to refer. Two texts, *De interpretatione* XI 21 a 25-28 and *Categories* X 13 b 12-35, are generally cited as evidence for this belief. In this paper I argue that both passages have previously been misunderstood and that Aristotle did not accept the possible referential failure of the subject of an assertion. In section I, after first discussing the standard interpretations of both texts, I note the difficulties which result from these accounts. In section II I offer a brief general argument showing that Aristotle's own account of what an assertion is implies that it is impossible for the subject of an assertion to fail to refer. In section III I present my own analysis of each passage and show that when properly understood neither is in any way concerned with the problem of referential failure."

44. Johnson, Fred. 2004. "Aristotle's Modal Syllogism." In *Greek, Indian and Arabic Logic. Handbook of the History of Logic: vol. 1*, edited by Gabbay, Dov and Woods, John, 247-307. Amsterdam: Elsevier.

45. Kullmann, Wolfgang. 2018. "Aristotle's gradual turn from dialectic." In *Dialectic after Plato and Aristotle*, edited by Bénatouil, Thomas and Ierodiakonou, Katerina, 296-315. Cambridge: Cambridge University Press.

46. Lear, Jonathan. 1980. *Aristotle and Logical Theory*. Cambridge: Cambridge University Press.

47. Leszl, Walter. 1970. *Logic and Metaphysics in Aristotle: Aristotle's Treatment of Types of Equivocity and Its Relevance to His Metaphysical Theories*. Padova: Antenore.

48. ———. 2004. "Aristotle's logical works and his conception of logic." *Topoi.An Internationale Review of Philosophy* no. 23:71-100.
"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."

49. Liebersohn, Yosef Z. 2005. "Aristotle Between Logic and Rhetoric. On the Subdivisions of ἐνθύμΠμα in rhet. 1357 a 30-1357 b 25." *Elenchos* no. 26:65-77.

50. Lukasiewicz, Jan. 1979. "Aristotle on the Law of Contradiction." In *Articles on Aristotle. Vol. 3: Metaphysics*, edited by Barnes, Jonathan, Schofield, Malcolm and Sorabji, Richard, 50-62. London: Duckworth.
Translated by Jonathan Barnes.
Originally published as "Über den Satz des Widerspruchs bei Aristoteles", in: *Bulletin International de l'Académie des Sciences de Cracovie,* Cl. d'histoire et de philosophie, 1910.

Already translated into English by V. Wedin as "On the principle of contradiction in Aristotle", in *The Review of Metaphysics* 24, 1970/71 pp. 485-509.

51. ———. 1993. *Über den Satz des Widerspruchs bei Aristoteles*. Hildesheim: Georg Olms.
Zur Modernen Deutung der aristotelischen Logik (Band 5).
Translated from the Polish *O zasadzie sprzecznosci u Arystotelesa* (1910) by Jacek Barski; with a preface by Joseph Bochenski.
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

52. Lukasiewicz, Jan, and Negro, Camillo. 1968. *La sillogistica di Aristotele*. Brescia: Morcelliana.
Introduzione storica di Czeslaw Lejewski Sulla Scuola di Logica di Varsavia.

53. Maier, Heinrich. 1896. *Die Syllogistik des Aristoteles*. Tübingen: H. Laupp.
Vol. 1. Die logische Theorie des Urteils bei Aristoteles. Berichtigte Neuausgabe mit einem Anhang: Die Echtheit der aristotelischen Hermeneutik (1896); Vol. 2. Die logische Theorie des Syllogismus und die Entstehung der aristotelischen Logik: 1. Formenlehre und Technik des Syllogismus (1897); 2. Die Entstehung der aristotelischen Logik (1900).
Reprint: Hildesheim, Georg Olms, 1969-1970.

54. Malink, Marko. 2012. "Figures of prosleptic syllogisms in *Prior Analytics* 2.7." *Classical Quarterly* no. 62:163-178.
"In chaps. 2, 5-7 of his *Prior analytics*, Aristotle is concerned with circular proof. He gives an account of circular proofs within the framework of his syllogistic theory and discusses how they come about in the three figures of categorical syllogisms. The results of this discussion are summarized at the end of this section, at *APr.* 59 A 32-41. The summary contains several statements to the effect that certain circular proofs come about in the third figure. Some of these statements are problematic because the circular proofs in question are actually not in the third figure of categorical syllogisms ; in fact, these proofs are not categorical syllogisms at all, but what Theophrastus called prosleptic syllogisms (Aristotle, *Sch. Σ* 190 A 1-4 Brandis). Hence, the statements are incorrect if they are understood to refer to the third figure of Aristotle's categorical syllogisms. The passage can, however, be shown not to be spurious: the problematic statements in it refer not to the third figure of categorical syllogisms, but to the third figure of prosleptic syllogisms. On this interpretation, the statements can be regarded as genuine. They show that Aristotle was aware of a classification of prosleptic syllogisms into three figures, even though such a classification does not occur elsewhere in his writings. Thus, the passage appears to be the earliest evidence we have of figures of prosleptic syllogisms."

55. ———. 2015. "The Beginnings of Formal Logic: Deduction in Aristotle's *Topics* vs. *Prior Analytics*." *Phronesis* no. 60:267-309.

56. Martin, John M. 1997. "Aristotle's Natural Deduction Reconsidered." *History and Philosophy of Logic* no. 18:1-15.

57. Menne, Albert, ed. 1962. *Logico-Philosophical Studies*. Dordrecht: Reidel.

58. Menne, Albert, and Öffenberger, Niels, eds. 1982. *Über den Folgerungsbegriff in der aristotelischen Logik*. Hildesheim: Georg Olms.
Zur Modernen Deutung der aristotelischen Logik. Band 1.

59. ———, eds. 1985. *Formale und nicht-formale Logik bei Aristoteles*. Hildesheim: Georg Olms.
Zur Modernen Deutung der aristotelischen Logik. Band 2.

60. ———, eds. 1988. *Modallogik und Mehrwertigkeit*. Hildesheim: Georg Olms. Zur Modernen Deutung der aristotelischen Logik. Band 3.

61. Mignucci, Mario. 1985. "Puzzles About Identity. Aristotle and His Greek Commentators." In *Aristoteles. Werk und Wirkung: Paul Moraux Gewidmet. Erster Band: Aristoteles und seine Schule*, edited by Wiesner, Jürgen, 57-97. Berlin: Walter de Gruyter.
"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)

62. ———. 1996. "Aristotle's Theory of Predication." In *Studies on the History of Logic. Proceedings of the Third Symposium on the History of Logic*, edited by Ignacio, Angelelli and Cerezo, Maria, 1-20. Berlin, New York: Walter de Gruyter.

63. ———. 2000. "Parts, Quantification and Aristoteliam Predication." *The Monist* no. 83:3-21.

64. ———. 2007. "Aristotle on the existential import of propositions." *Phronesis* no. 51:121-138.

65. Moravcsik, Julius. 1967. "Aristotle on Predication." *The Philosophical Review* no. 76:80-96.
See also: *Erratum: Aristotle on Predication*, The Philosophical Review, Vol. 76, No. 4 (Oct., 1967), p. 543.
"In the *Topics, Categories,* and *De Interpretatione,* Aristotle is struggling with a variety of problems that span the fields of metaphysics and philosophy of language. Both the problems and the attempted solutions have much relevance to some of the main issues in contemporary British and American philosophy. Thus it is unfortunate that though there is a large number of ancient commentaries on these texts, little has been written on these matters in modern times that is of genuine philosophical significance. Professor Ackrill's new translation and notes' make a fine contribution toward remedying this deficiency. (...)
It is impossible to write a complete review of Ackrill's book, for, not being able to assume familiarity with Aristotle's theories, the reviewer would have to cover simultaneously Aristotle's views, the quality of the new translation, and the quality of Ackrill's notes. As an alternative, the reviewer hopes to introduce the reader to this volume by selecting one of the key nest of problems that Aristotle discusses in these works and discussing Aristotle's views, the translation, and Ackrill's views in this limited context. Unfortunately, even this limited task is too large for the size of a paper to be expected under these circumstances. Nevertheless, this sketchy introduction might be of some value to those interested in the problems at hand."

66. ———. 2004. "Logic Before Aristotle: Development or Birth?" In *Greek, Indian and Arabic Logic. Handbook of the History of Logic: vol. 1*, edited by Gabbay, Dov and Woods, John, 1-25. Amsterdam: Elsevier.

67. Negro, Camillo. 1967. *La sillogistica di Aristotele come metodo della conoscenza scientifica*. Bologna: Patron.

68. Öffenberger, Niels, and G., Vigo Alejandro. 1997. *Südamerikanische Beiträge zur modernen Deutung der Aristotelischen Logik*. Hildesheim: Georg Olms.
Zur Modernen Deutung der aristotelischen Logik. Band 7.

69. Öffenberger, Niels, and Skarica, Mirko, eds. 2000. *Beiträge zum Satz vom Widerspruch und zur Aristotelischen Prädikationstheorie*. Hildesheim: Georg Olms.
Zur Modernen Deutung der aristotelischen Logik. Band 8.

70. Öffenberger, Niels, and Surdu, Alexandru, eds. 2004. *Rumänische Beiträge zur modernen Deutung der Aristotelischen Logik*. Hildesheim: Georg Olms.
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."

71. Parry, William, and Hacker, Edward. 1991. *Aristotelian Logic*. New York: State University of New York Press.

72. Pasquale, Gianluigi. 2006. *Aristotle and the Principle of Non-contradiction*. Sankt Augustin: Academia Verlag.
Traduzione italiana: *Il principio di non-contraddizione in Aristotele,* Torino: Bollati-Boringhieri, 2008.
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 secand 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)

73. Perreiah, Alan R. 1993. "Aristotle's axiomatic science: Peripatetic notation or pedagogical plan?" *History and Philosophy of Logic* no. 14:87-99.
"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"."

74. Reeve, C. D. C. 1997. "Dialectic and philosophy in Aristotle." In *Method in Ancient Philosophy*, edited by Gentzler, Jyl, 227-252. New York: Oxford University Press.

75. Reinhardt, Tobias. 2018. "« Pithana » and « probabilia »." In *Dialectic after Plato and Aristotle*, edited by Bénatouil, Thomas and Ierodiakonou, Katerina, 218-253. Cambridge: Cambridge University Press.

76. Rijk, Lambertud Marie de. 2002. *Aristotle: Semantics and Ontology. Volume I: General Introduction. The Works on Logic*. Leiden: Brill.
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."

77. ———. 2002. *Aristotle: Semantics and Ontology. Volume II: The Metaphysics, Semantics in Aristotle's Strategy of Argument*. Leiden: Brill.
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 1 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."

78. Sainati, Vittorio. 1968. *Storia dell' "Organon" aristotelico. I: Dai "Topici" al "De Interpretatione"*. Firenze: Le Monnier.
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82. Smith, Robin. 1993. "What use is Aristotle's *Organon*?" *Proceedings of the Boston Area Colloquium in Ancient Philosophy* no. 9:261-285.
Reprinted in: Lloyd P. Gerson (ed.), *Aristotle. CriticalAassessments.* Vol. I: *Logic and Metaphysics,* New York: Routledge 1999, pp. 1-19.

83. ———. 1993. "Aristole on the Uses of Dialectic." *Synthese* no. 96:335-358.

84. Solmsen, Friedrich. 1929. *Die Entwicklung der aristotelischen Logik und Rhetorik*. Berlin: Weidmannsche Buchhandlung.
Nachdruck: Hildesheim, Georg Olms, 2001.

85. Sorbi, Luca. 1999. *Aristotele: la logica comparativa*. Firenze: Olschki.
Due volumi: I (1999); II (2002).

86. Striker, Gisela. 1998. "Aristotle and the uses of logic." In *Method in Ancient Philosophy*, edited by Gentzler, Jyl, 209-226. New York: Oxford University Press.
"Aristotle, as we all know, invented formal logic. Over the last fifty years or so, scholars have learned to recognize that 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 calf 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)
(1) This summarizes the conclusion of J. Corcoran, 'Aristotle's Natural Deduction System', in idem (ed.), Ancient Logic and its Modern Interpretations (Dordrecht: Reidel. 1974), p. 122-3.
(5) Corcoran 'Aristotle's Natural Deduction System', p. 98.

87. Theron, Stephen. 2002. "The interdependence of semantics, logic, and metaphysics as exemplified in the Aristotelian tradition." *International Philosophical Quarterly* no. 42:63-91.
Abstract: "A general metaphysical account of logic, meaning, and reference that developed from the Greeks through the medievals and up into modern times can be called Aristotelian. 'Copernican' claims (Kant, Frege), radically to replace this paradigm as quasi-'Ptolemaic', actually participated in the prolonged decline of scholasticism, after Aquinas in particular. 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 criss-cross patterns of likenesses, governs the general picture supplied here."

88. Thompson, Manley. 1953. "On Aristotle' Square of Opposition." *The Philosophical Review* no. 62:251-265.

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"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."

94. Weidemann, Hermann. 1980. "In Defence of Aristotle's Theory of Predication." *Phronesis.A Journal for Ancient Philosophy* no. 25:76-87.

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"Aristotle has a doctrine, or series of doctrines, of accidental predication, accidental being, accidental unity and accidental sameness, which scholars have recently illuminated by reference to problems in the philosophy of logic. (See references below to papers by Gareth Matthews, Nicholas White and Alan Code.) But they have not so far found a single key to the understanding of these doctrines. The key can, I believe, be found by comparing Aristotle's doctrines with Russell's Theory of Descriptions. Russell's theory is couched in the formal mode of speech: it is concerned with distinguishing amongst expressions which rank grammatically as subjects of sentences those which alone are true logical subjects.
Aristotle's theory is couched for the most part in the material mode: he speaks of accidental unities or beings as though they were a subclass of entities, in a way which has allowed Gareth Matthews recently to talk of this doctrine as a doctrine of "kooky objects."(1)" (p. 63)
(1) Gareth B. Matthews, "Accidental Unities," in *Language and Logos*, edited by M. Schofield and M. Nussbaum (Cambridge University Press, 1982) pp. 223-240. One may compare the way in which the phenomena of
referential opacity are spoken of in terms of "intentional objects."
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