

Chela, Raimundo

Matemática y lógica. (Spanish) [Mathematics and logic]

With an introduction by Delia Flores de Chela.

With a prologue by Carlos Augusto Di Prisco.

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This small pamphlet, originally delivered as a lecture in 1954, contains an expository survey of those elements configuring the new formal or symbolic logic and those elements defining a "mathematical structure". It is not, however, an exposition of the basic ideas guiding the developments of logic and mathematics, as is claimed in the prologue.

The author's lecture (as a part of a cycle of seminars entitled:

"Dialogue between Science and Philosophy") is addressed to the general public, not to the specialist in mathematics. He first explains with care why Aristotelian logic was inadequate to deal with mathematics by the turn of the present century. Then he unburiedly describes the theory of relations and an algebra of propositional logic. Finally, the author also devotes space to discussing and commenting on different attitudes (logicism, formalism and intuitionism) towards the creation of those "mathematical structures". In particular, these comments are closely associated with the significance of the compatibility or logical consistency of a set of axioms.

The description of these different attitudes is not well balanced. Intuitionism is briefly discussed in about two paragraphs—Brouwer's name being misspelled throughout the whole essay. The discussion of logicism is extended to six paragraphs, while the narration of the basic ideas of formalism takes several pages.

The author's brief analysis of some of Euclid's definitions shows penetrating insight. He discusses the limitation of these definitions due to Aristotle's influence. It was not until very recently that C. V. Jones clearly explained the great philosophical debt that Euclid owed to Aristotle [see "The concept of 'one' as a number", Ph.D. Thesis, Univ. Toronto, Toronto, 1978; "Zeno's paradoxes and the first foundations of mathematics", *Mathesis*, to appear; "Aristotle's influence on the foundations of Euclid's *Elements*", *ibid.*, to appear].

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