

Risto Vilkkio

*A Hundred Years of Logical Investigations.*

*Reform Efforts of Logic in Germany 1781 - 1879*

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## REVIEW

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On p. 12 of the reviewed book, Risto Vilkkio complains that two extensive histories of logic, namely Bocheński's *Formale Logik* (1956, Eng. tr. 1961) and the Kneales' *The Development of Logic* (1962) do not devote "a single word to such important 19th philosophers-logicians as Johann Friedrich Herbart, Moritz Wilhelm Drobisch, Friedrich Adolf Trendelenburg or Hermann Ulrici. The Kneales disregard even the work of Robert Graßmann." Consequently, Vilkkio declares (p. 12) "The aim of this work is to show that this standard evaluation of 19th century logic is misdirected and needs to be corrected."

Vilkkio's complaint can be supplemented by an observation that another huge history of logic, namely *Storia della Logica. Da Boole ai nostri giorni*, by Corrado Mangione and Silvio Bozzi (Garzanti, Cernusco s/N 1993, 2nd ed. 1995, 959 pp.), although it mentions Herbart and Graßmann, yet refers to them as quite secondary figures. Perhaps Anton Dumitriu's *History of Logic*, v. 2 (Abacus Press, London 1991), could be considered as the only notable exception, because it offers a quite detailed account of logic done by philosophers in the 19th century. However, one should stress, more strongly than Vilkkio does, that Bocheński, the Kneales, and Mangione and Silvio, followed a quite definite ideology in looking at the history of logic based on the conviction, originated mostly with Jan Łukasiewicz, that mathematical logic is *the* logic. Due to this opinion, historians of logic should look for traces of contemporary mathematical-logical ideas in the past. Vilkkio, influenced by the Erlangen project of the social history of logic, formulated by Christian Thiel and continued by Volker Peckhaus, rejects the "imperialism" of mathematically oriented history of logic. His book

considers logic more broadly to the effect that logical works of philosophers should not be overlooked. Although I agree that historians of logic must follow all conceptions of logic occurring in the history of this subject, yet I claim that differences between mathematical logic and logics under different understandings are serious. In particular, even if we agree that the label ‘formal logic’ concerns not only mathematical logic, various senses of ‘being formal’ are to be distinguished and elaborated.

Vilkko deals with the period 1781-1879. The border dates refer, of course, to the first edition of Kant’s *Kritik der reinen Vernunft* and Frege’s *Begriffsschrift*. The book is divided into the following chapters. The introduction and Chapter 2 (Reforming Logic in 19th Century Germany) shed lights upon general ideas underlying the subsequent analysis. Chapter 3 (Origins of the Logic Question) concerns Kant, Herbart and his school, and Drobisch. Chapter 4 extensively presents Trendelenburg’s logical and philosophical ideas and various reactions to them as well as the significance of this philosopher. Chapter 5 (The Algebra of Logic in Germany during the Second Half of the 19th Century) deals with the Graßmanns and Schröder; in particular, Vilkko points out the significance of the structural theory of logic and the program of logic as a kind of universal algebra. Chapter 6 (Gottlob Frege’s *Begriffsschrift*) reports about Frege’s first important contribution to logic. Moreover, we have concluding remarks, three useful appendices (a comparison of three editions of one of Drobisch’s books, a picture of the Herbartian school and English translations of phrases borrowed from other languages), a bibliography and an index of names.

I have only some minor critical observations. On p. 29 Vilkko says that Bolzano was discovered by Husserl. However, Benno Kerry and Kazimierz Twardowski should be also mentioned in this context. I wonder why Franz Brentano and his project of reforming logic is overlooked. In fact, *Psychologie vom empirischen Standpunkte* appeared in 1874, that is, before 1879. Finally, I think that the author neglected one important aspect of Frege’s *Begriffsschrift*. As Łukasiewicz pointed out in his famous paper on the history of logic of propositions (published in *Erkenntnis* in 1934), Frege restored the view, known to the Stoics, that propositional calculus is the most basic logical theory, prior to all other logical systems, for example, quantification theory.

The reviewed book is very well documented by original sources. The author shows how many concepts of logic circulated in Germany in the 19th century and how particular views about logic interacted with philosophy and mathematics. In general, Vilkko’s study is very valuable

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and enlarges our knowledge of the history of logic. This book should be read by everyone interested in the history of logic and philosophy.

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