

ZMATH 2011d.00067

Gandon, Sébastien

The theory of relations in Augustus De Morgan. (La théorie des rapports chez Augustus De Morgan.)

Rev. Hist. Sci. 62, No. 1, 285-311 (2009).

De Morgan presented his theory of ratios in a little-recognized work of 1836, *The connection of numbers and magnitude: An attempt to explain the fifth book of Euclid*. De Morgan stated that it was a treatise for the benefit of students. This paper aims to show that the work was actually more than didactical when considered in the context of De Morgan's broader mathematical program. The topic of ratios of ratios, for example, is shown to be related to the distinctively British calculus of operators. Also, there is a link between De Morgan's composition of ratios and his relational theory of the syllogism. The author suggests further that this demonstrates a direct line of influence between the reading of the fifth book of Euclid and the logical theory of relations developed in the second half of the nineteenth century and elaborated on in *A. N. Whitehead* and *B. Russell's Principia mathematica* [Cambridge: University Press. Vol. I (1910; JFM 41.0083.02), Vol. II (1912; JFM 43.0093.03), Vol. III (1913; JFM 44.0068.01)]. *Albert C. Lewis (Austin)*

Classification: A30 E30 E40

Keywords: De Morgan; Euclid; ratios; syllogism; B. Russell

doi:10.3917/rhs.621.0285