

Frege Against the Booleans

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1 "after this piece of writing" Frege finished the preface to his *Begriffsschrift* on December 18, 1878. By that date work on the book itself was presumably also completed. "It was arithmetic, as I remarked at the beginning, that was the point of departure for the train of thought that led to my *Begriffsschrift*," he concluded the preface. "To that science I also intend to apply it first of all" ([6], p. 8). And so he announced confidently: "The further pursuit of the path indicated, the elucidation of the concepts of number, magnitude, etc., will form the subject-matter of further investigations with which I want to step forward immediately after this piece of writing" ([6], p. 8).

But authors do not always foresee the dynamic set in motion by their own writing and so it was also in the case of Frege. It took him another five years before he was ready with the promised elucidation of the concept of number. I have tried to explain elsewhere that the delay was, at least in part, due to his "discovery" that numbers were logical objects and the difficulty he had with incorporating that insight into the logic of the *Begriffsschrift* ([22], pp. 96–128).

There was an additional reason for the delay and that was the predominantly negative reception of the *Begriffsschrift*. The condensed, formal presentation of the material in the book made the understanding of its message difficult, particularly for philosophical readers who were unused to such a high level of formalization and abstraction. Various reviewers—among them Ernst Schröder, Germany's most prominent Boolean logician—also raised the question of the relation between Fregean logic and Boolean algebra.

It is understandable then that between 1879 and 1882 Frege undertook repeated efforts to explain and defend his new logic. He did so in a series of articles of which the longest and most carefully worked out piece is an essay he called "Boole's Calculating Logic and the *Begriffsschrift*". Unfortunately, no scholarly journal was willing to take the piece and so, in the end, it remained unpublished till Frege's *Nachgelassene Schriften* appeared in 1969.¹

For us today that essay and the others which Frege wrote at the time are of particular interest because they elucidate how he conceived of his work in