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Reviewed by Günther Eder

# Review: Frege und die kontinentalen Ursprünge der analytischen Philosophie, by Gottfried Gabriel and Sven Schlotter

## Günther Eder

The central aim of the book is to put Frege's philosophical views as well as his technical innovations in logic into the context of his philosophical environment in nineteenth century Germany. By this, the authors hope to adjust two narratives which they claim are widely held in the secondary literature on Frege, especially in the analytic tradition. The first is the view that somehow Frege developed his philosophical views and technical innovations in logic in a singular effort and without real precedents. The second is the view that Frege was not directly received in his lifetime and soon thereafter, but only decades later and mainly indirectly thanks to the works of analytic philosophers like Russell, Carnap, and Wittgenstein. According to the authors, the widespread acceptance of these narratives and the distorted picture they gave rise to in the analytic tradition are the result of ignoring the philosophical context in which Frege developed his views. Against these narratives, the authors aim to show that "Frege's presentation of modern logic is by no means without precursors, but consistently continues approaches that have been prepared by proponents of traditional logic" (66) and try to refute the "prejudice" that Frege had no immediate effect on his contemporaries (199). To this end, the authors carefully examine Frege's texts and compare them with those of his contemporaries. They also explore his personal acquaintances in Jena, a group of people which the authors refer to as the "Jena microcosm". As the title of the book indicates, by uncovering the influence that continental philosophers exerted on Frege the authors also seek to illustrate the "continental origins of analytic philosophy".

The book is extremely rich, so here is just a brief sketch of its structure and some of its central themes. After a short introduction where the authors identify their central goals, they discuss precursors of Frege's conception of logic in the second and third chapter. In chapter 2, they argue that some of Frege's general motifs for developing a "Begriffsschrift" can be traced to the works of Leibniz (25-29), Adolf Trendelenburg (29-37), and Hermann Lotze (37-41). They also discuss the influences of Franz Brentano, Johann Friedrich Herbart and Christoph Sigwart on specific aspects of Frege's conception of logic, including his views on existential presuppositions, existence- and number statements, and the basics of quantification theory more generally (41-64). In chapter 3, they try to further strengthen their theses by focusing on the influences of Sigwart and Herbart. For example, Sigwart is cited as an important precursor of Frege's distinction between judgement and content (70-76) as well as his celebrated function-argument analysis of content (76–79). Some of Frege's views on modality are found to have precedents in the work of Lotze (80-89).

Chapter 4 deals with Frege's epistemology and starts out with a discussion of his reconceptualization of the distinctions between synthetic and analytic judgements on the one hand and, on the other hand, a priori and a posteriori judgements. The authors then focus on Frege's views on geometry as a science that deals with synthetic a priori judgements as opposed to arithmetic, whose truths are analytic. With respect to Frege's views on geometry, the authors find substantial agreement with those of Otto Liebmann, Frege's colleague in Jena (93-97). The authors go on to discuss Frege's conceptions of proof, justification, the nature of axioms, and, especially, the epistemological status of basic laws of logic (97-111). With respect to the latter, the authors argue that Frege's view is ultimately based on a "transcendentalpragmatic justification of the logical laws" (106). According to this view, the recognition of basic logical laws is a "condition for the possibility of all judging" (107), a conception which they find anticipated in the work of Wilhelm Windelband and, once again, Lotze.

Chapter 5 is concerned with Frege's conception of language and its relation to thought. While the authors seem to agree with the received view, prominently put forth by Dummett, that Frege is the "father" of modern analytic philosophy of language, they once again highlight the historical context in which Frege developed his views. With respect language, the authors emphasize the significance of Johann Gottfried Herder, Wilhelm von Humboldt, and Lotze (130–39) as precursors of Fregean ideas. They specifically discuss Frege's celebrated distinction between sense and reference, which they see anticipated in important respects in the work of Sigwart and, of course, Lotze (139–45).

Chapter 6 deals with Frege's views on truth, especially his introduction of "truth values". Here, in addition to Lotze, it is Neo-Kantians of the Southwestern school such as Windelband (who coined the term "Wahrheitswert", i.e., "truth value") and Heinrich Rickert who are identified as predecessors of Frege. Points of contact are made out, for example, with respect to Frege's rejection of specific versions of the correspondence theory of truth (147–55), his doctrine that truth is a "value" that is recognized in judging (155–65), or with respect to the affinity between logic and ethics that Frege emphasizes on various occasions (164).

Chapter 7 is concerned with Frege's metaphysics of mathematics, especially his thesis that numbers are logical objects. According to the authors, this thesis, which is a central component of Frege's version of logicism, should be understood as a continuation of a "pre-Kantian rationalistic metaphysics" in the tradition of Leibniz (178). The authors then discuss Frege's views on the foundations of mathematics after he received Russell's letter, in particular, his late reversal to Kant and his attempt to ground arithmetic on the "geometrical source of knowledge" (179–90). In the last section of chapter 7 (190–97), the authors discuss Frege's later views on "thoughts" (the Fregean senses expressed by declarative sentences) as immaterial, objective, and timeless entities as a form of "transcendental platonism", precursors of which they find in Lotze and, especially, Herbart.

While earlier chapters are mainly concerned with influences on Frege, chapter 8 deals with the "myth" that Frege wasn't received during his life-time and soon thereafter. The authors show that even in his lifetime there was a diverse Frege reception. In addition to the well-known influence that Frege had on Wittgenstein and Carnap, which is discussed in some detail in the book (217–27), the authors show that Frege was broadly received by prominent Neo-Kantians such as Rickert, Bruno Bauch, Jonas Cohn, Ernst Cassirer, or Paul Natorp, as well as phenomenologists like Paul Ferdinand Linke (although, as the authors admit, some of this reception can be traced to the influence of Russell).

The authors conclude with a few tentative remarks on the split between continental and analytic philosophy. In view of the rich influence that continental philosophers exerted on the "father" of analytic philosophy, they call for a re-examination of this division.

As the authors mention themselves, much of the book's content has been published in the form of articles during the past four decades. However, it is useful to have the results of their research collected in a single monograph that ties some loose ends together and also provides an overarching perspective on Frege's philosophy. The depth of the historical research contained in the book is impressive. It is full of historical details and it is definitely an important contribution to Frege scholarship. While I think there has been a lot of movement in Frege scholarship in the past decades, the view that Frege developed his views in relative isolation and without precedents is still popular in the general philosophical community. So I think the book is still important as a corrective.

Given Frege's notoriously bad habit of rarely giving references to the works of others, most of the connections to other philosophers that are claimed by the authors are based on comparative studies. Not all of these connections are equally well supported by textual evidence. However, when combined, the sheer mass of material provided by the authors usually supports their claims. Here is just one illustration of the kind of evidence provided by the authors. In various writings where Frege polemicizes against psychologism, he refers to the "phosphorus content in the brain". For instance, in the unpublished piece "Logik" from the 1880s, Frege says: "Now if by the laws of thought we understand the laws of logic, it is easy to see the absurdity of a condition relating, say, to the phosphorus content of our brains or to something else in human beings which is subject to change" Frege (1979, 5). To a modern reader, this reference to the phosphorus content in the brain may seem like a random detail, perhaps an illustration of the polemic tone for which Frege would become notorious in his later years. As the authors remind the reader though, back then it was understood that this was meant to be a clear reference to Jakob Moleschott, a well-known physiologist and prominent proponent of scientific materialism at the time. Moleschott coined the popular catch phrase "No thoughts without phosphorus", a slogan that was also criticised by Frege's colleague Otto Liebmann in a book from 1880 (113).

References like the one just mentioned, which can only be understood by immersing oneself into Frege's intellectual environment, can be found throughout the book, and they support the authors' central claim that Frege was far from being ignorant about his environment. Apart from negative influences of the kind just illustrated, the book also contains a wealth of evidence for the positive influence that several philosophers exerted on Frege, often in the form of similar (sometimes identical) formulations in their work. For example, Frege's well-known characterization of axioms as truths which "neither need nor admit of proof" appears almost verbatim in Lotze's "Logik" from 1874 (101–2). As the authors show, in many of these cases we can expect Frege to have known these works. Sometimes this is evident from Frege's record at the University library in Jena, sometimes it can be inferred from textual evidence in conjunction with information about his acquaintances within the "Jena microcosm". One of my favourite pieces of evidence that was dug up by the authors is a handwritten note by Bruno Bauch, the successor of Otto Liebmann in Jena, which not only supports the authors' thesis that Frege was directly influenced by Lotze, but also their claim that Frege did have an immediate effect on philosophers of his time. In this note Bauch recalls a personal conversation with Frege in which "our great mathematician Frege" expressly confessed that Lotze's ideas were "of crucial importance" ("von entscheidender Bedeutung") for his own views (209). Digging up this kind of evidence requires careful historical research, and the authors deserve massive credit for doing it.

There are two minor issues with the book which should not, however, take away from the authors' achievement. First, there is a strong emphasis on German-speaking scholars in the cited secondary literature on Frege. This is not objectionable in itself and to some extent understandable. But it seems to me that this emphasis creates some notable blind spots. Also, apart from a few exceptions, the only writings by anglophone scholars that are mentioned in the book are somewhat outdated. One example where a stronger inclusion of more recent anglophone literature could have benefited the discussion in the book concerns the authors' discussion of Frege's views on metalogic and the related controversy with Hilbert. In both instances, work by distinguished scholars such as Patricia Blanchette, Tom Ricketts, or Jamie Tappenden could have been included.<sup>1</sup>

A second issue is that while the authors give a comprehensive picture of the philosophical context of Frege's work, very little is said on the mathematical context in which his ideas emerged. Again, given the authors' aims, this is to some extent understandable. But it seems to me that the authors' exclusive focus

<sup>&</sup>lt;sup>1</sup>See, for example, Tappenden (2005), Ricketts (1997), and Blanchette's recent monograph (2012).

on Frege's philosophical context leads to a somewhat imbalanced perspective on Frege's work. Relatively recent work on Frege indicates that some of his central ideas cannot be fully understood without taking his mathematical background into account. Here are just two examples. In their discussion of Frege's function/argument analysis of judgements, the authors mention philosophical precedents, but there is no discussion of the potential influences from the mathematical side. This is puzzling because Frege himself frequently highlights the mathematical origins of this analysis. Moreover, research on Frege's mathematical setting by Mark Wilson (among others) suggests that there may be a very specific mathematical precedent for Frege's function/argument analysis and the closely related idea that a given content can be "carved up" in various ways by conceiving of certain parts of a judgement as constant and others as variable. To wit, the latter idea came up in nineteenth century geometry in Plücker's work on projective coordinates, which initiated the general study of "space elements" by means of coordinates, an area of research that Frege was not only familiar with but actively engaged in.<sup>2</sup> Another example where the neglect of mathematical context seems to have created blind spots concerns the authors' discussion of Frege's introduction of cardinal numbers in his Grundlagen der Arithmetik. Again, while the authors discuss philosophical precedents, they don't mention that Frege's discussion of "Hume's principle" and other "abstraction principles" was crucially informed by nineteenth century debates about "elements at infinity" in projective geometry (see Mancosu 2015). While I understand that the book is meant to have a focus on Frege's background in nineteenth century philosophy, I think that including at least some of his mathematical background would have completed the picture.

Once again, these omissions should not distract from the authors' accomplishment. The book succeeds admirably in achieving the goals it set itself and I highly recommend it to everyone who is interested in the philosophical context in which Frege developed his views. It stands to hope that the book will be translated into English, which would certainly contribute to a more nuanced assessment of Frege's place in the history of philosophy in general.

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<sup>&</sup>lt;sup>2</sup>See, for example, Wilson (2005, 2010).

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