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## Book Review

*Husserl or Frege?*, by Claire Ortiz Hill & Guillermo E. Rosado Haddock. Open Court, 2000. 315 pages. Bibliography. Index. $39.95. ISBN: 0-8126-9417-1.

Often, philosophers from divergent traditions research different problems, employ different methodologies, and speak different philosophical vocabularies. The dialogue (or lack thereof) between phenomenological and analytic philosophers is no exception to these difficulties.

The philosophy of mathematics has traditionally (but not exclusively) been an "analytical inquiry." That is why it may come as a surprise to both analytical and phenomenological philosophers that Edmund Husserl was a very active participant in the development of the philosophy and foundations of mathematics from approximately 1878 (when he was a student and assistant of Karl Weierstrass) to 1916 (while he was still in David Hilbert's circle in Göttingen). Nevertheless, his involvement has been sorely neglected for the past hundred-odd years. Claire Ortiz Hill, in the *Introduction*, provides a nice explanation for this:

> …Phenomenologists themselves have been loath to study Husserl's ideas about mathematics and logic, which they have considered to be the product of an early, immature, pre-phenomenological period of this philosophical career. To do so, they would have had to acquire the expertise necessary to manipulate ideas that they have not usually found interesting to them in order to communicate with philosophers whose general orientation they do not share. One consequence of this lack of priority Husserlians have been willing to accord to Husserl's work in this field has been that texts indispensable to piercing together his views (his unpublished writings and lectures for example) were for a long time only available in archives in the Austrian shorthand that Husserl used. Needless to say, they are for the most part still not available in English. So analytic philosophers looking into Husserl's writings still mainly find a mass of writings on precisely the kind of views they oppose, expressed in language that they could only find repulsive (*xii*).

This collection of articles attempts to ameliorate these historical difficulties by providing a clear picture of what it is that Husserl is actually saying and how his philosophies coincide and differ from those espoused by the likes of Cantor and Frege during the same period of time.

The anthology contains fifteen chapters, as well as an *Acknowledgements*, an *Introduction*, a *Bibliography*, and an *Index*. Hill wrote the *Acknowledgements*, the *Introduction*, chapter one, and chapters five through ten. Guillermo E. Rosado Haddock wrote chapters two through four and chapters eleven through fifteen. Each of the chapters is an article that has been previously

published. Despite this, since there are only two authors, and their objectives align so closely, there is a pleasing sense of continuity through the various articles. On the other hand, the book is repetitive at times: many of the articles treat similar topics, so relevant background information provided in each chapter is often similar.

A surprisingly wide-range of topics is covered in the 315 pages of the book. Although the focus continues to be the philosophy of Edmund Husserl, there are extensive portions dedicated to Frege, Cantor, and the philosophy of mathematics. Some of the topics within the philosophy of mathematics that are given special treatment are Platonism, interderivability, mathematical epistemology, completeness, and logical abstraction. Despite the wide range of topics covered, the philosophy of Husserl continues to be the focus, and it is clear that Hill and Rosado Haddock are both Husserlians through and through. In fact, much of the work is something of a defense of Husserl and his views. Rosado Haddock, in chapter eleven, *To be a Fregean or to be a Husserlian: That is the Question for Platonists*, begins by recounting a "myth" of analytic philosophy:

> …It was Frege's 'devastating' critique of Husserl's book in 1894 and the study by Husserl of other of Frege's writings which were responsible for Husserl's abandonment of psychologism in the first volume of his *Logische Untersuchungen* of 1900/1901 and his embracing of Frege's views on logic, mathematics and their relationship, and of Frege's distinction between the sense and reference of expressions in the First Logical Investigation (199).

It seems that the authors have a good case that much of what is believed about Husserl during this period is based on misunderstandings, or in some cases, plain old false information that has never been verified. Nevertheless, although the authors often attempt to defend the coherency and originality of Husserl's work, their historical treatment of all the philosophers about which they speak is even-handed. One particularly interesting example of this is in Hill's chapter 7, *Abstraction and Idealization in Edmund Husserl and Georg Cantor Prior to 1895*. Here, Hill begins to sketch how Cantor's work in the philosophy of mathematics during the 1880s and 1890s influenced Husserl's philosophical work at the same time, and how ultimately, Cantor's philosophy may have had a much greater impact on Husserl's development of phenomenology than previously conceived. Hill writes:

> It is my conviction that further research into the relationship between Husserl's and Cantor's ideas will show that no complete grasp of Husserl's phenomenology, and his philosophy of logic and mathematics in particular, is possible without a clear understanding of the role Cantor's philosophy of arithmetic played in the development of Husserl's thought (131).

Clearly, Hill and Rosado Haddock are interested in giving credit where credit is due.

I have thus far been highlighting the historical and comparative work that Hill and Rosado Haddock have done in this book. While the majority of the text consists of this sort of work, more philosophical work is also engaged in throughout the book. In addition to possessing an understanding of Continental Philosophy, and phenomenology in particular, Hill and Rosado Haddock are both technically competent when it comes to teasing apart analytical notions in the philosophy of language and mathematics—especially Frege's philosophy of language. It is a rare combination for a philosopher to be able to speak competently about such diverse topics, but when

one can, philosophy is better off for it. This book certainly benefits from its authors' competence, for the discussions of Frege's philosophy are fair and well-researched even if they are at times somewhat contentious. For example, in chapter 4, Rosado Haddock argues that Frege had two separate notions of sense that he implicitly employed but never cared to explicitly differentiate.

Although both authors are technically competent, the philosophical work in the volume is sometimes lacking. A case in point is Rosado Haddock's chapter 13, *Interderivability of Seemingly Unrelated Mathematical Statements and the Philosophy of Mathematics*. Here, Rosado Haddock attempts to argue that the interderivability of equivalent statements that speak about very different mathematical structures (for example, the interderivability of *Tychonoff's Compactness Theorem* and *Zorn's Lemma* which speak about topological spaces and chains in a family of sets) is problematic for various philosophies of mathematics. As he considers mathematical constructivism with respect to interderivability, he presents the following argument that constructivism, no matter how construed, cannot adequately deal with the interderivability "problem:"

> Since the entities spoken about in the two lists of mathematically equivalent statements of §1, namely, lattices, ultrafilters, topological spaces, vector spaces, cardinality spectra of models of sets of first-order sentences, etc. differ considerably and have so diverging properties, even if all of them can be constructed and all corresponding theorems about them proved, the interderivability results would be philosophically as unintelligible for such a liberal constructivism as if, e.g., the statements 'Paris is the capital of France' were interderivable with the statement 'Plato was Aristotle's teacher.' What would be constructed by such a liberal constructivism are lattices, ultrafilters, topological spaces, etc. which are clearly very different mathematical entities. The interderivability of, e.g., the Löwenheim-Skolem-Tarski Theorem, Tychonoff's Theorem, and Zorn's Lemma is in need of a philosophical assessment. But an adequate assessment cannot be made if one assumes that all entities spoken about in such mathematical statements are constructed by (the community of) mathematical subjects. Hence, we have to conclude that no matter how liberal a constructivist philosophy of mathematics might be, it is incapable of an adequate philosophical assessment of the interderivability phenomena under discussion (245).

If we parse the above paragraph, it seems two arguments are given:

> 1) The entities about which interderivable statements in mathematics speak are often really different (such as lattices, ultrafilters, topological spaces, etc.).
> 2) Suppose that all of these entities can be constructed and the interderivability of these statements can be constructively proven.
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> 3) Thus, constructivism in any form must nevertheless find the interderivability of such statements "philosophically unintelligible" since they are about really different things.

> 1) Interderivability is in need of philosophical assessment.
> 2) We cannot make this assessment if the entities about which interderivable statements speak are constructed.
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> 3) Thus, no constructivist philosophy is capable of assessing interderivability.

Both of these arguments are weak—if intelligible at all. The first argument is circular—it merely asserts that constructivism cannot account for the interderivability of statements about really different things. The second argument is even worse. It relies on the vague notion of "philosophical assessment" and again, merely asserts that we cannot make such an assessment if the entities about which interderivable statements speak are constructible.

However, the book is not intended to be a work concerning the authors' own philosophy, and the competency of the book far outweighs any rough points. So who should read this book? This book is a must-read for any Husserl, Frege, or Cantor scholars. More generally, anyone doing work in late nineteenth and early twentieth century philosophy in Germany will also benefit from this book. This collection of essays does much to tie together the enormous bodies of work on both Frege and Husserl. It also provides a picture of what the general philosophical motivation was at the time that each of these extraordinarily influential thinkers was writing.

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