Phenomenology, Logic, and the Philosophy of Mathematics

This book is a collection of fifteen essays that deal with issues at the intersection of phenomenology, logic, and the philosophy of mathematics. The first of the three parts, “Reason, Science, and Mathematics,” contains a general essay on Husserl’s conception of science and logic, an essay on mathematics and transcendental phenomenology, and an essay on phenomenology and modern pure geometry. Part II is focused on Kurt Gödel’s interest in phenomenology. It explores Gödel’s ideas and also some work of Quine, Penelope Maddy, and Roger Penrose. Part III deals with elementary, constructive areas of mathematics – areas of mathematics that are closer to their origins in simple cognitive activities and in everyday experience. This part of the book contains essays on intuitionism, Hermann Weyl, the notion of constructive proof, Poincaré, and Frege.

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To my parents,

James D. and Beverly J. Tieszen
Phenomenology, Logic, and the Philosophy of Mathematics

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Acknowledgments

The essays collected here were written over a period of fifteen years. In preparing them for publication in this volume I have modified them in a few places, mostly for clarity and for continuity with other chapters in the collection. I have also cut some material from a few of the essays. Some overlap or repetition remains here and there, but the trade-off is that such overlapping allows the essays to be read independently of one another. In any case, I think that a little repetition is not onerous. It may even be helpful to some readers. The Bibliography has been standardized, and in the case of Husserl’s work in particular I have provided references to the original publications, the relevant Husserliana editions, and the English translations. Since Husserl’s works are usually composed in short sections I have adopted the convention in the essays of referring to quotations from Husserl’s works by providing the title of the work and the section number. This method puts the reader in touch with the relevant texts but allows for choice in consulting the different editions and languages. In the case of Gödel’s writings I have followed the citation style used in Kurt Godel: Collected Works. The Bibliography for the present volume includes very few works that were not cited in the original essays. I have included a few new references where there has been some clear line of development of an argument or point in the essays.

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Chapter 12 was published as “The Philosophical Background of Weyl’s Mathematical Constructivism,” Philosophia Mathematica 3, 8 (2000),
Over the years I have discussed ideas about phenomenology, logic, and mathematics with many friends and colleagues. I have included the original acknowledgments in the chapters themselves, but there have been many other people who also deserve to be thanked for discussion, comments, and suggestions.

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