

HUSSERL AND MATHEMATICS

Husserl and Mathematics explains the development of Husserl's phenomenological method in the context of his engagement in modern mathematics and its foundations. Drawing on his correspondence and other written sources, Mirja Hartimo details Husserl's knowledge of a wide range of perspectives on the foundations of mathematics, including those of Hilbert, Brouwer, and Weyl, as well as his awareness of the new developments in the subject during the 1930s. Hartimo examines how Husserl's philosophical views responded to these changes, and offers a pluralistic and open-ended picture of Husserl's phenomenology of mathematics. Her study shows Husserl's phenomenology to be a method capable of both shedding light on and internally criticizing scientific practices and concepts.

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It has always been my longing to collaborate with a philosophically
gifted mathematician
(Husserl in a letter to Weyl, September 10, 1918)

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Foundational Journey in the Philosophy of Mathematics. Routledge, 2021. Chapter 3 discusses and builds on “Husserl on completeness, definitely.” *Synthese* 195, 2018: 1509–1527 and a joint paper with Mitsuhiro Okada “Syntactic Reduction in Husserl’s Early Phenomenology of Arithmetic,” *Synthese* 193, 2016, 937–969, both used with permission. Chapter 6, especially §6.1 reproduces parts of “Husserl and Gödel’s Incompleteness Theorems,” *The Review of Symbolic Logic* 10, 638–650. Reprinted by permission. Chapter 7 incorporates material that was first published in “On Husserl’s Combination View: Structuralism, constructivism, and what not,” in Iulian Apostolescu (ed), *After Husserl: Phenomenological Foundations of Mathematics. Special Issue of META: Research in Hermeneutics, Phenomenology, and Practical Philosophy*, 11, 2019 526–546. The chapter 8 uses and modifies parts of “Husserl on Kant and the Critical View of Logic.” *Inquiry*, 2019. Finally, special thanks go to the director of the Husserl Archives in Leuven, Professor Julia Jansen, for the permission to use the pictures on the cover. I also wish to thank the two anonymous referees for their insightful comments and Hilary Gaskin and Hal Churchman of Cambridge University Press for the smoothness of the whole process. I am extremely grateful to Paolo Mancosu for numerous comments that resulted in an improvement of the final text. Needless to say, I am alone responsible for any remaining obscurities. Last but not least, thanks are due to my lovely friends and family for making it all otherwise possible, and in particular to my mother who has helped me diligently with German translations.

Abbreviations

- A / B Kant, Immanuel (1998 [1781/1787]). *Kritique der reinen Vernunft*. Hamburg: Felix Meiner Verlag. Edited by Jens Timmerman. English translation: *Critique of Pure Reason*. Edited and translated by Paul Guyer and Allen W. Wood. New York: Cambridge University Press.
- BW I–IO Husserl, Edmund (1994). *Briefwechsel (I–X). Husserliana Dokumente Band*. Edited by Karl Schuhmann with Elizabeth Schuhmann. Dordrecht: Kluwer Academic Publishers.
- CW V Husserl, Edmund (1994). *Early Writings in the Philosophy of Logic and Mathematics*. Translated by Dallas Willard. Springer.
- DL Schuhmann, Elizabeth and Karl Schuhmann (eds.) (2001). “Husserls Manuskripte zu seinem Göttinger Doppelvortrag von 1901.” *Husserl Studies* 17, 87–123. English translation: “Essay III, Double Lecture: On the Transition through the Impossible (“Imaginary”) and the Completeness of an Axiom System.” In Husserl, Edmund (2003). *Philosophy of Arithmetic, Psychological and Logical Investigations with Supplementary Texts from 1887–1901*. Translated by Dallas Willard. Dordrecht: Kluwer Academic Publishers, 409–473.
- EPI Husserl, Edmund (1956). *Erste Philosophie I (1923/24): Kritische Ideengeschichte*. Husserliana VII. Edited by Rudolf Boehm. The Hague: Nijhoff. English Translation: *First Philosophy. Lectures 1923/24 and Related Texts From the Manuscripts (1920–1925)*.

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- Translated by Sebastian Luft and Thane M. Naberhaus. Springer, 2019.
- EPII Husserl, Edmund (1959). *Erste Philosophie II (1923–24): Theorie der phänomenologischen Reduktion*. Husserliana VIII. The Hague: Nijhoff. Edited by Rudolf Boehm. English Translation: *First Philosophy. Lectures 1923/1924 and Related Texts from the Manuscripts (1920–1925)*. Translated by Sebastian Luft and Thane M. Naberhaus. Springer, 2019.
- EU Husserl, Edmund (1985). *Erfahrung und Urteil. Untersuchungen zur Genealogie der Logik*. Hamburg: Felix Meiner Verlag, [1939]. English translation: *Experience and Judgment, Investigations in a Genealogy of Logic*. Edited by Ludwig Landgrebe, translated by James S. Churchill and Karl Ameriks. Evanston, IL: Northwestern University Press, 1973.
- FTL Husserl, Edmund (1974). *Formale und transzendente Logik: Versuch einer Kritik der logischen Vernunft (1929)*. Husserliana XVII. Edited by Paul Janssen. The Hague: Martinus Nijhoff. English translation: *Formal and Transcendental Logic*, translated by Dorion Cairns. The Hague: Martinus Nijhoff, 1969.
- GP Husserl, Edmund (1973). “Aus den Vorlesungen, Grundprobleme der Phänomenologie, Wintersemester 1910/1911”, in *Zur Phänomenologie der Intersubjektivität*, Husserliana XIII, edited by Iso Kern. Martinus Nijhoff, 111–193. English translation: *The Basic Problems of Phenomenology. From the Lectures, Winter Semester, 1910–1911. Collected Works XII*. Translated by Ingo Farin and James G. Hart. Springer, 2006.
- Hua 1–43 Edmund Husserl. *Gesammelte Werke (Husserliana) (I–XLIII)*. The Hague: Martinus Nijhoff, 1950–1987/ Dordrecht: Kluwer Academic Publishers, 1988–2004/ Dordrecht: Springer, 2004–2021.
- Ideas I Edmund Husserl (1976). *Ideen zu einer reinen Phänomenologie und phänomenologischen Philosophie. Erstes Buch: Allgemeine Einführung in die reine Phänomenologie*. Husserliana Band III/1. Edited by Karl

- Schuhmann. The Hague: Martinus Nijhoff. English Translation:
Ideas pertaining to a pure phenomenology and to a phenomenological philosophy, translated by Frederick Kersten. Dordrecht: Kluwer, 1982.
- Ideas II *Ideen zur einer reinen Phänomenologie und phänomenologischen Philosophie. Zweites Buch: Phänomenologische Untersuchungen zur Konstitution. Husserliana Band IV.* Edited by Marly Biemel. The Hague: Martinus Nijhoff, 1952. English translation: *Ideas pertaining to a pure phenomenology and to a phenomenological philosophy. Second book, Studies in the Phenomenology of Constitution.* Translated by Richard Rojcewicz and André Schuwer. Dordrecht: Kluwer, 1989.
- LI 1–6. Edmund Husserl. *Logische Untersuchungen. Zweiter Band. Untersuchungen zur Phänomenologie und Theorie der Erkenntnis. Husserliana XIX.* Edited by Ursula Panzer. Martinus Nijhoff. The Hague, 1984. English translation: *Logical Investigations*, translated by J. N. Findlay. Volumes One & Two. New York: Humanities Press, 1970.
- PA Edmund Husserl (1970). *Philosophie der Arithmetik. Husserliana Band XII.* Edited by Lothar Eley. The Hague: Martinus Nijhoff. English translation in *Philosophy of Arithmetic, Psychological and Logical Investigations with Supplementary Texts from 1887–1901.* Translated by Dallas Willard. Dordrecht: Kluwer, 2003.
- Prol Kant, Immanuel (1977). *Prolegomena to any Future Metaphysics.* Translated by Paul Carus, revised by James W. Ellington. Indianapolis/Cambridge: Hackett Publishing Company.
- Prolegomena Edmund Husserl (1975). *Logische Untersuchungen. Erster Band. Prolegomena zur reinen Logik. Husserliana XVIII.* Edited by Elmar Holenstein. The Hague: Martinus Nijhoff. English translation in *Logical Investigations*, translated by J. N. Findlay. Volume One. New York: Humanities Press, 1970.

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- Crisis Husserl, Edmund (1976). *Die Krisis der europäischen Wissenschaften und die transzendente Phänomenologie: Eine Einleitung in die phänomenologische Philosophie (1936)*. *Husserliana* VI. Edited by Walter Biemel. The Hague: Martinus Nijhoff. English translation: *The Crisis of European Sciences and Transcendental Phenomenology. An Introduction to Phenomenological Philosophy*. Translated by David Carr. Evanston, IL: Northwestern University Press, 1970.

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