

## FREGE: A PHILOSOPHICAL BIOGRAPHY

Gottlob Frege (1848–1925) was one of the founding figures of analytic philosophy, whose contributions to logic, philosophical semantics, philosophy of language, and philosophy of mathematics set the agenda for future generations of theorists in these and related areas. Dale Jacquette’s lively and incisive biography charts Frege’s life from its beginnings in small-town north Germany, through his student days in Jena, to his development as an enduringly influential thinker. Along the way Jacquette considers Frege’s ground-breaking *Begriffsschrift* (1879), in which he formulated his “ideal logical language,” his magisterial *Grundgesetze der Arithmetik* (1893 and 1903), and his complex relation to thinkers including Husserl and especially Russell, whose Paradox had such drastic implications for Frege’s logicism. Jacquette concludes with a thoughtful assessment of Frege’s legacy. This rich and informative biography will appeal to all who are interested in Frege’s philosophy.

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# Frege

A Philosophical Biography

*Dale Jacquette*



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*For Tina*

The work of Frege, which appears to be far less known than it deserves . . . abounds in subtle distinctions, and avoids all the usual fallacies which beset writers on Logic.

*Bertrand Russell, The Principles of Mathematics (1903), Appendix A.  
“The Logical and Arithmetical Doctrines of Frege,” §475, p. 501*

The question “What is a number?” is one which has been often asked, but has only been correctly answered in our own time. The answer was given by Frege in 1884, in his *Grundlagen der Arithmetik*. Although this book is quite short, not difficult, and of the very highest importance, it attracted almost no attention, and the definition of number which it contains remained practically unknown until it was rediscovered by the present author in 1901.

*Bertrand Russell, Introduction to Mathematical Philosophy (1919),  
Chapter II, p. 11*

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## References to Frege's Writings

The convention of referring to Frege's books using their original German titles or obvious abbreviations is followed throughout, whereas the titles of Frege's essays, published or unpublished, are generally given first in German with English translations, and thereafter cited using just the English equivalent.

Readers should expect to encounter references in German to Frege's *Begriffsschrift*, *Grundlagen der Arithmetik*, *Grundgesetze der Arithmetik*, and the planned (but unpublished in his lifetime) *Logische Untersuchungen*, with an explanation of each title's meaning in English. An essay such as "Über Sinn und Bedeutung" is introduced in its original German, and referred to thereafter in the text under the essay's English name "On Sense and Reference." Frege's "Funktion und Gegenstand," after suitable introduction, is afterward referred to consistently throughout as "Function and Object."

Where translations of any of these sources are quoted in the text, references in the notes are generally given to a preferred English translation and edition, cited using their English titles in full or abbreviated form, or indicated as my translation. This convention is frequently adopted in English-language commentary on Frege's writings. There is an additional reason behind the distinction between German for titles of books and English for essay titles in the body of a lengthy biography concerning Frege's life and works. Beyond aiding the reader to keep track typographically of Frege's books as distinct from essays, the convention is meant to facilitate reading and comprehension. Frege wrote comparatively few books, but many articles. His books are more easily recognizable in German than in their English titles. Longer German essay titles are more jarring for average English readers, who may stumble as they mentally

translate the entire phrase every time the essay is named. It is easy under such circumstances to jumble up Frege's "Funktion und Gegenstand" with "Funktion und Begriff," or others of his frequently mentioned writings. The hope is that this linguistic division of references to Frege's books and essays will not appear as an unprincipled conflation of reference styles, but will rather be a sensible reader-friendly compromise among competing literary and scholarly choices.

## Chronology of Major Events in Frege's Life

- **1848, 8 November** – Frege born in Wismar, Grand-Duchy of Mecklenburg-Schwerin (House of Mecklenburg residing in Schwerin) (Germany)
- **1852, 31 March** – Birth of Frege's brother and only sibling, Cäsar Friedrich Arnold (known as Arnold)
- **1854–1869** – Attends the Große Stadtschule Wismar, through Gymnasium and Matura Examination
- **1866, 30 November** – Frege's father, Karl Alexander, the co-founder and headmaster of a local girls' school, dies in Wismar
- **1869** Summer Semester to Winter Semester **1870/71** – Studies mathematics in Jena
- **1871** Summer Semester to Summer Semester **1873** – Studies mathematics in Göttingen
- **1873** – Earns PhD in mathematics (geometry) in Göttingen. Thesis title, *Über eine geometrische Darstellung der imaginären Gebilde in der Ebene (On a Geometrical Representation of Imaginary Figures in a Plane)*
- **1874, 16 May** – Writes and defends Habilitationsschrift (post-doctoral thesis required for appointment to a university teaching post) in Jena. Passes writing and exam requirements and is appointed unsalaried student-fee-paid lecturer in mathematics. Thesis title, *Rechnungsmethoden, die sich auf eine Erweiterung des Größenbegriffes gründen (Methods of Calculation Based on an Extension of the Concept of Quantity)*
- **1879** – Publication of *Begriffsschrift: eine der arithmetischen nachgebildete Formelsprache des reinen Denkens (Concept-Writing: A Formula-Language for Pure Thought Modeled on Arithmetic)* – Promoted to *außerordentlicher* (Associate) Professor or Professor Extraordinarius in mathematics at Jena
- **1884** – Publication of *Grundlagen der Arithmetik (Foundations of Arithmetic)*
- **1887, 14 March** – Marries Margarete Katharina Sophia Anna Lieseberg
- **1891** – Publication of "Funktion und Begriff" ("Function and Concept")

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- **1892** – Publication of “Über Sinn und Bedeutung” (“On Sense and Reference”) and “Funktion und Gegenstand” (“Function and Object”)
  - **1893** – Publication of *Grundgesetze der Arithmetik I* (*Basic Laws of Arithmetic*, Volume I)
  - **1894** – Review of Edmund Husserl’s 1891 *Philosophie der Arithmetik*
  - **1896, 26 May** – Awarded the position of *ordentlicher Honorarprofessur* (Honorary Full Professor) in Jena
  - **1898, 16 October** – Frege’s mother, Auguste Wilhelmine Sophia Bialloblotzky, dies in Jena
  - **1902, 16 June** – Letter from Bertrand Russell to Frege in which what later came to be called Russell’s paradox is announced
  - **1903** – Publication of *Grundgesetze der Arithmetik II*, with a last-minute *Nachwort* (Afterword) in response to Russell’s paradox
  - **1904, 25 June** – Frege’s wife, Margarete, dies in Jena
  - **1908** – Accepts wardship of Alfred Fuchs (b. **30 July 1903**), who was then aged six
  - **1911, 1912** – Visits of Ludwig Wittgenstein
  - **1914–1918** – WWI. Cordial mathematical and philosophical correspondence with Wittgenstein and others
  - **1918** – Retirement from Jena. Assisted financially by Wittgenstein, Frege makes a permanent move to Bad Kleinen in Mecklenburg. Publication of “Der Gedanke. Eine logische Untersuchung” (“Thoughts: A Logical Investigation”) and “Die Verneinung. Eine logische Untersuchungen” (“Negation: A Logical Investigation”), essays intended for a book-length collection, unpublished in Frege’s lifetime, to be titled *Logische Untersuchungen*
  - **1919–1923** – Germany’s post-WWI Great Inflation. Frege’s unsavory right-wing and anti-Semitic tendencies are seen in his political activities and private diaries
  - **1921–1922 August** – Legally adopts 18–19-year-old ward Alfred Fuchs as his son
  - **1923** – Publication of “Gedankengefüge” (“Compound Thoughts”), third and last completed chapter of the projected *Logische Untersuchungen*
  - **1925, 26 July** – Frege dies in Bad Kleinen.