

## A BIBLIOGRAPHICAL INDEX FOR *PRINCIPIA MATHEMATICA*

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The bibliographical references made by the authors of *Principia Mathematica* are few for such a large work. They explain it thus: “Our chief obligations will be obvious to every reader who is familiar with the literature of the subject” (*PM*, 1: viii). Yet gathered together they may provide extra light on the research for that work. Excluding literary examples and Russell’s own *Principles of Mathematics*, 26 works are cited, but only half postdate the *Principles*. All the rest, save Jevons, are in the *Principles*.<sup>1</sup> No works by Whitehead are cited. The latest of the citations is to a 1908 article by Hausdorff. Although the authors state that “In Geometry we have had continually before us the writings of v. Staudt, Pasch, Peano, Pieri, and Veblen”, only some of Peano’s works are cited. Cantor is also acknowledged but cited only once and not until 3: 44n. There is a reference to a fictional item, which the authors use as an example (*Slawkenburgius on Noses*); it is taken from Laurence Sterne’s *Tristram Shandy*, Bk. iv.

*Principia* volume and page references, in bold type, are to the second edition. Also indicated is whether the items are in Russell’s library or archives. Original errors are silently corrected and the entries expanded where needed.

### BIBLIOGRAPHICAL INDEX FOR THE FIRST EDITION

- Beaumont, Francis, and Fletcher, John  
— *The Maid’s Tragedy* (1611). **1: 68**
- Burali-Forti, Cesare  
— “Una questione sui numeri transfini”, *Rendiconti del circolo matematico di Palermo*, 11 (1897): 154–64.  
(RA, offprint) **1: 60n., 3: 73n.**
- Cantor, Georg  
— “Beiträge zur Begründung der transfiniten Mengenlehre. II”,

<sup>1</sup> See my “A Bibliographical Index for *The Principles of Mathematics*”, *Russell*, n.s. 20 (2000): 141–50. Bernard Linsky kindly read proofs. Alasdair Urquhart pointed out Slawkenburgius to me.

- Mathematische Annalen*, 49 (1897): 207–46. **3: 44n.**
- Couturat, Louis
- *La Logique de Leibniz d'après des documents inédits* (Paris: Alcan, 1901). (RL) **1: 284n.**
- Dini, Ulisse
- *Grundlagen für eine Theorie der Funktionen einer veränderlichen reellen Grösse* (Leipzig: Teubner, 1892). **2: 724n.**
- Dixon, A. C.
- “On ‘Well-Ordered’ Aggregates”, *Proceedings of the London Mathematical Society*, (2), 4, pt. 1 (1906–07): 18–20. **1: 61n.**
- Frege, Gottlob
- *Begriffsschrift, eine der arithmetischen nachgebildete Formalsprache des reinen Denkens* (Halle: Nebert, 1879). (RL) **1: 548n.**
- *Grundgesetze der Arithmetik*, 2 vols. (Jena: H. Pohle, 1893, 1903). (RL) **1: 548n., 2: 4**
- *Die Grundlagen der Arithmetik* (Breslau: Koebner, 1884). (RL) **2: 4**
- “Kritische Beleuchtung einiger Punkte in E. Schröders Vorlesungen über die Algebra der Logik”, *Archiv für systematische Philosophie*, 1 (1895): 443–56. (RL) **1: 340n.**
- Hausdorff, Felix
- “Untersuchungen über Ordnungstypen”, *Berichte der mathematisch-physischen Klasse der Königlich Sächsischen Gesellschaft der Wissenschaften zu Leipzig*, 58 (Feb. 1906): 106–69. **2: 390n., 3: 171n.**
- “Untersuchungen über Ordnungstypen”, *Berichte der mathematisch-physischen Klasse der Königlich Sächsischen Gesellschaft der Wissenschaften zu Leipzig*, 59 (Feb. 1907): 84–159. **2: 390n., 3: 171n.**
- “Grundzüge einer Theorie der geordneten Mengen”, *Mathematische Annalen*, 65 (1908): 435–505. **2: 390n.**
- Hobson, E. W.
- “On the Arithmetic Continuum”, *Proceedings of the London Mathematical Society*, (2), 4, pt. 1 (1906–07): 21–8. **1: 61n.**
- Jevons, Stanley
- *The Principles of Science* (London: Macmillan, 1887). (RL) **1: 291n.**
- König, Julius
- “Über die Grundlagen der Mengenlehre und das Kontinuumproblem”, *Mathematische Annalen*, 61 (1905): 156–60. **1: 61n.**
- Leibniz, Gottfried Wilhelm von
- *Philosophical Works* [i.e. *Die philosophischen Werke*], ed. C. I. Gerhardt, 7 vols. (Berlin: Weidmannsche Buchhandlung, 1875–90). (RL) **1: 113**
- Peano, Giuseppe
- *Formulario Mathematico* [*Formulaire de mathématiques*]. **1: 4**
- *Formulaire Mathématique*, Vol. 4 (Turin: Bocca, 1903). **2: 185n.**
- *Formulaire de Mathématiques*, Vol. 1 (Turin: Bocca, 1895). (RL) **3: vn.**
- “Additione”, *Rivista di Mathematica*, 8, no. 5 (1906): 143–57 (at 149ff.). **1: 61n.**
- Poincaré, Henri
- “Les mathématiques et la logique”, *Revue de Métaphysique et de Morale*, 14 (May 1906): 294–317 (at 307). **1: 37n., 1: 61n.**
- Russell, Bertrand
- *The Principles of Mathematics* (Cambridge: U. P., 1903). (RL) **1: v, 91, 92n., 94n., 2: 4n., 3: 316n.**
- Schröder, Ernst
- *Vorlesungen über die Algebra der Logik (exakte Logik)*, 3 vols. (Leipzig, 1890, 1891, 1895). (RL) (Vol. 3, *Algebra und Logik der Relative*). **1: 32n., 1: 123n.**
- Scott, Sir Walter
- *Waverley, or, 'Tis Sixty Years Since*

- (Edinburgh: Ballantyne, 1814). (RL,  
1871 ed.) **I: 23, I: 31, I: 67, I: 83**
- Vailati, Giovanni  
— “A proposito d'un passo del Tee-  
teto e di una dimostrazione di Euc-  
lide”, *Rivista di filosofia e scienze  
affine*, 6 (May–June 1904). **I: 100n.**
- Zermelo, Ernst  
— “Untersuchungen über die Grund-  
lagen der Mengenlehre. I”, *Mathe-  
matische Annalen*, 65 (Feb. 1908):  
261–81. **I: 465n.**
- “Beweis, dass jede Menge Wohlge-  
ordnet werden kann”, *Mathema-  
tische Annalen*, 59 (1904): 514–16.  
**I: 481n., I: 526n., 3: 82n.**
- “Neuer Beweis für die Möglichkeit  
einer Wohlordnung”, *Mathema-  
tische Annalen*, 65 (1907): 107–28.  
**3: 82n.**

REFERENCES IN “INTRODUCTION TO THE SECOND EDITION”

Russell states in the “Introduction to the Second Edition” that “The following are among the contributions to mathematical logic since the publication of the first edition of *Principia Mathematica*” (**I: xlvi**). Everywhere else in the Introduction he refers to *Principia* as if it is a separate work. That helps to account for the complete absence of additional references inserted in *Principia*'s original text, for he did not intend to allow more than its typographical correction and repagination. In the manuscript he had written the words “more important” before “contributions”, but Frank Ramsey, in reading proofs, persuaded him to drop them. Ramsey may have been the source of most of the 24 items in the bibliography.<sup>2</sup> In his letter of 20 February 1924, Ramsey wrote: “I'm putting in with this a list of all the recent literature which I have heard of, which you could possibly want to look at or refer to.” The first item listed for Sheffer is odd for two reasons: it is a 17-line abstract, and it appeared in 1910. Ramsey had commented in the same letter, on reading Russell's copy of Sheffer's 1921 work, that “The abstracts of papers to which he refers give one no idea” of how he used “this very abstract stuff”.

Every work is referred to on pages **xlv–xlvi** of Volume I.

- Behmann, Heinrich  
— “Beiträge zur Algebra der Logik”.  
*Mathematische Annalen*, 86 (1922):  
163–229.
- Bernays, Paul  
— “Über Hilberts Gedanken zur  
Grundlegung der Arithmetik”, *Jah-  
resbericht der deutschen Mathema-*
- tiker-Vereinigung, 31 (1922): 10–19.
- Bernstein, Felix  
— “Die Mengenlehre Georg Cantors  
und der Finitismus”, *Jahresbericht  
der deutschen Mathematiker-Verein-  
igung*, 28 (1919): 63–78.
- Brouwer, L. E. J.  
— “Begründung der Mengenlehre

<sup>2</sup> Some of the works were already known to Russell, as is seen from his citations in *Introduction to Mathematical Philosophy* and *Papers* 8 and 9, or from their presence in his archives. For Chwistek's 1924 entry, see Linsky, “Leon Chwistek and the No-Classes Theory of *Principia Mathematica*”, *History and Philosophy of Logic*, 25 (2004): 53–71 (esp. 53, 64–7).

- unabhängig vom logischen Satz des ausgeschlossenen Dritten”, *Verhandlungen d. K. Akademie v. Wetenschappen*, Amster., 12, no. 5 (1918), 43 pp.; 12, no. 12 (1919), 33 pp.
- “Intuitionistische Mengenlehre”, *Jahresbericht der deutschen Mathematiker-Vereinigung*, 28 (1919): 203–8.
- Chwistek, Leon
- “Über die Antinomien der Prinzipien der Mathematik”, *Mathematische Zeitschrift*, 14 (1922): 236–43.
- “The Theory of Constructive Types (Principles of Logic and Mathematics), Part 1”, *Annales de la Société polonaise de mathématique (Rocznik Polskiego Towarzystwa Matematycznego)*, 2 (1924 [for 1923]): 9–48. (“Dr. Chwistek has kindly allowed us to read in MS. a longer work with the same title.”) {Part II appeared *ibid.*, 3 (1925 [for 1924]): 92–141.} **I: xivn.**
- Hilbert, David
- “Axiomatisches Denken”, *Mathematische Annalen*, 78 (1918): 405–15.
- “Die logischen Grundlagen der Mathematik”, *Mathematische Annalen*, 88 (1923): 151–65.
- “Neue Begründung der Mathematik”, *Abhandlungen aus dem mathematischen Seminar der Hamburger Universität*, 1 (1922): 157–77.
- König, Julius
- *Neue Grundlagen der Logik, Arithmetik und Mengenlehre* (Leipzig: Veit, 1914). (RA)
- Lewis, C. I.
- *A Survey of Symbolic Logic* (Berkeley: U. of California P., 1918).
- Nicod, Jean
- “A Reduction in the Number of the Primitive Propositions of Logic”, *Proceedings of the Cambridge Philosophical Society*, 19 (Jan. 1917): 32–41. (RA) **I: xiin., I: xviii.**
- Schönfinkel [as “Schönwinkel”], Moses
- “Über die Bausteine der mathematischen Logik”, *Mathematische Annalen*, 92 (1924): 305–16.
- Sheffer, H. M.
- “Total Determinations of Deductive Systems with Special Reference to the Algebra of Logic” [abstract], *Bulletin of the American Mathematical Society*, 16 (1910): 283, 285.
- “A Set of Five Independent Postulates for Boolean Algebras, with Application to Logical Constants”, *Transactions of the American Mathematical Society*, 14 (1913): 481–8. (RA) **I: xiin.**
- “The General Theory of Notational Relativity” (mimeo ts., Cambridge, Mass., 1921). (RA)
- Tajtelbaum-Tarski, Alfred
- “Sur le terme primitif de la logistique”, *Fundamenta Mathematicae*, 4 (1923): 197–200.
- “Sur les ‘truth-functions’ au sens de MM. Russell et Whitehead”, *Fundamenta Mathematicae*, 5 (1924): 59–74. (RA)
- “Sur quelques théorèmes qui équivalent à l’axiome du choix”, *Fundamenta Mathematicae*, 5 (1924): 147–54. (RA)
- Weyl, Hermann
- *Das Kontinuum* (Leipzig: Veit, 1918).
- “Über die neue Grundlagenkrise der Mathematik”, *Mathematische Zeitschrift*, 10 (1921): 39–79.
- “Randbemerkungen zu Hauptproblemen der Mathematik”, *Mathematische Zeitschrift*, 20 (1924): 131–50.
- Wittgenstein, Ludwig
- *Tractatus Logico-Philosophicus* (London: Kegan Paul, 1922). (RL) **I: xiv.**