

Erratum

In my article on proof [*Philosophia Mathematica* (3) 5 (1997), 153–165], I suggested or intimated that computer proofs of mathematical theorems had been found only for relatively simple or trivial theorems. I am obligated to Martin Davis and R. S. Boyer for the information that this suggestion or intimation is incorrect. For instance, a machine proof of quadratic reciprocity was published by D. M. Russinoff in *J. Automated Reasoning* 8 (1992), 3–21. A machine proof of the unsolvability of the halting problem has been published by R. S. Boyer and J. S. Moore. This and many other examples are presented in Chapter 1 of their book, *A Computational Logic Handbook*, Academic Press, 1990. A second edition of this book is expected shortly.

Reuben Hersh

Books of Essays

W. D. HART, editor. *The Philosophy of Mathematics*. Oxford, New York: Oxford University Press, 1996. ISBN 0-19-875119-2 (cloth); 0-19-875120-6 (paper). Pp. vi + 316.

AUTHORS AND TITLES

- W. D. HART, Introduction, pp. 1–13.
- PAUL BENACERRAF, Mathematical truth, pp. 14–30. Reprinted from *Journal of Philosophy* 70, 661–679.
- W. V. QUINE, Two dogmas of empiricism, pp. 31–51. Reprinted from *Philosophical Review* 60 (1951), 20–43.
- W. D. HART, Access and inference, pp. 52–62. Reprinted from *Proceedings of the Aristotelian Society* suppl. vol. 53 (1979), 153–165
- MICHAEL DUMMETT, The philosophical basis of intuitionistic logic, pp. 63–94. Reprinted from *Studies in logic and the Foundations of Mathematics* 80 (1975), 5–40.
- CHARLES PARSONS, Mathematical intuition, pp. 95–113. Reprinted from *Proceedings of the Aristotelian Society* 80 (1979–80), 145–168.
- PENELOPE MADDY, Perception and mathematical intuition, pp. 114–141. Reprinted from *Philosophical Review* 84 (1980), 163–196.
- W. W. TAIT, Truth and proof: The platonism of mathematics, pp. 142–167. Reprinted from *Synthese* 69 (1986), 341–370.
- HILARY PUTNAM, Mathematics without foundations, pp. 168–184. Reprinted from *Journal of Philosophy* 64 (1967), 5–22.
- GEORGE BOOLOS, The consistency of Frege's *Foundations of Arithmetic*, pp. 185–202. Reprinted from Judith Jarvis Thomson (ed.), *On Being and Saying: Essays for Richard Cartwright*. Cambridge, Mass.: MIT Press, 1987, pp. 3–20.

- DANIEL ISAACSON, Arithmetical truth and hidden higher-order concepts, pp. 203–224. Reprinted from The Paris Logic Group (eds.), *Logic Colloquium '85*. Amsterdam: North Holland, 1987, pp. 147–169.
- STEWART SHAPIRO, Conservativeness and incompleteness, pp. 225–234. Reprinted from *Journal of Philosophy* 80 (1983), 521–531.
- HARTRY FIELD, Is mathematical logic just logical knowledge?, pp. 235–271. Reprinted from *Philosophical Review* 93 (1984), 509–552.
- CHARLES PARSONS, The structural view of mathematical objects, pp. 272–309. Reprinted from *Synthese* 84 (1990), 303–346.

PAOLO MANCOSU. *From Brouwer to Hilbert: The Debate on the Foundations of Mathematics in the 1920s*. New York: Oxford University Press, 1998. ISBN 0-19-509631-2 (cloth); 0-19-509632-0 (paper). Pp. x + 337.

AUTHORS AND TITLES

- WALTER P. VAN STIGT, Brouwer's intuitionist programme, pp. 1–20.
- LUITZEN EGBERTUS JAN BROUWER, Intuitionist set theory, pp. 23–27. First published *KNAW Verslagen* 29 (1921), 797–802.
Does every real number have a decimal expansion?, pp. 28–35. First published *KNAW Verslagen* 29 (1921), 803–812.
Proof that every full function is uniformly continuous, pp. 36–39. First published *KNAW Verslagen* 33 (1924), 189–193.
Intuitionist reflections on formalism, pp. 40–44. First published *KNAW Proceedings* 31 (1928), 374–379.
Mathematics, science, and language, pp. 45–53. First published *Monatshefte für Mathematik und Physik* 36 (1929), 153–164.
The structure of the continuum, pp. 54–63. A lecture given in Vienna on March 14, 1928.
- PAOLO MANCOSU, Hermann Weyl: Predicativity and an intuitionistic excursion, pp. 65–83.
- HERMANN WEYL, On the new foundational crisis of mathematics, pp. 86–118. First published *Mathematische Zeitschrift* 10 (1921), 37–79.
- L. E. J. BROUWER, Comments on Weyl 1921, pp. 119–122.
- H. WEYL, The current epistemological situation in mathematics, pp. 123–142. First published *Symposion* 1 (1925–27), 1–32.
- OTTO HÖLDER, The alleged *Circulus Vitiosus* and the so-called foundational crisis in analysis, pp. 143–148. First published *Sitzungsberichte der Leipziger Akademie* 78 (1926), 243–250.
- P. MANCOSU, Hilbert and Bernays on metamathematics, pp. 149–182.
- PAUL BERNAYS, Hilbert's significance for the philosophy of mathematics, pp. 189–197. First published *Die Naturwissenschaften* 10 (1922), 93–99.
- DAVID HILBERT, The new grounding of mathematics: First report, pp. 198–214. First published *Abhandlungen aus dem Mathematischen Seminar der Hamburgischen Universität* 1 (1922), 157–177.

- PAUL BERNAYS, On Hilbert's thoughts concerning the grounding of arithmetic, pp. 215–222. First published *JDMV* 31 (1922), 10–19.
 Reply to the note by Mr. Aloys Müller, "On numbers as signs", pp. 223–226. First published *Mathematische Annalen* 90 (1923), 159–163.
- D. HILBERT, Problems of the grounding of mathematics, pp. 227–233. First published *Mathematische Annalen* 102 (1929), 1–9.
- P. BERNAYS, The philosophy of mathematics and Hilbert's proof theory, pp. 234–265. First published *Blätter für deutsche Philosophie* 4 (1930–31), 326–367.
- D. HILBERT, The grounding of elementary number theory, pp. 266–273. First published *Mathematische Annalen* 104 (1931), 485–494.
- P. MANCOSU and W. P. VAN STIGT, Intuitionist logic, pp. 275–283.
- L. E. J. BROUWER, Intuitionist splitting of the fundamental notions of mathematics, pp. 286–289. First published *KNAW Verslagen* 32 (1923), 877–880.
 Intuitionist splitting of the fundamental notions of mathematics [German version], pp. 290–292. First published *JDMV* 33 (1925), 251–256.
 Addendum to "Intuitionist splitting of the fundamental notions of mathematics", pp. 293–295. First published *JDMV* 36 (1927), 127–129.
- EMILE BOREL, Concerning the recent discussion between Mr. R. Wavre and Mr. P. Levy, pp. 296–300. First published *Revue de Métaphysique et de Morale* 34 (1927), 271–276.
- VALERII GLIVENKO, On some points of the logic of Mr. Brouwer, pp. 301–305. First published *Académie Royale de Belgique, Bulletin* 15 (1929), 183–188.
- ARENDE HEYTING, On intuitionistic logic, pp. 306–310. First published *Académie Royale de Belgique, Bulletin* 16 (1930), 957–963.
 The formal rules of intuitionist logic, pp. 311–327. First published *Sitzungsberichte der Preussischen Akademie der Wissenschaften, Phys.-math. Kl.*, 1930, 42–56.
- ANDREI KOLMOGOROV, On the interpretation of intuitionistic logic, pp. 328–334. First published *Mathematische Zeitschrift* 35 (1932), 58–65.

MICHAEL OTTE and MARCO PANZA, editors. *Analysis and Synthesis in Mathematics: History and Philosophy*. Dordrecht: Kluwer, 1997. ISBN 0-7923-4570-3. Pp. xiii + 440.

AUTHORS AND TITLES

- GIORGIO ISRAEL, The analytical method in Descartes' *Géometrie*, pp. 3–34.
- ENRICO PASINI, *Arcanum artis inventiendi*: Leibniz and analysis, pp. 35–46.
- CRAIG G. FRASER, The background to and early emergence of Euler's analysis, pp. 47–78.
- EDITH DUDLEY SYLLA, Jacob Bernoulli on analysis, synthesis, and the law of large numbers, pp. 79–101.
- CARLOS ALVAREZ JIMENEZ, Mathematical analysis and analytical science, pp. 103–145.
- JEAN DHOMBRES, The analysis of the synthesis of the analysis... Two moments of a chiasmus: Viète and Fourier, pp. 147–176.

- MORITZ EPPEL, Styles of argumentation in late 19th century geometry and the structure of mathematical modernity, pp. 177–198.
- PETRI MÄENPÄÄ, From backward reduction to configurational analysis, pp. 201–226.
- JEAN-MICHEL SALANSKIS, Analysis, hermeneutics, mathematics, pp. 227–241.
- RICHARD TIESZEN, Science within reason: Is there a crisis of the modern sciences?, pp. 243–259.
- MICHAEL OTTE and MARCO PANZA, Mathematics as an activity and the analytic-synthetic distinction, pp. 261–271.
- MARCO PANZA, Mathematical acts of reasoning as synthetic *a priori*, pp. 273–326.
- MICHAEL OTTE, Analysis and synthesis in mathematics from the perspective of Charles S. Peirce's philosophy, pp. 327–362.
- MARCO PANZA, Classical sources for the concepts of analysis and synthesis, pp. 365–414.

A. G. BARABASHEV, editor. *Infinity in Mathematics: Philosophical and Historical Aspects* (in Russian). Moscow: Janus-K, 1997. ISBN 5-88829-039-8. Pp. 400.

AUTHORS AND TITLES*

- A. A. KRUSHINSKIJ, About circular understanding of infinity by ancient Chinese, pp. 13–16.
- V. A. YANKOV, Infinity and establishing of proof, pp. 20–24.
- S. N. BYCHKOV, Fourth postulate of Euclid and potential infinity, pp. 35–39.
- V. K. PETROSYAN, The basic concept of the theory of foundations of harmonical arithmetics, pp. 48–66.
- M. M. KORENTSOVA, Notion of infinity in the 'Treatise on infinity' by C. Maclaurin (Maclaurin and Fontenelle), pp. 71–74.
- A. A. ZENKIN, The cognitive visualization of some transfinite objects of classical (Cantorian) theory of sets, pp. 76–91.
- M. S. BURGIN, Approaches to the notion of actual infinity in mathematics, pp. 97–107.
- Z. A. KUZICHEVA and A. S. KUZICHEV, Systems with infinite logic and non-limited principle of jellification, pp. 108–117.
- B. S. CHENDOV, The problem of relation of finite and infinite in contemporary mathematics, pp. 120–132.
- N. S. ERMOLAEVA, The finite and infinite in the works of P. L. Chebyshev, pp. 137–149.
- A. A. ZENKIN, Method of superinduction: Logical acupuncture of mathematical infinity, pp. 151–168.
- V. M. TIKHOMIROV, Finitization of infinity in classical analysis, pp. 177–184.
- S. L. KATRECHKO, Infinity and the theory of proof deducibility, pp. 190–196.
- V. JA. PERMINOV, About L. Brouwer's arguments against the law of the excluded third, pp. 199–221.

* From the English-language table of contents. Undesignated pages contain commentaries by various authors on the preceding paper and authors' replies.

- YU. I. DUSHKIN, About the possibility of ‘neutral’ position in philosophy of mathematics and about the place of infinity in mathematics, pp. 229–236.
- G. B. GOUTNER, Discontinuity and continuity in the structure of mathematical discourse, pp. 242–258.
- A. F. KUDRYASHOV, Infinity ‘per se’, pp. 265–269.
- A. G. BARABASHEV, Infinity and indefinability, pp. 273–282.
- A. N. KRICHETETS, Infinity from the point of view of complexity, pp. 290–301.
- A. V. RODIN, About infinity and number, pp. 308–324.
- S. L. KATRECHKO, Consciousness and infinity, pp. 329–333.
- G. M. IDLIS, Space and time: The problem of their interrelation, symmetry, difference and determination, pp. 338–344.
- V. A. KARPUNIN, Actual infinity and some traditional arguments in support of God’s existence, pp. 345–358.
- V. A. SHAPOSHNIKOV, The theme of creativity in the work of P. A. Florensky, pp. 362–386.
- V. E. VOYTSEKHOVICH, Infinity and the absolute, pp. 390–395.

Books Received

- MARTIN CARRIER and PETER K. MACHAMER, eds. *Mindscapes: Philosophy, Science, and the Mind*. Konstanz: Universitätsverlag Konstanz and Pittsburgh: University of Pittsburgh Press, 1997. ISBN 0-8229-3986-X. Pp. xvi + 372.
- JACK COPELAND, ed. *Logic and Reality: Essays on the Legacy of Arthur Prior*. Oxford: Clarendon Press, 1996. ISBN 0-19-824060-0. Pp. x + 545 + loose errata sheet.
- CLARK GLYMOUR. *Thinking Things Through: An Introduction to Philosophical Issues and Achievements*. Cambridge, Mass.: MIT Press, 1997. ISBN 0-262-57119-6. Pp. xii + 382, paper-covered edition.
- JAAKKO HINTIKKA, *Lingua Universalis vs. Calculus Ratiocinator: An Ultimate Presupposition of Twentieth-century Philosophy*. Dordrecht: Kluwer, 1997. ISBN 0-7923-4246-1. Pp. xxii + 268.
- DAVID LEWIS. *Papers in Philosophical Logic*. Cambridge: Cambridge University Press, 1998. ISBN 0-521-58247-4 (cl.), 0-521-58788-3 (paper). Pp. vi + 234.
- RAY MONK. *Bertrand Russell: The Spirit of Solitude*. London, etc.: Vintage (Random House), 1997. ISBN 0-09-973131-2. Pp. xx + 695 + 68 plates on 32 unnumbered pages.
- SVEND ØSTERGAARD. *The Mathematics of Meaning*. (Kenneth Tindall, trans.) Aarhus: Aarhus University Press, 1997. ISBN 87-7288-515-7 (paper). Pp. 222.
- FRANCESCO SPERANZA. *Scritti di Epistemologia della Matematica*. Complementi di Matematica per l’Indirizzo Didattico, Vol. 4. Bologna: Pitagora Editrice, 1997. ISBN 88-371-0966-0. Pp. viii + 187.

There are no plans to review these books.