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The Popular American Edition of Newton's *Principia*¹

P. J. Wallis

A CENTURY AND A HALF AGO both England and America saw developments in teacher education typified by the foundation of the New York State Normal School at Albany. There was "a stirring freshness in the air," according to the dedication of "the first American Edition of the *Principia* of Newton" to the Albany Teachers. In his introduction, the editor explained that hitherto America had had few copies of Newton's greatest work: a few copies in a dead language (Latin) and fewer still in English, both versions at an enormous price. The great advantage of the new work was to place it "within reach of all" — it cost only \$4.50.

For some time there has been doubt about the dates when this important work was published. The first, 1888, edition of the standard Newton bibliography by Gray² gave [1846], but this was corrected, without explanation, to 1848 in the second, 1907 (1966 reprint), edition. In 1950 the catalogue of the famous Babson Collection of the works of Newton³ restored the [1846] date, which was generally followed until 1970, when Cohen proved conclusively that 1848 was correct.⁴ Unfortunately the same discussion mistakenly concentrated successive issues of the work into the two years 1848-50, instead of some forty years, as briefly indicated in the 1977 replacement of

¹ This article owes its origin to and supplements I. B. Cohen's "The American Editions of Newton's *Principia*," *HARVARD LIBRARY BULLETIN*, XVIII:4 (October 1970), 345-358, an account of which was given by the same author in his *Isaac Newton's Philosophiæ Naturalis Principia Mathematica* (Cambridge University Press, 1972), II, 863-864.

² G. J. Gray, *Bibliography of the Works of Sir Isaac Newton* (Cambridge, 1888; second edition, Cambridge, 1907, reprinted in facsimile, London: Dawsons, 1966).

³ *A Descriptive Catalogue of the Grace K. Babson Collection*, introduction by R. B. Webber (New York: Herbert Reichner, 1950).

⁴ See note 1. The concentration of the issues in 1848-50 was due to a misunderstanding about the Daniel Adee firm which led to directories being searched for only a short period.

Gray.⁵ This article is intended to give the detailed argument for the new dates, while drawing attention to continuing gaps in our knowledge. It is unfortunate that no information is yet available on the size of the different issues, nor on the uses of the book which called for the frequent reissues, but these problems can now be tackled on a firmer bibliographical foundation than hitherto.

The Editor: Nathaniel William Chittenden⁶

Clearly the chief responsibility for the new work was that of the editor, N. W. Chittenden, M.A., who contributed the Dedication and Introduction quoted above as well as a 53-page "Life of Sir Isaac Newton." The latter was based on David Brewster's standard 1831 *Life*, but differently arranged and written in a more popular style. Unfortunately the identity of the editor is only now being pieced together. He had a distinguished career at Columbia University, where he was graduated B.A. in 1837 and gave an oration, "The Influence of Woman," published in the same year; perhaps his M.A. in 1846 was connected with the preparation of his edition of Newton. He is reputed to have been a counsellor-at-law, although his non-appearance in legal records suggests that he may have been active in other spheres before his death in 1885.

The Publisher: Daniel Adee⁷

It is not surprising that rather more is known about Chittenden's chief publisher, Daniel Adee, who survived him by some seven years, having spent his working life in New York. In the 1840s he was a printer at 107 Fulton Street and is known to have published two other works. Biographical notices suggest that his premises were burnt in 1843 or 1845 and he moved into steel manufacturing; these notices seem to have the wrong date, because he was described as a printer

⁵ P. J. and R. V. Wallis, *Newton and Newtoniana 1672-1975* (London: Dawsons, 1977).

⁶ Helen R. Kessler, "Newton's Principia. A Preliminary Investigation of the First American Edition" (unpublished typescript, 1971). Unfortunately the editor does not appear in the standard family history by A. Talcott (1882).

⁷ There have been two supplementary notes on Adee in the *HARVARD LIBRARY BULLETIN*, XIX:4 (October 1971), 436, and XXI:4 (October 1973), 443. Directories up to 1892 have also been used.

until 1849, and they neglect the fact that he combined printing with steel manufacturing before leaving the latter in 1870.

In 1856 Adee printed the fourth edition of Victor Cousin's *Elements of Psychology* for Ivison & Phinney⁸ of 321 Broadway, who had previously operated from Fulton Street. In that year the publisher George Palmer Putnam⁹ had the same address. The precise commercial relationship between Adee, Putnam, and Ivison & Phinney is not clear; however, it was close enough for the latter two to be responsible for the production of two issues of Chittenden's book in 1850 and 1858, and for Adee himself to resume responsibility after 1870. About 1874 his address was again in Fulton Street, this time number 176, but he then moved to Liberty Street; from 1882 he was at number 45 Liberty Street, and from that address he produced the last known issue of this book about the time of the editor's death in 1885 and before his own in 1892.

The First Issue of 1848 (N26, C1)¹⁰

After this brief biographical digression about the two men chiefly responsible for the American *Principia*, it is now necessary to return to the book itself, a large 581-page octavo. The Andrew Motte translation of the three books follows the "Life" mentioned above, and is concluded with a nine-page Index. The variations between the issues are all contained in the frontispiece and pages [1-2], the title page and verso, although John Neu has drawn attention to the deterioration of the reproduction,¹¹ which helps to confirm the dating that has been proposed below on the basis of publishers' addresses.

⁸ Henry Ivison (1808-1884) had M. H. Newman as a partner; after Newman's death, Ivison was joined by H. F. Phinney. The firms specialized in school and college textbooks. See directories and J. H. Brown (ed.), *Lamb's Biographical Dictionary* (Boston: J. H. Lamb, 1900), IV, 307.

⁹ *Dictionary of American Biography*.

¹⁰ "N" numbers refer to those, based on Gray, used by Wallis and Wallis; "C" numbers to those used by Cohen (1970), who reproduces the relevant title pages; "B" numbers to the Babson *Catalogue*. Grateful thanks are due to many librarians who have answered the writer's queries and facilitated the identification of the copies mentioned in this and the following footnotes.

Copies of N26 are at Allegheny College; Babson College; Boston Public Library; British Library; University of California, Berkeley; Cornell University; Franklin Institute, Philadelphia; University of Iowa, Iowa City; Library of Congress; New York Public Library; Yale University; and the author's personal library.

¹¹ In Cohen (1970). Other evidence, particularly on the title page and verso, has been collected but is not detailed here.

The frontispiece is from the bust of Newton in the Royal Observatory. Below this in large capitals is the name "SIR ISAAC NEWTON" and beneath this in small capitals the imprint "NEW YORK. DANIEL ADEE, 1848" and, to the right in italics, "Printed by Wm. Worts." The title page, which has been reproduced by Cohen, concludes with the imprint "PUBLISHED BY DANIEL ADEE, 107 FULTON-STREET./1848." Much of the 1846 or 1848 confusion has been caused by the copyright on p. [2], "Entered according to Act of Congress, in the year 1846, by /DANIEL ADEE,/ In the Clerk's Office of the Southern District Court of New-York.", which is followed at the bottom by "Turney & Lockwood's Stereo./ 16 Spruce St. N.Y." Cohen has pointed out that the copyright records when the title was registered and not when the book was produced, but unfortunately many others have ignored this and have taken 1846 as the date of publication of issues which were undated on their title pages. With this description in mind, it will be comparatively easy to describe the slight changes distinguishing the subsequent issues.

The Second Issue of 1849 (N_{26.5}, C₂, B₂₃)¹²

There are no changes in the frontispiece nor in pages [1-2], except for the omission of the 1848 date. While it is not altogether clear why the date was omitted so soon after the initial publication, there seems little doubt in dating this issue between the first and the one next described here.

The Putnam Issue of 1850 (N₂₇, C₅, B₂₅)¹⁸

Again there are no differences in the frontispiece, but the lower part of the title page is quite different. The references to the bust at Greenwich and to the first American edition have been omitted, and the imprint reads: "NEW YORK:/ GEO. P. PUTNAM, 155, BROADWAY;/ AND/ 49, BOW LANE, CHEAPSIDE, LONDON,/"

¹² When the last figure of a date is uncertain, it has been italicized. Copies of the 1849 issue are at Babson College; Manchester Public Library; State University of New York, Buffalo; Philadelphia Library Company; and Saltykov-Shchedrin Library, Leningrad.

¹⁸ Copies at Babson College; Edinburgh University; Technische Universität Hannover; and University of Illinois, Urbana.

MDCCL." The verso is now completely blank. Reference has already been made to Putnam's association with Adee. He had spent a period in England, so he was well placed for publication in both countries, but there is no evidence that circulation of this edition was widespread in Great Britain. Putnam issued the book early in his publishing career, which extended until his death in 1872, after the appearance of the next issue.

The Ivison & Phinney Issue of 1858 (N27.1) ¹⁴

The references on the frontispiece to Adee and Worts have been removed and the title page restored so as to be more like the original, but with the final line reading: "PUBLISHED BY IVISON & PHINNEY, No. 321 BROADWAY." The verso is also restored, although with some damaged type, possibly suggesting that Ivison & Phinney had a closer relationship with Adee than Putnam did.

Another Adee Issue, of 1874 (N27.2, C3) ¹⁵

The only change from the previous issue is in the title page imprint, which now reads: "PUBLISHED BY DANIEL ADEE. 176 FULTON STREET." This address is the evidence for the date indicated. This fits in with Adee's reported return to printing and publishing in 1870. The similarity to the Ivison & Phinney issue suggests that this firm was closely associated with him.

The Final Issue of 1885 (N27.3, C4) ¹⁶

This differs from the previous issue in Adee's address — "45 LIBERTY STREET" — at the bottom of the title page. The date I have assigned (that of the editor's death) is less certain than the others, because Adee spent several years at this address. It could not, however,

¹⁴ Copies at Burndy Library, Norwalk, Connecticut; Cambridge University: Trinity College; Dublin University: Trinity College; University of Iowa, Iowa City; and Leeds University. This issue was not seen by Cohen in 1970.

¹⁵ Copies at Babson College; Columbia University; Harvard University; University of Illinois, Urbana; McGill University; Massachusetts Institute of Technology; and University of Wisconsin, Madison — not seen by this writer.

¹⁶ Copies at Babson College; University of California, Berkeley; John Crerar Library, Chicago; University of Michigan, Ann Arbor; and Oberlin College — also not seen by this writer.

have been much later, because the University of Michigan, Ann Arbor, has a copy on which William J. Hussey had written the cost (\$3.00) and the date 1889, presumably that of acquisition. Another interesting association copy¹⁷ in the William L. Clements Library of the same University carries the inscription "Presented to Mr. J. D. Dillingham by D. M. Adee, son of the publisher, Feb. 23, 1908," which suggests that there was no later issue.

It would be too much to expect that the work done so far has located copies of all issues, but it is hoped that the details given above will enable librarians to identify any copy they meet. The writer will welcome details of any further copies and particularly of any ownership inscriptions or other information about the use of this popular work which will throw light on intellectual developments in the second half of the nineteenth century.¹⁸

¹⁷ The Clements copy was acquired from the South Woodstock (Connecticut) antiquarian bookseller, Charles B. Wood III; it had been listed as item 179 in his *Catalogue* 25, 1973.

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JUDITH MILHOUS, Assistant Professor of Theatre History and Dramatic Literature at the University of Iowa, was the co-author (with Professor Humie) of articles in the October 1974 and January 1977 issues of the HARVARD LIBRARY BULLETIN and co-editor of *The Frolicks or The Lawyer Cheated* (1671), by Elizabeth Polwhele (Cornell University Press, 1977).

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