AUGUSTUS
DE MORGAN,
POLYMATH



EDITED BY KAREN ATTAR, ADRIAN RICE AND CHRISTOPHER STRAY



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Cover image: Portrait of Augustus De Morgan, in Sophia Elizabeth De Morgan, *Memoir of Augustus De Morgan* (1882), https://commons.wikimedia.org/wiki/File:Augustus_De_ Morgan_1850s.jpg. Background: Nico Baum, White round light on gray textile (2020), https://unsplash.com/photos/white-round-light-on-gray-textile-xZroI5V_dxc. Cover design: Jeevanjot Kaur Nagpal.

12. Bibliography of the Works of Augustus De Morgan

William Hale

Previous attempts to list De Morgan's voluminous works can be found in Sophia De Morgan's *Memoir* of her husband (London: Longmans, Green, 1882) and in G.C. Smith's edition of *The Boole-De Morgan Correspondence* (Oxford: Clarendon Press, 1982). I have combined and corrected these, and supplemented them chiefly with De Morgan's signed contributions to *The Athenæum* and *Notes and Queries* to produce a bibliography of nearly 500 entries. Space and time precluded the inclusion of the more than 1,000 unsigned reviews which De Morgan contributed to *The Athenæum*; a list of these, extracted from the marked-up copies in the library of City University of London, can be found at https://athenaeum.city.ac.uk/reviews/contributors/contributorfiles/DEMORGAN,Augustus.html.

I have also omitted individual references to the roughly 700 articles he wrote for the *Penny Cyclopaedia* between 1833 and 1843. These are itemised in S.E. De Morgan's *Memoir* (1882), pp. 407–14.

One work notably absent from this bibliography is *On Probability* (*Library of Useful Knowledge*) (London: Baldwin & Cradock, [1830]). This book is still sometimes attributed to De Morgan in library catalogues; according to De Morgan himself, a reprint was mistakenly issued in a binding lettered 'De Morgan On Probability' around 1845.¹ He repeatedly disavowed authorship, notably in *A Budget of Paradoxes*

¹ Augustus De Morgan, 'Authorship of the Treatise on Probability Published by the Society for the Diffusion of Useful Knowledge', Assurance Magazine and Journal of the Institute of Actuaries, 9 (1861), 238.

(1872), pp. 167–68. The book's authors were John William Lubbock and John Elliot Bethune.

The list below is divided into three sections: monographs written solely by De Morgan, contributions by De Morgan to other books and encyclopaedic works, and journal articles. Within sections the ordering is chronological by year of publication as far as possible, though editions of the same work and articles in series are grouped together. I have confined myself to editions published in De Morgan's lifetime, or immediately after his death under the editorship of his widow or daughter, and omitted unchanged reprints of books.²

Abbreviations Used in the Bibliography Below

CDMJ - Cambridge and Dublin Mathematical Journal

CMJ – Cambridge Mathematical Journal

Comp. Alm. - Companion to the Almanac

JIA – Journal of the Institute of Actuaries

Lond. Edin. Phil. Mag. - London & Edinburgh Philosophical Magazine

Lond. Edin. Dubl. Phil. Mag. – London, Edinburgh & Dublin Philosophical Magazine

Mon. Notices Royal Astron. Soc. – Monthly Notices of the Royal Astronomical Society

NQ – Notes and Queries

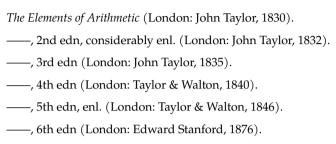
QJE – Quarterly Journal of Education

QJPAM - Quarterly Journal of Pure and Applied Mathematics

TCPS - Transactions of the Cambridge Philosophical Society

² I am grateful for the sight of an unpublished list of De Morgan's articles by Olivier Bruneau, which allowed me to fill a number of lacunae in this bibliography.

Monographs



- Remarks on Elementary Education in Science: An Introductory Lecture, Delivered at the Opening of the Classes of Mathematics, Physics, and Chemistry in the University of London, November 2, 1830 (London: Thomas Davidson for John Taylor, 1830).
- On the Study and Difficulties of Mathematics (Library of Useful Knowledge. *Mathematics*) (London: Baldwin & Cradock, 1831).
- Examples of the Processes of Arithmetic and Algebra (Library of Useful Knowledge. Mathematics) (London: Baldwin & Cradock, [1831?]).
- Elementary Illustrations of the Differential and Integral Calculus (Library of Useful Knowledge. Mathematics) (London: Baldwin & Cradock, 1832).
- The Elements of Spherical Trigonometry (Library of Useful Knowledge. Mathematics) (London: Baldwin & Cradock, 1834).
- The Elements of Algebra Preliminary to the Differential Calculus, and Fit for the Higher Classes of Schools in which the Principles of Arithmetic are Taught (London: John Taylor, 1835).
- ----, 2nd edn (London: Taylor & Walton, 1837).
- The Connexion of Number and Magnitude: An Attempt to Explain the Fifth Book of Euclid (London: Taylor & Walton, 1836).
- An Explanation of the Gnomonic Projection of the Sphere: And of Such Points of Astronomy As Are Most Necessary in the Use of Astronomical Maps (London: Baldwin & Cradock, 1836). 'Published under the superintendence of the Society for the Diffusion of Useful Knowledge.'
- The Elements of Trigonometry and Trigonometrical Analysis Preliminary to the Differential Calculus (London: Taylor & Walton, 1837).
- Thoughts Suggested by the Establishment of the University of London: An Introductory Lecture Delivered at the Opening of the Faculty of Arts in University College, Oct. 16, 1837 (London: Taylor & Walton, 1837).
- An Essay on Probabilities and on their Application to Life Contingencies and Insurance Offices (The Cabinet Cyclopaedia. Natural Philosophy) (London: Longman, Orme, Brown, Green & Longmans, and John Taylor, 1838).

- ——, New edn (London: Longman, Orme, Brown, Green & Longmans, and John Taylor, 1841).
- ----, New edn (London, 1849).
- Remarks on an Accusation Made by the Proprietors of the Encyclopaedia Metropolitana, Against the Author of An Essay on Probabilities... (London: for the author, and sold by Taylor & Walton, 1838).
- First Notions of Logic Preparatory to the Study of Geometry (London: Taylor & Walton, 1839).
- ----, 2nd edn (London: Taylor & Walton, 1840).
- The Differential and Integral Calculus (Library of Useful Knowledge) (London: Baldwin & Cradock, 1842). Published in 25 instalments between 1836 and 1842.
- The Globes Celestial and Terrestrial (London: Malby, 1845). '... intended to accompany Malby's Globes, published under the superintendence of the Society for the Diffusion of Useful Knowledge'.
- ----, 2nd edn (London: William S. Orr, 1847).
- —, 3rd edn (London: William S. Orr, 1854).
- Arithmetical Books from the Invention of Printing to the Present Time (London: Taylor & Walton, 1847).
- Formal Logic, or The Calculus of Inference Necessary and Probable (London: Taylor & Walton, 1847).
- Statement in Answer to an Assertion Made by Sir William Hamilton, Bart., Professor of Logic in the University of Edinburgh (London: Richard and John E. Taylor for the author, 1847).
- Trigonometry and Double Algebra (London: Taylor, Walton, & Maberly, 1849).
- The Book of Almanacs: With an Index of Reference, By Which the Almanac may be Found for Every Year ... (London: Taylor, Walton, & Maberly, 1851).
- —, 2nd edn (London: James Walton, 1871).
- Observations in Favour of a Decimal Coinage ([London: M.S. Rickerby for the Decimal Association, 1854]). A reprint of the Introduction to Decimal Association, *Proceedings* (1854); see below.
- Summary of the Decimal Coinage Question (London: M.S. Rickerby [for the Decimal Association], 1855). Another reprint of the Introduction to Decimal Association, *Proceedings* (1854); see below.
- Reply to the Facetiae of the Member for Kidderminster in the Debate on Mr. Brown's Resolutions, June 12, 1855 (London: M.S. Rickerby [for the Decimal Association, 1855]). Also printed in Debate on the Decimal Coinage Question (1855); see below.

- Answers to the Questions Communicated by Lord Overstone to the Decimal Coinage Commissioners. No. 1 (London: M.S. Rickerby [for the Decimal Association], Nov. 1857).
- Syllabus of a Proposed System of Logic (London: Walton & Maberly, 1860).
- A Budget of Paradoxes, ed. by S.E. De Morgan (London: Longmans, Green, 1872). See below for the original articles from *The Athenæum*.
- De Morgan, S.E., Memoir of Augustus De Morgan: With Selections From his Letters (London: Longmans, Green, 1882).
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Contributions to Other Works

- Bourdon, L.P.M., *The Elements of Algebra*, trans. from the three first chapters [of *Élémens d'algèbre*] ... by A. De Morgan (London: John Taylor, 1828).
- Approximately 700 articles in *The Penny Cyclopaedia* (London: Charles Knight, 1833–1843). Listed in S.E. De Morgan's *Memoir* (1882), pp. 407–14.
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- 'Newton', in *Cabinet Portrait Gallery of British Worthies*, vol. XI (London: Charles Knight, 1846), 78–117.
- 'Mr Babbage's Calculating Machine', in Weld, Charles Richard, *The Eleventh Chapter of the History of the Royal Society* (London: Richard Clay [for Charles Babbage], 1848). Reprint of De Morgan's review in *The Athenæum*, 14 Oct. 1848, with notes by Babbage. A subsequent printing included De Morgan's

- response, also from *The Athenæum*, 16 Dec. 1848. Republished in Babbage's *The Exposition of 1851* (London: John Murray, 1851).
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- Decimal Association, *Proceedings*, with introd. by A. De Morgan (London: M.S. Rickerby [for the Association], 1854). Reprinted 1855. Introduction issued as *Summary of the Decimal Coinage Question* (1855); see above.
- Debate on the Decimal Coinage Question in the House of Commons, June 12th, 1855. With Remarks [by A. De Morgan] on the Speech of the Hon. Member for Kidderminster (London: M.S. Rickerby [for the Decimal Association], 1855). Remarks also issued separately as Reply to the Facetiae (1855); see above.
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- 'Notice of Some Tables of Different Species for Facilitating Calculation [review]', *QJE*, 1 (1831), 129–37.
- 'Pinnock's Catechisms [review]', QJE, 1 (1831), 179–83.

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'On Mathematical Instruction', QIE, 1 (1831), 264-79.

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'A Preparation for Euclid [review]', QJE, 3 (1832), 129–32.

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'----, pt. 2', QJE, 6 (1833), 237–51.

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- 'Peacock's Treatise on Algebra [review], QJE, 9 (1835), 91–110, 293–311.
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- 'A Short Mode of Reducing the Square Root of a Number to a Continued Fraction', *CMJ*, 2 (1841), 239–40.
- 'On the Use of Small Tables of Logarithms in Commercial Calculations, and on the Practicability of a Decimal Coinage', *Comp. Alm.* (1841), 5–21.
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- 'Peyrard's Elements of Euclid' [review]', Dublin Review, 11 (Nov. 1841), 330-55.
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- 'On the Foundation of Algebra', TCPS, 7 (1842), 173–87 (read 9 Dec. 1839).
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