JOAN L. RICHARDS
PROFESSOR
CURRICULUM VITAE

Department of History
Brown University
Providence, RI 02912
401-863-3246

EDUCATION:

Date	Degree(s) and Field	Institution
1971	B.A., History and Science Magna cum laude	Radcliffe College
1979	M.A., History of Science	Harvard University
1981	Ph.D., History of Science	Harvard University

ACADEMIC POSITIONS:

Date	Position	Institution
2001-	Professor	Brown University
1988 - 2001	Associate Professor	Brown University
1982-88	Assistant Professor	Brown University
1981-82	Post-Doctoral Fellow	Cornell University
1980-81	Visiting Assistant Professor	Cornell University
Spring 1980	Lecturer	Harvard University
Fall 1979	Lecturer	Cornell University
1975-78	Tutor	Harvard University

HONORS AND FELLOWSHIPS

2010-2011	Visiting Fellow Commoner, Trinity College, Cambridge
August 2005	Fellow, Max Planck Institut für Wissenschaftsgeschichte
Fall 2004	Fellow, Max Planck Institut für Wissenschaftsgeschichte
2002-03	Guggenheim Foundation Fellowship
2001-02	American Council of Learned Societies Research Fellowship
	National Science Foundation Travel Grant
Spring, 2001	Fellow, Max Planck Institut für Wissenschaftsgeschichte
Spring, 1997	Fellow, Max Planck Institut für Wissenschaftsgeschichte
1995-96	Fellow, Wissenschaftskolleg, Berlin, Germany
1994-95	Fellow, Dibner Institute, Cambridge, Massachusetts
1994-95	Howard Foundation Fellow (declined)

1993-94   NSF "Parallax" Award through Brown University, Dean of Students (for courses incorporating experimentation into curriculum).

Summer, 1991. NEH Summer Seminar (with Shirley Roe): "Science in the Enlightenment as seen through the Encyclopédie"

Fall 1985	Wriston Foundation Fellow
1983-84	Lilly Foundation Fellow
Fall 1981	American Council of Learned Societies Grant
1978-80	Danforth Fellowship
1978-79	Whiting Fellowship in the Humanities

Summer, 1977. National Research Council Grant

Summer, 1977, European Studies Grant,

1977-   Sigma IX

PUBLICATIONS:

BOOKS:

Angles of Reflection. W. H. Freeman, 2000.

Mathematical Visions: The Pursuit of Geometry in Victorian England,

Academic Press. Fall, 1988.

EDITED WORK:

Mathematics Editor for Thoemmes Press volume on Nineteenth-Century British Scientists, Spring, 2003.

Co-editor with Mary Jo Nye and Rober Stuewer, The Invention of Physical Science: Intersections of Mathematics, Theology and Natural Philosophy since the Seventeenth Century Essays in Honor of Erwin N. Hiebert Kluwer Academic Publishers 1992.

ARTICLES:

"From truth to proof to computer problem: Of mathematical discipline and epistemological change" in Victorian Culture and the Origin of Disciplines, ed. Bennett Zon and Bernard Lightman (In press)

"Erwin Hiebert" Isis, Dec 2013.

"Augustus De Morgan, "Formal Logic" in Senate House Library of the University of London. Edited by Christopher Pressler and Karen Attar. London, 2013.

"Images of Mind: The world of Augustus De Morgan's Logic" manuscript to be submitted to Isis.

"This compendious language: Mathematics in the world of Augustus De Morgan" Isis, 102 (2011): 506-510.

"In Search of the 'Sea-Something': Reason and Transcendence in the Frend/De Morgan Family" Science in Context, 20 (2007): 509-536.

With Michael Hobart: "Augustus De Morgan's Logic" British Logic in the Nineteenth Century, vol 4 of The Handbook of the History of Logic, John Wood editor. Spring, 2008. 283-329.

"The Character of Truth" J. Renn and K. Gavroglu (eds.), *Positioning the History of Science*, Springer (2007).

"Historical Mathematics in the French Eighteenth Century" Isis, Dec, 2006.

"Fragmented Lives" Isis, June, 2006.

"William Frend", "Robert Leslie Ellis" "Robert Woodhouse" for Nineteenth Century British Scientists (Thoemmes: 2004).

"Of God and Logic and the limits of rational man,"2004. New Trends in the History and Philosophy of Mathematics. Edited by Tinne Hoff Kjeldsen, Stig

Andur edersen and Lise Mariane Sonne-Hansen. University Press of Southern Denmark, 2004 : 29-50.

"'In a rational world all radicals would be exterminated:' Mathematics, Logic and Secular Thinking in Augustus De Morgan's England" Science in Context 15 (2002): 137-164.

"The Geometrical Tradition: Mathematics, Space, and Reason in the Nineteenth Century" in The Cambridge History of Science. Vol 5. The Modern Physical and Mathematical Sciences. Edited by Mary Jo Nye. Cambridge University Press, 2003.

"The Probable and the Possible in Early Victorian England" in Bernard Lightman ed. Contexts of Victorian Science. Chicago University Press, 1997.

"The History of Mathematics and l'espirit Humain: A Critical Reappraisal" in Osiris Vol. 10. Constructing Knowledge in the History of Science Second series 10 (1995) 122-138.

"The Philosophy of Geometry to 1900" in the Companion Encyclopedia of the History and Philosophy of the Mathematical Sciences, ed. I. Grattan Guiness, Vol.2 (New York: Routledge, 1994) 913-919.

"God, Truth, and Mathematics in Victorian England" in Nye, Richards, and Stuewer eds. The Invention of Physical Science. (Dordrecht: Kluwer, 1992) 51-78.

"Rigor and Clarity: Foundations of Mathematics in France and England, 1800-1840," Science in Context 4 (1991): 297-319.

"Bertrand Russell's Essay on the Foundations of Geometry and the Cambridge Mathematical Tradition," Russell: The Journal of the Bertrand Russell Archives, in n.s. 8 (1988): 59-80 and in Ian Winchester and Kenneth Blackwell, eds. Antinomies and Paradoxes: Studies in Russell's Early Philosophy.

"Augustus De Morgan, The History of Mathematics and the Foundations of Algebra." Isis. 78 (1987): 6-30.

"Projective Geometry and Mathematical Progress in Victorian Britain" Studies in the History and Philosophy of Science, 17 (1986): 297-325.

"The Art and the Science of British Algebra: A Study in the Perception of Mathematical Truth," Historia Mathematica 7 (1980): 342-65.

"The Reception of a Mathematical Theory: Non-Euclidean Geometry in England, 1868-1883," in Barry Barnes and Steven Shapin eds. Natural Order: Historical Studies of Scientific Culture. Sage Publications, Beverly Hills, 1979.

"Evolution of Empiricism: The non-Euclidean Geometry of Herman von Helmholtz," British Journal for the Philosophy of Science 28 (September, 1977): 235-253.

"Hilda Geiringer" in Notable American Women, Supplement.   Edited by Barbara Sicherman.

"Hilda Geiringer von Mises" in Women of Mathematics: A Bibliographic Sourcebook, Louise S. Grinstein and Paul J. Campbell eds., Greenwood Press: New York, 1987. pp. 41-47.

"The Probable and the Possible in Early Victorian England" in Contexts of Victorian Science, ed. Bernard Lightman, Chicago University Press.

"William Whewell and Early Victorian Science" Perspectives on Science April, 1996.

REVIEWS:

Forty short Book Reviews, 1979-present.

Essay Reviews:

"Observing Science in Early Victorian England: Recent Scholarship on William Whewell" Perspectives on Science 4(1996):231-47

"New Directions in the Philosophy of Mathmetics" Isis 80 (1989)

"Epistemological and Social Problems of the Sciences in the Early Nineteenth Century" in Historia Mathematica 9 (1982): 239-45.

LECTURES:

"From Reason to Mathematics: Augustus De Morgan to J. J. Sylvester" invited lecture for conference on Victorian Disciplines in Durham, England, May, 2016.

"Images of Mind" invited lecture for the History of Science Group at Columbia University. October, 2016.

" 'The Kernel of the History of Culture': Mathematics in the Victorian World" History of Science Society Annual Meeting, Fall, 2013.

"From Truth to Proof in Revolutionary France and Darwinian England" Invited lecture for "Cultures of Mathematics" workshop. Institute for the History and Philosophy of Science and Technology (IHPST), University of Toronto. July 27-28th 2012.

"All in the Family: Francis Baily and the Royal Astronomical Society" History of Science Society Annual Meeting. Cleveland, Ohio. October 28, 2011.

"Learning by doodling: Images of Logic" Cambridge University History of Science Colloquium, February 24, 2011.

"In search of the Sea Serpent: Mathematics, Logic, Meaning, and Wonder in the English Nineteenth Century." Symposium on "Numinous Numbers" sponsored by the Templeton Foundation in Cambridge, Mass, October 12-14, 2009.

"From the Logic of Geometry to the Geometry of Logic: Augustus De Morgan confronts Euclid" Colloquium on Nineteenth-Century Euclidean Geometry at Center for Research in the Arts, Social Sciences and Humanities (CRASSH) in Cambridge, England, October 1-2, 2009.

William Lindgren and Joan Richards, "Edwin A. Abbott and the mathematics of *Flatland"* Joint Mathematics Meetings (AMS and MAA) in Washington, DC January 5-8, 2009

"The Logic of Women: Words and Reason in the World of Sophia De Morgan" History of Science Society Annual Meeting, Pittsburgh, November, 2009.

"Balancing Voices: From Memoir to Biography" AHA, Jan. 2008.

"From Matter to Spirit: Language and Meaning in the World of Sophia De Morgan" History of Science Society Annual Meeting, Nov., 2007.

"Natural Mathematics in the French Eighteenth Century." Invited paper for Narrative and Mathematics Conference, Mykonos, Greece. July, 2005.

"Parallel Universes: Natural Theology and the Power of Reason" History of Science Meetings, Austen, Texas. November, 2004.

" 'An Important Sphere of Usefulness': Sophia De Morgan and Social Reform" Northeast Conference on British Studies. November 15, 2003.

"Radical Interpretations: Logic as the Grammar of Reason in Victorian England" Invited lecture for Mark S. Hurlbut Colloquium: Harvard University. October 14, 2003.

"'The Very Verge of Paradox': The Worlds of Augustus De Morgan and William Frend, 1827-1841" Invited Lecture. Cambridge University, Cambridge England. March 6, 2003.

"Mathematics in her 'dotage': Radicals, rationals and reaction in England after the French Revolution". Invited lecture for the Frederick V. Pohle Colloquium in the History of Mathematics. Adelphi University, New York. February 5, 2003.

"Angles of Reflection on Memoir and Biography". Buchanan Lecture. Adelphi University, New York. February 6, 2003.

"Defining Reason: The Case of William Frend" Invited paper in UCLA, January, 2003.

"Radical Interpretations: Logic as the Grammar of Reason in Victorian England" Invited paper for History of Science Meetings, Milwaukee. November, 2002.

"Radical Interpretations: Frends, De Morgans and Reason in Late Georgian England" Invited paper at the University of Pennsylvania, October, 2002.

"Radical rationality in the mathematics of Augustus De Morgan" in a session: "The Muse of History: Writing Biographies of Mathematicians" American Mathematics Association, New Orleans. January, 2001

"Religion and Reason in the world of Augustus and Sophia De Morgan." History of Science Society Meetings. Vancouver, B. C., November, 2000.

"Euclid through Ages of Reason" Invited lecture, Association for Core Texts and Curricula, New Orleans, April, 1999.

"Truth and Consequences: The Place of Science in the young Darwin's England" invited lecture, Rhode Island College, Providence, RI. March, 1999.

"Euclid in the Age of Reason," History of Science Meetings, Kansas City, Mo. October, 1998.

"The Mathematics of the Rational Man" Invited lecture. Department of Studies in Mathematics and Physics Conference on the History of Mathematics, Roskilde University, Denmark. August, 1998

"Logic and Proof in Victoria's England" Invited lecture. Max-Planck-Institut für Wissenschaftsgeschichte, Berlin. June, 1998.

" 'In a rational world all radicals would be exterminated': Mansel, De Morgan, and the Logic of Theology" Invited paper for an International workshop on Science and Secularization, organised by Cohn Insitute,Tel Aviv University, Edelstein Centre The Hebrew University and the Jerusalem Van Leer Institute, June 1998.

"The Values of Rigor from d'Alembert to Cauchy" Invited lecture. Max-Planck-Institut fur Wissenschaftsgeschichte, Berlin. January, 1998

"Persuasion: Places for Logic and Evidence in Early Victorian England." Invited lecture Oregon State University. Corvallis Oregon, February 27, 1997

"Establishing Boundaries: The Place of Science in Early Victorian England." Forum 101, Brown University, Dec. 12, 1996.

"The Evidence of Things Unseen: Mathematical Knowing in Early Victorian England," invited lecture for Conference on "Science and British Culture in the 1830s," at Trinity College, Cambridge, July 6-8, 1994.

"The Probable and the Knowable in the Work of Robert Ellis." Invited lecture, University of California, San Diego, March, 1994.

"The Evidence of Things Unseen: The Probable, the Possible and the Knowable in Victorian Mathematics," invited lecture at the Bar-Hillel Colloquium for the History, Philosophy and Sociology of Science, Jerusalem, Israel, December 8, 1993.

"The Rigors of Mathematics in the Encyclopédie," Indiana University, October, 1993.

"Rigor and Progress in Eighteenth-Century Mathematics" and "Mathematics and Theology in England: 1800-1830." Keynote papers for the Eighth Biennial Conference of the Association of Christians in the Mathematical Sciences, Wheaton College, May 29-June 1, 1992. (Published in Proceedings)

"The History of Mathematics in the History of Science" commissioned paper for Critical Problems in the History of Science Conference, Madison, Wisconsin. October 30-November 1, 1991.

"Rigor and Revolution: The Demise of Natural Mathematics" Invited lecture at the Annual Meeting of the Canadian Society for the History and Philosophy of Mathematics. (Published in Proceedings) June, 1990.

"Legendre and the Élémens de Géométrie" Invited lecture at Symposium on the History of Modern Mathematics, Poughkeepsie, New York, June 19-24, 1988.

"Non-Euclidean Geometry and History," Invited Lecture at Rhode Island College, April 26, 1988.

"The History of Mathematics in the History of Science,"
Harvard University Symposium, February 19-21, 1988.

"Was Rigor the Same For the French and the English? A Study in National Styles, 1789-1821" Invited Lecture at University of Toronto, November 19, 1987.

"What do You See? An Historical Perspective on Scientific Observation" Invited Lecture at Providence College, November 12, 1987.

"The Foundations of Analysis in France and Britain, 1820-48." Delivered at the HSS meetings in Pittsburgh, October 24, 1986.

"After the Revolution: Historical Arguments in French Mathematics 1789-1821" delivered at the Center for the Philosophy and History of Science, Boston University, March 31, 1987. Also delivered at the Virginia Polytechnic Institute and State University Center for the Sudy of Science in Society, April 29, 1987.

"Conceptualization and Divergent Series," International Congress for the History of Modern Mathematics. Sonderborg, Denmark. August 23, 1986.

"Edmond Halley, The Man Behind the Comet" slide lecture for the Friends of the Library--delivered at Brown and in New York. Spring, 1986.

"The Mathematical Uses of History" Delivered at Philosophy Colloquium, N.Y. Academy of Sciences, March, 1986 and at Colloquium for the History of Science, Cornell University, April 1986.

"Augustus DeMorgan as Polymath" Paper delivered at Social Sciences History Association, October 27, 1984.

"Edwin Abbott Abbott's <u>Flatland</u> and the British Mathematical Community" Paper delivered at Centennary Conference on <u>Flatland</u>. Brown University, October 13, 1984.

"Augustus DeMorgan and Nineteenth-Century History of mathematics" Delivered at the History of Science Meetings in Norwalk, Connecticut, October 29 1983. Revised and reconsidered at the Princeton University Colloquium in the History of   Science, November 22, 1985.

"To Plough with his Hiefer: Augustus DeMorgan, Whig History and the foundations of Algebra."   Delivered at Joint Atlantic Seminar for the History of the Physical Sciences. Cornell University, Ithaca, NY, April, 1984 also at Harvard History of Science Colloquium, March 23, 1984.

"Thoughts on the History of Mathematics and Methematical Education" Delivered Conference on the History of mathematics. Harvard University, April, 1984.

"Mathematics: Queen of the Sciences or Handmaiden to Them All?", "The Queen Dethroned" Invited lectures at Vanderbilt University, March 31 and April 1, 1983.

"Mathematics in Culture: The Nineteenth Century Development of Geometry and Technical Education" Harvard History of Science Department, May 1982.

"The Interactions of Mathematics and Culture in Victorian Britain: Projective Geometry and Mathematical Progress." Delivered at Chelsea College, January 19, 1982. Revised and reconsidered at conference on British Studies, Yale University, March 1982.

"Mathematics as a Science." Delivered October 17, 1980 at the History of Science Meetings, Toronto, Canada.

"Mathematics and the Liberal Education: The Tripos Reform of 1848." Delivered at the History of Science Meetings in Madison, Wisconsin, October 29, 1978.

"Mathematics in Context: The Geometry of William Kingdon Clifford." Delivered at the Fifteenth International Congress of History of Science, Edinburgh, U.K., April 15, 1977. Also delivered at the Project Parex Conference, Sociology of Knowledge applied to Mathematics, Edinburgh, U.K., August 21, 1977.

"Psychology and Geometry in the Work of Herman von Helmholtz." Delivered at the meeting of the Joint Atlantic Seminar of the History of the Physial Sciences, Baltimore, MD. Spring 1976.

"The Probable and the Possible in Early Victorian England" Conference on Contexts of Victorian Science, Yale University, May 18, 1995.

EXHIBITIONS:

Non-Euclidean Geometry in the Nineteenth Century. John Hay Library. Summer, 1988.
Edmund Halley and Cometary Theory. John Hay Library. Spring, 1986

RADIO TAPE:

"Queen of the Sciences or hand maiden to them All? The Foundation of Algebra in Victorian Britain." Script for Open University Production Center of the B.B.C. Taped April 16, 1987.

RESEARCH IN PROGRESS:

I am currently writing a biography of the Frend/De Morgan family, which, when completed will span three generations and one hundred and fifty years. My focus is on the different ways that this family, which consistently identified itself as radical, constructed their views of reason and rationality.

SERVICE:

<u>At Brown University</u>:

2015-present   Director of Science Studies

2011-13   Vice-Chair of Graduate Council
            Concentration Advisor, History Department
            Freshman Advisor

20010-2011:
            Director of Graduate Studies, History Department
            Chair of TPAC

2008-2009:
            Director of Graduate Studies, History Department
            Vice-Chair of TPAC
            Steering Committee for Science Studies
            Sophomore Advising (10 each)
            Vazira Zamindar renewal committee

2007-2008:
            Director of Graduate Studies, History Department
            TPAC
            Steering Committee for Science Studies
            Freshman and Sophomore Advising (10 each)
            Tara Nummedal tenure committee

At History of Science Society:

Member: Editorial board for Isis, the journal of the History of Science Society
Chair: Committee on Research in the Profession, 2006-2007.
Co-Chairman: Program Committee for National Meeting in Cambridge, Ma.
November, 2003.
Member of Council, 2003-2006.

Deeper past:

Chairperson: Committee on Honors and Prizes, 1991-93.
Co-Chairman: Program Committee for National Meeting in Cincinnati, Ohio,
December, 1988.* Special liaison to American Historical Association for these
meetings.
Member of Council, 1990-93.
[Special liaison to American Historical Association for these meetings.]

Other:

Member: International Commission on the History of Mathematics
Visiting Committee: Harvard History of Science Department, 1991-97.
Review book manuscripts for Reidel, MIT, SUNY, etc.
Review grants for NSF and NEH.

Reader for applications for Radcliffe Institute
Adjunct faculty for Harvard History of Science Department

TEACHING

Fall, 2015
      HI 1825M   "Science at the Crossroads"
      HI 05229   "Reason, Revolution and Reaction"

Spring 2016
      HI 1976I   "The World of Isaac Newton"
      SCSO 1000   "Introduction to Science Studies"

Fall, 2016
      HI 1825L   "The Rise of the Scientific Worldview"

Spring, 2017
      HI 1825M   "Science at the Crossroads"
      SCSO 1000   "Introduction to Science Studies"

Spring 2018
      SCSO 1000   "Introduction to Science Studies"