

Curriculum Vitae

Michael J. Crowe

Program of Liberal Studies

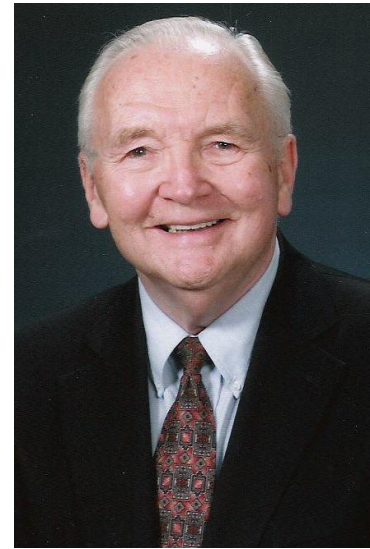
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Education

- 1958 B.A. (Program of Liberal Studies) and B.S. (Science),
University of Notre Dame
- 1965 Ph.D. (History of Science with Minors in Physics and
Intellectual History), University of Wisconsin

Employment (All but last at the University of Notre Dame)

- 1961–1965 Instructor, Program of Liberal Studies
- 1965–1968 Assistant Professor, Program of Liberal Studies
- 1966–1967 Director, College Honors Program
- 1967–1968 Acting Chairman, Program of Liberal Studies
- 1968–1973 Associate Professor, Program of Liberal Studies
- 1968–1973 Chairman, Program of Liberal Studies and Graduate Program in History and
Philosophy of Science
- 1973–2000 Professor, Program of Liberal Studies and Graduate Program in History and
Philosophy of Science
- 2000– Rev. John J. Cavanaugh Professor in the Humanities in the Program of Liberal
Studies and Graduate Program in History and Philosophy of Science
- 2002– Rev. John J. Cavanaugh Professor Emeritus in the Humanities in the Program of
Liberal Studies and Graduate Program in History and Philosophy of Science
- 2002 (Fall) Distinguished Scholar in Residence, Department of Mathematics, University of
Louisville

Honors, Listings and Memberships

Phi Beta Kappa (President, 1995–97 of ND chapter); Woodrow Wilson Fellow; Jean Scott Prize from La Maison des Sciences de l'Homme in Paris for my *History of Vector Analysis* (see below). Leroy Doggett Prize for Lifetime Contributions to Historical Astronomy, Awarded at the 2010 Meeting of the American Astronomical Society by the Historical Astronomy Division of the A.A.S. Four grants (1977, 1980, 1986, and 1990) from National Science Foundation; smaller grants from Indiana Committee for the Humanities and from the Wilbur Foundation; also various University of Notre Dame grants supporting research. Listed in *Directory of American Scholars*, *Who's Who in the Midwest*, *International Scholars Directory*, *Contemporary Authors*, *Dictionary of International Biography*; *International Who's Who in Education*; *International Who's Who of Professionals*; *Men of Achievement*; *Who's Who in American Education*; member of History of Science Society (Council Member, 1973–75; Program Chair, 1974; nominating committee, 1981–82; Chair, Watson Davis Prize Committee, 1986), Midwest History of Science Society (Program Co-Chair, 1976, 1988; President, 1980); History of Astronomy Division of the American Astronomical Society; William Herschel Society; Board of Advisory Editors for *Archaeoastronomy: The Journal of Astronomy in Culture* (1999–2012).

Publications: Books

- 1) Crowe, M., *A History of Vector Analysis: The Evolution of the Idea of a Vectorial System* (Notre Dame, Indiana: University of Notre Dame Press, 1967), xviii + 270 pp.

In an international competition organized by La Maison des Sciences de l'Homme in Paris, funded by Fondation Jean Scott, and held in 1992 for research on the history of complex, hypercomplex numbers, and the history of vector analysis, this book won one of the two prizes awarded. The prize was for \$4000.

This book remained in print until about 2009. In Nov. 2011, Dover again brought it back into print.

Comments from some of the twenty-two reviewers of this book:

a) H. Eves in *Science*: “scholarly and painstaking.... Crowe tells his story completely ... and magnificently—sometimes in almost majestically structured sentences.”

b) J. W. Herival in *Endeavour*: “an outstanding book, well-written, solidly argued, and excellently documented. It will doubtless long remain the standard work on the subject.”

c) B. R. Gossick in *Journal of the Franklin Institute*: “... an engaging and penetrating historical study [based on] not only ... the open literature, but also the private correspondence of leading contributors to the field.”

d) T. A. A. Broadbent, also in *Journal of the Franklin Institute*: “Professor Crowe ... tells [his story] clearly, in full detail, with excellent documentation ... a fascinating volume, at once informative and readable.”

- 1A)___ *A History of Vector Analysis: The Evolution of the Idea of a Vectorial System* (New York: Dover, 1985). Note: A preface was added for this paperback edition.

- 1B)___ *A History of Vector Analysis: The Evolution of the Idea of a Vectorial System* (New York: Dover, 1994). Note: This is a new printing of the book resulting from the book having been awarded a Jean Scott Prize. Contains new introductory matter.

- 2)___ *The Extraterrestrial Life Debate 1750–1900: The Idea of a Plurality of Worlds from Kant to Lowell* (Cambridge: Cambridge University Press, 1986), xvi + 680 pp.

Comments from some of the thirty-seven reviews:

a) David Hughes in *New Scientist*: “There isn’t an uninteresting page in [this] long text. It is a masterly review of an intriguing subject, erudite and entertaining, clear and all-encompassing...”

b) E. Robert Paul in *Sky and Telescope*: “Crowe’s book is lucid and rich in historical detail. His analysis is so fascinating and his comments on the contemporary debate so pertinent that [his book] can be recommended for the thoughtful reader without reservation. While a model of scholarly analysis, it has the unusual virtue of reading with the excitement of high adventure.”

c) John Brooke in *Annals of Science*: “... fascinating and richly rewarding. ... A great strength of the book is the author’s sensitivity to the religious issues.... ...fastidious research [producing] countless surprises.”

d) James Moore in *Times Higher Education Supplement*: “Crowe has ferreted out and read almost everything that anybody wrote about the subject, from ... Bruno ... to the eve of World War I. [For many], his analysis of the modern belief in extraterrestrials will come as a revelation.”

e) Steven J. Dick in *Isis*: “This review cannot do justice to the hundreds of authors discussed, the dozens of subthemes elaborated, the historical fallacies corrected, and the many questions posed in this volume. [It opens a] rich vein in intellectual history [and] is unlikely to be surpassed in its subject for a long time to come.”

f) T. Page in *Choice*: Crowe writes with “the thoroughness of an historian and the breadth of a philosopher.... excellent name index and subject index.”

- g) Fred Hoyle in *Observatory*: “For those ... interested in the modern aspects of this problem ...this [book] will be an important reference work to have by us at all times.”
- h) Simon Schaffer in *British Journal for the History of Science*: “...Crowe has composed not one but at least three separable books [that show the] delightfully inexhaustible character” of the extraterrestrial life debate.
- i) Jaroslaw Wlodarczyk in *Archives internationales d’histoire des sciences*: “a massively learned work of scholarship ... The book is clearly organized, well written, supported by ample references, [and] deserves to be read by everyone who has an interest in major areas of terrestrials’ intellectual life.”
- j) Anthony Weston in *Quarterly Review of Biology*: “[T]his meticulously researched tome ... is smoothly written, well organized, and the detail is fascinating.”
- k) Richard C. Hart in *Journal of College Science Teaching*: “Historians of all kinds should find this book a treasure trove.”
- l) Richard Baum in *British Astronomical Association Journal*: Despite its size, “there is not a dull spot. It is erudite, lucid, comprehensive, entertaining as any fiction. ... It is a tour de force. A seminal work from which other smaller books will eventually struggle.”
- m) Alan Gabbey in *Centaurus*: “massive and endlessly fascinating. ... a splendidly inexhaustible treasury of material for further research...”
- n) Lewis White Beck in *Journal for the History of Philosophy*: “an exceedingly meaty book liable to interest historians of all sorts of ideas.... One is grateful to the author for ... digesting and evaluating this immense store of writing. One congratulates him for belying Hume’s statement: ‘I have never known anyone, that examined and deliberated about nonsense who did not believe it before the end of his inquiries.’”
- o) Patrick Gunkel in Amazon review: "one of the most intellectually magnificent and philosophically enthralling books I have ever read, a supreme work of scholarship. ... I came to its last page with a melancholy regret that there was not more and more and more of it...."
- 2A)___ *The Extraterrestrial Life Debate 1750–1900: The Idea of a Plurality of Worlds from Kant to Lowell* (Cambridge, England: Cambridge University Press, 1988), xxii + 680 pp.
Note: An addendum presenting new results has been added for this paperback edition.
- 2B)___ *The Extraterrestrial Life Debate 1750–1900* (Mineola, New York: Dover Publications, 1999). Reprinting of #1, for which I have written a new Preface).
- 2C)___ *The Extraterrestrial Life Debate 1750–1900: The Idea of a Plurality of Worlds from Kant to Lowell*, 3 vols., Japanese translation; translated by Sumiji Tsuzumi, Keiji Yamamoto, and Osamu Yoshida (Tokyo: Kousakusha, 2001), 1,004 pp.
- 3)___ *Theories of the World from Antiquity to the Copernican Revolution* (New York: Dover, 1990), xi + 229 pp.
Comments from some of the reviews:
a) David Hughes in *Observatory*: “I recommend this book to you without reservation. [It] makes the history of astronomy really exciting.”
b) William Donahue in *American Scientist*: “*Theories of the World* accomplishes its worthy purpose competently and engagingly. [It] deserves wide distribution....”
c) Robert Hatch in *Isis*: “Deftly survey[s] astronomical ideas, arguments, and technics from classical Greece to the early decades of the seventeenth century....”
- 3A)___ *Theories of the World from Antiquity to the Copernican Revolution*, revised edition (New York: Dover, 2001), xviii + 229 pp.
- 4)___ (editor) *The Letters and Papers of Sir John Herschel: A Guide to the Manuscripts and Microfilm* (in the series: *Collections from the Royal Society*), (Bethesda, Maryland: University Publications of America, 1991); xxxviii + 248 pp.

- 5)___ *Modern Theories of the Universe from Herschel to Hubble* (New York: Dover, 1994), xii + 435 pp. According to Dover, this book had by 2002 sold over 5000 copies.
Comments from some of the reviews:
- a) Allan Chapman in *Annals of Science*: "...a clear and well-guided route through the fundamental concepts of cosmology over the past few centuries. ...succeeds admirably in achieving its [stated] goal."
 - b) Helge Kragh in *Centaurus*: "...a stimulating and useful book that deserves wide readership..."
 - c) Norriss Hetherington in *Isis*: "History of science teachers will welcome [this and Crowe's *Theories of the World*]; teachers in all fields could benefit from examination of these pedagogical exemplars."
- 6)___ (editor); David R. Dyck and James J. Kevin (associate editors), *Calendar of the Correspondence of Sir John Herschel* (Cambridge, England: Cambridge Univ. Press, 1998), viii + 828 pp.
Comments from some of the reviews:
- a) Sydney Ross in *Isis* described the book as "an unparalleled historical source that will be a goldmine for historians of nineteenth-century science from now on. The editors are to be congratulated on having carried out ... a task of heroic magnitude and wide usefulness."
 - b) Michael Hoskin (*Annals of Science*) describes it as a "splendid volume [that makes Herschel's correspondence] available with a convenience of which past researchers could only dream."
 - c) Brian Warner in *Observatory*: "The *Calendar* will be the starting point of all future Herschel scholarship."
 - d) Unsigned review in *European Astronomy*: "This volume is far and away the most extensive source of information on John Herschel ever published."
- 6A)___ Electronic version in a 4th Dimension database of item 6. (editor); David R. Dyck and James J. Kevin (associate editors), *Calendar of the Correspondence of Sir John Herschel 1792–1871*. This database is now available on line at <http://historydb.adlerplanetarium.org/herschel/>.
- 7)___ *Mechanics: From Aristotle to Einstein* (Santa Fe, NM: Green Lion Press, 2007), xxii + 332 pp.
Named as an "Outstanding Academic Title" for 2007 by *Choice: Current Reviews for Academic Libraries*, a publication of the Association of College and Research Libraries, which is a Division of the American Library Association.
Comments from some of the reviewers:
- a) J. Lambropoulos in *Choice*: This is a "wonderful, user-friendly book" which "book is incomparable because of the perfect balance of translations, examples, computations, commentary, and hands-on exercises." Rating (*Choice*'s highest): "Essential."
 - b) Edward Slowik in *Annals of Science*: "It is always a pleasure to peruse a new work by Michael J. Crowe, the author of a number of acclaimed texts on various topics in the history and philosophy of science.... What makes this book so much fun ... is the clarity of the explication of the scientific concepts and the philosophical issues, with even more care devoted in this particular work to developing the mathematical details for a lay audience."
 - c) Douglas Jessep in *Perspectives on Science*: "On the whole, this is an ideal text for an advanced undergraduate course in the history of science, and it could also fit easily into a graduate level seminar. In particular, the mixture of primary sources and commentary is almost optimal for acquainting students with the relevant theories and issues."

- 8)___ editor, *The Extraterrestrial Life Debate, Antiquity to 1915: A Source Book* (Notre Dame, IN: Univ. of Notre Dame Press, 2008), xxi + 554 pp.

Comments by four scholars asked to write blurbs:

"This is a valuable book that is not available anywhere else. . . . Crowe's purpose is to let the reader see the original words of the authors who discussed other worlds. Crowe puts these documents in context by his substantial introduction and commentary. . . . Such a source book serves an important purpose, and is ideal for teaching and generating discussion in class. The subject is of increasing importance as we find more and more about the possibilities of extraterrestrial life through current disciplines such as astrobiology, bioastronomy, and the Search for Extraterrestrial Intelligence." —Steven J. Dick, Director Emeritus, NASA History Division, NASA

"Having established himself as the world's authority on the history of the debates about extraterrestrial life in the eighteenth and nineteenth centuries, Michael Crowe is perfectly positioned to produce this source book. The introductory commentaries on the excerpts from primary sources he has so judiciously selected reveal again and again that no one else knows this subject as well as he does." —Frederick Gregory, University of Florida

"*The Extraterrestrial Life Debate* gives new meaning to the word 'treasury.' Michael Crowe offers us more than 2000 years of golden materials--wrought by the astonishing alchemy of science, religion, philosophy, and sheer imagination--about a topic as alive today as it ever was: ET, with all his cousins and ancestors. The range of authors the book showcases, and the depth of context Crowe provides, will make his monumental anthology the starting point for future explorations of this rich vein of human thought." —Dennis Danielson, University of British Columbia

"There are loads of books on ET, but only a small number of them take a historical approach. . . . Anyone interested in the history of the extraterrestrial life debate will be interested in this book; it does complete in a certain way previous historical work done by Steven Dick and Michael Crowe by providing large portions of original texts rather than merely short quotations from them. . . . All the various perspectives, religious, literary, astronomical, philosophical, seem adequately represented. The multidisciplinary aspect of the debate comes across well from the authors selected." —Marie I. George, St. John's University

Comments from reviewers:

Arie Leegwater in *Perspectives on Science and Christian Faith*: Describes the book as "a monumental anthology" and comments that "The range of documents is extremely impressive...."

Paul Fayter in *Isis*: This is a "superb anthology—a worthy companion to the author's groundbreaking and encyclopedic *The Extraterrestrial Life Debate, 1750–1900: The Idea of a Plurality of Worlds from Kant to Lowell* (Cambridge, 1986). . . . This source book is a wonderful addition to the teacher's toolkit and should find a readership far wider than historians of science."

- 9)___ editor, *Ronald Knox and Sherlock Holmes: The Origin of Sherlockian Studies* (Indianapolis: Gasogene Imprint of Wessex Press, 2011), 135 pp. (Contains my introduction and five classic essays by Ronald A. Knox).

See <http://wellreadsherlockian.com> for a 2012.9/5 review by Leah Cummins Guinn: "excellent introductory essay[which is] an essential and fascinating part of the book." "Star Rating 5 out of 5...This is a wonderful book which gets it right."

and see

<http://newsinfo.nd.edu/news/18601-the-professor-the-monsignor-and-sherlock-holmes/>

- 10)___ co-editor with Nicholas Ayo of Frederick J. Crosson, *Ten Philosophical Essays in the Christian Tradition* (Notre Dame, IN: Univ. of Notre Dame Press, 2015), 262 pp.

- 11) ___ *The Gestalt Shift in Conan Doyle's Sherlock Holmes*. Forthcoming in early 2019 from Palgrave Macmillan (New York and London).

Publications: (Papers, Booklets, and Reviews)

- 1) Crowe, M., "A Prevalent and Significant Misconception about Science in Antiquity," *Bulletin of Albertus Magnus Guild*, 9 (1962), 1–4.
- 2) ___ *International Galileo Congress: Guide to the Book Exhibit* (Notre Dame, Ind., 1964), 24 pp.
- 3) ___ "Annotated List of Works by Galileo and His Contemporaries," in *Galileo: Man of Science*, ed. by Ernan McMullin (New York, 1967), pp. lxxxiii–xciii. Reprint of # 2.
- 4) ___ "[Review of] François Lasserre, *The Birth of Mathematics in the Age of Plato*," *Isis*, 51 (1966), 137–8.
- 5) ___ "Science a Century Ago," in *Science and Contemporary Society*, ed. by Frederick J. Crosson (Notre Dame, Ind., 1967), pp. 105–26.
- 6) ___ "Black Boxes and White Cans: An Effective Experiment for Use in College Science Courses—and Elsewhere," *Journal of General Education*, 19 (1968), 263–8.
- 7) ___ "[Review of] Noah Edward Fehl, *Science and Culture*. Volume 1: *Time, Space and Motion*," *Isis*, 59 (1968), 444–5.
- 8) ___ "Bromwich," *Dictionary of Scientific Biography*, ed. by C. C. Gillispie, vol. II (1970), 490–1.
- 9) ___ "[Review of] Richard Blackwell, *Discovery in the Physical Sciences*," *The Thomist*, 35 (1971), 337–9.
- 10) ___ "Grassmann," *Encyclopedia Americana*, vol. XIII (New York, 1971), p. 203.
- 11) ___ "A New Age in Science and Technology?" *Review of Politics*, 34 (1972), 141–53.
- 12) ___ "A New Age in Science and Technology?" in *America in Change*, ed. by Ronald Weber (Notre Dame, 1972), 141–53. Reprint of #11.
- 13) ___ "Hankel," *Dictionary of Scientific Biography*, vol. VI, ed. by C.C. Gillispie (New York, 1972), pp. 95–6.
- 14) ___ "Hoüel," *Dictionary of Scientific Biography*, vol. VI, p. 522.
- 15) ___ "Lobachevsky," *Encyclopedia Americana*, vol. XVII (New York, 1972), p. 632.
- 16) ___ "Möbius," *Dictionary of Scientific Biography*, vol. IX (1974), 429–31.
- 17) ___ "[Review of] M. A. Finocchiaro, *History of Science as Explanation*," *American Scientist*, 62 (Jan.-Feb., 1974), 124.
- 18) ___ "Ten 'Laws' Concerning Patterns of Change in the History of Mathematics," *Historia Mathematica*, 2 (1975), 161–6; republished as the lead essay in Donald Gillies (ed.), *Revolutions in Mathematics* (Oxford: Clarendon Press, 1992), pp. 15–20.
- 19) ___ "Ten 'Laws' Concerning Conceptual Change in Mathematics" in *Proceedings of the American Academy Workshop on the Evolution of Modern Mathematics*, published in *Historia Mathematica*, 2 (1975), 469–70.
- 20) ___ "Bibliography of the Writings of Carl B. Boyer," *Historia Mathematica*, 3 (1976), 397–401.
- 21) ___ "Who Was H. J. Mozans?" *Isis*, 68 (1977), 111.
- 22) ___ "[Essay review of] Raymond Wilder, *Evolution of Mathematical Concepts*," *Historia Mathematica*, 5 (1978), 99–105.
- 23) ___ "[Review of] Hanbury Brown, *Man and the Stars*," *Astronomy*, 7 (March, 1979), 65.
- 24) ___ "[Review of] Gerald E. Tauber, *Man's View of the Universe*," *Astronomy*, 8 (Dec., 1980), 54–5.
- 25) ___ "[Review of] Thomas L. Hankins, *Sir William Rowan Hamilton*," *Science*, 212 (1981), 778–9.
- 26) ___ "New Light on the Moon Hoax," *Sky and Telescope*, 62 (1981), 428–9.

- 27)___ “[Review of] D. Goldsmith, (ed.), *Quest for Extraterrestrial Life*; M. D. Papagiannis (ed.), *Strategies for the Search for Life in the Universe*; G. Feinberg and R. Shapiro, *Life beyond Earth*,” *Physics Today*, 35 (Jan., 1982), 71–3.
- 28)___ “Inflation and History: E. B. Frost’s Mars Telegram,” *Griffith Observer*, 46 (March, 1982), 15.
- 29)___ “[Review of] Steven J. Dick, *Plurality of Worlds*,” *Isis*, 74 (1983), 268–70.
- 30)___ “[Abstract of] Astronomy and the Extraterrestrial Life Debate, 1700–1910,” *International Congress of the History of Science. Acts*, vol. I (Berkeley, 1985).
- 31)___ “[Review of] Vincent Cronin, *The View from Planet Earth*,” *Isis*, 76 (1985), 411.
- 32)___ “[Review of] Sean O’Donnell, *William Rowan Hamilton*,” *Isis*, 76 (1985), 447–8.
- 33)___ “[Review of] Claire L. Parkinson, *Breakthroughs: A Chronology of Great Achievements in Science and Mathematics*,” *Isis*, 77 (1986), 678–9.
- 34)___ “The Extraterrestrial Life Debate: Guide to the Exhibit” (Notre Dame, Indiana, 1986), 24 pp..
- 35)___ “The Enlightenment and Extraterrestrials: The Celestial Cities of the Eighteenth-century Scientists and Philosophers,” *IPSE [Institute for Advanced Studies in the Humanities Project on the Scottish Enlightenment] Conference: Abstracts of Seminar Papers* (Edinburgh, 1986), p. 132.
- 36)___ “[Essay review of] Philip Kitcher, *The Nature of Mathematical Knowledge*,” *Historia Mathematica*, 14 (1987), 204–9.
- 37)___ “Ten Misconceptions about Mathematics and Its History” in William Aspray and Philip Kitcher (eds.), *History and Philosophy of Modern Mathematics (Minnesota Studies in the Philosophy of Science*, vol. XI), (Minneapolis, 1988), pp. 260–77.
- 38)___ “[Review of] Norriss Hetherington, *Science and Objectivity: Episodes in the History of Astronomy*,” *Isis*, 79 (1988), 704–5.
- 39)___ “Duhem and the History and Philosophy of Mathematics;” *Synthese*, 83 (1990), 431–47.
- 40)___ “[Review of] H. A. Brück and M. T. Brück, *The Peripatetic Astronomer: The Life of Charles Piazzi Smyth*,” *Isis*, 81 (1990), 360–2.
- 41)___ “[Review of] Paul Luther, *Bibliography of Astronomers*, vol. I,” *Isis*, 82 (1991), 420.
- 42)___ “Caroline Lucretia Herschel,” *World Book Encyclopedia*, vol. 9 (1991), p. 220.
- 43)___ “John Frederick William Herschel,” *World Book Encyclopedia*, vol. 9 (1991), p. 220.
- 44)___ “William Herschel,” *World Book Encyclopedia*, vol. 9 (1991), p. 220.
- 45)___ [Review of] Karl Guthke, *The Last Frontier*,” *Isis*, 82 (1991), 550–1.
- 46)___ *History of Science: A Guide for the Undergraduate* (Worcester, Mass.: History of Science Society, 1991), 20 pp.
- 47)___ “Introduction,” (an essay on John Herschel’s life and career) in M. J. Crowe (ed.), *The Letters and Papers of Sir John Herschel: A Guide to the Manuscripts and Microfilm* (in the series: *Collections from the Royal Society*), (Bethesda, Maryland: University Publications of America, 1991), pp. v–xxvii.
- 48)___ “Chronology of the Life of John Herschel” in M. J. Crowe (ed.), *The Letters and Papers of Sir John Herschel: A Guide to the Manuscripts and Microfilm* (in the series: *Collections from the Royal Society*), (Bethesda, Maryland: University Publications of America, 1991), pp. xxviii–xxxviii.
- 49)___ “A Revolution in the Historiography of Mathematics?” in Donald Gillies (ed.), *Revolutions in Mathematics* (Oxford: Clarendon Press, 1992), pp. 306–16.
- 50)___ “William Herschel,” *Encyclopedia of Cosmology*, ed. by Norriss Hetherington (New York: Garland, 1993), pp. 268–9.
- 51)___ “John F. W. Herschel,” *Encyclopedia of Cosmology*, ed. by Norriss Hetherington (New York: Garland, 1993), pp. 269–73.

- 52)___ “Herschel’s Cosmology,” *Encyclopedia of Cosmology*, ed. by Norriss Hetherington (New York: Garland, 1993), pp. 273–6.
- 53)___ “William Herschel,” *Cosmology: Historical, Literary, Philosophical, Religious, and Scientific Perspectives*, ed. by Norriss Hetherington (New York: Garland, 1993), pp. 281–7. Reprinted from Hetherington’s *Encyclopedia of Cosmology*.
- 54)___ “The Extraterrestrial Life Debate and Nineteenth–Century Religion,” *Programma*, 18 (Jan., 1994), 10–17.
- 55)___ “John Herschel: Britain’s First Modern Physical Scientist” in Brian Warner (ed.), *John Herschel 1792–1992: Bicentennial Symposium* (Royal Society of South Africa, 1994), pp. 57–69.
- 56)___ “The John Herschel Correspondence Project” in Brian Warner (ed.), *John Herschel 1792–1992: Bicentennial Symposium* (Royal Society of South Africa, 1994), pp. 117–19.
- 57)___ “Bibliography of the Publications of Sir John F. W. Herschel” in Brian Warner (ed.), *John Herschel 1792–1992: Bicentennial Symposium* (Royal Society of South Africa, 1994), pp. 125–140.
- 58)___ “Alexander Herschel,” in *History of Astronomy: An Encyclopedia*, ed. by John Lankford (New York: Garland, 1997), 255.
- 59)___ “John F. W. Herschel,” in *History of Astronomy: An Encyclopedia*, ed. by John Lankford (New York: Garland, 1997), 256–7.
- 60)___ “William Herschel,” in *History of Astronomy: An Encyclopedia*, ed. by John Lankford (New York: Garland, 1997), 257–9.
- 61)___ “Extraterrestrial Intelligence,” in *History of Astronomy: An Encyclopedia*, ed. by John Lankford (New York: Garland, 1997), 207–9.
- 62)___ “Richard A. Proctor,” in *History of Astronomy: An Encyclopedia*, ed. by John Lankford (New York: Garland, 1997), 416–17.
- 63)___ “A History of the Extraterrestrial Life Debate,” *Zygon: Journal of Religion and Science*, 32 (June, 1997), 147–162.
- 64)___ “Sir John Herschel and the Leeds Astronomical Society,” *Journal of the British Astronomical Association*, 108 (Feb., 1998), 33–34.
- 65)___ “Review of] Sara Schechner Genuth, *Comets, Popular Culture, and the Birth of Modern Cosmology*,” *Physics Today*, 51 (Sept., 1998), 61.
- 66)___ “Pierre Duhem, the History and Philosophy of Physics, and the Teaching of Physics,” *Physics in Perspective*, 1 (1999), 54–64.
- 67)___ “The Plurality of Worlds and Extraterrestrial Life” in *History of Science and Religion in the Western Tradition: An Encyclopedia*, ed. by Gary Ferngren (New York: Garland, 2000), pp. 342–343.
- 68)___ and Matthew F. Dowd, “Archaeoastronomy and the History of Science,” *Archaeoastronomy: The Journal of Astronomy in Culture*, 14 (1999), 22–38.
- 69)___ “[Review of Steven Dick, *Life on Other Worlds: The Twentieth-Century Extraterrestrial Life Debate*; Robert Bartholomew and George Howard, *UFOs and Alien Contact: Two Centuries of Mystery*; Barry Parker, *Alien Life: The Search for Extraterrestrials and Beyond*,” *Isis*, 91 (2000), 395–397.
- 70)___ and Nicholas Ayo and Julia Marvin (editors), *Notre Dame’s Program of Liberal Studies: The First Fifty Years* (Notre Dame, IN, 2000), 40pp.
- 71)___ “The Program of Liberal Studies: 1967–73” in Nicholas Ayo, M. J. Crowe, and Julia Marvin (editors), *Notre Dame’s Program of Liberal Studies: The First Fifty Years* (Notre Dame, IN, 2000), 10–13. On the history of PLS while I was chair.
- 72)___ “[Review of] Thomas Hockey, *Galileo’s Planet: Observing Jupiter before Photography*,” *Journal for the History of Astronomy*, 31 (2000), 355–356.

- 73)___ “Astronomy and Religion (1780–1915): Four Case Studies Involving Ideas of Extraterrestrial Life,” *Osiris*, 2nd. ser., vol. 16 (2001), 209–26.
- 74)___ “Permanent versus Progressive Studies: Liberal Learning at Cambridge University according to William Whewell (1794–1866),” *Programma*, 14 (March, 2002), 24–27.
- 75)___ and Nicholas Ayo (editors), *Liberal Learning and the Great Books* (Proceedings of a conference celebrating the Program of Liberal Studies Fiftieth Anniversary), (Notre Dame, IN 2002), 40 pp.
- 76)___ “[Review of] Tom Standage, *The Neptune File*,” *Isis*, 93 (2002), 130–131.
- 77)___ “[Review of] Roger Hennessey, *Worlds Without End: The Historic Search for Extraterrestrial Life*,” *Isis*, 93 (2002), 101–102.
- 78)___ “[Review of] Scott Montgomery, *The Moon & the Western Imagination* (Tucson: Univ. of Arizona Press, 1999), *Earth Sciences History*, 20:1 (2001), 68–70.
- 79)___ “Extraterrestrials” in *Encyclopedia of Literature and Science*, ed. by Pamela Gossin (Westport, Conn.: Greenwood Press, 2002), p. 149.
- 80)___ “Plurality of Worlds” in *Encyclopedia of Literature and Science*, ed. by Pamela Gossin (Westport, Conn.: Greenwood Press, 2002), p. 344.
- 81)___ “Richard Anthony Proctor” in *Encyclopedia of Literature and Science*, ed. by Pamela Gossin (Westport, Conn.: Greenwood Press, 2002), p. 360.
- 82)___ “Why Study the History of Science?,” *Imagine: Opportunities and Resources for American Youths*, 10:1 (Sept./Oct., 2002), 10–11; abridged from my *History of Science: A Guide for the Undergraduate* (Worcester, Mass.: History of Science Society, 1991).
- 83)___ “[Review of] Denzler, Brenda. *The Lure of the Edge: Scientific Passions, Religious Beliefs, and the Pursuit of UFOs*,” *Isis*, 93 (2002), 764–5.
- 84)___ “Abraham et les petits hommes verts,” *Sciences et Avenir Hors-série* (Dec.2003/Jan. 2004), 49.
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- 92)___ “[Review of] Michael Hoskin, *The Herschels of Hanover*,” *Journal for the History of Astronomy*, 39 (2008), 405–406.
- 93)___ “Tribute to Professor Otto Bird,” *Programma*, 34 (2010), 23–24.
- 94)___ and Stephen Case, [Review of] Michael Hoskin. *Discoverers of the Universe: William and Caroline Herschel*,” *Isis*, 102:4 (Dec., 2011), 480–81.
- 95)___ “The Surprising History of Claims for Life on the Sun,” *Journal of Astronomical History and Heritage*, 14:3 (Nov., 2011), 169–179.

- 96) “[Review of] Ray Jayawardhana, *Strange New Worlds: The Search for Alien Planets and Life Beyond Our Solar System*,” *Journal for the History of Astronomy*, 43 (Feb., 2012), 125–26.
- 97) and Christopher Graney, “Life as We Know It,” *Notre Dame Magazine*, 41:3 (Autumn, 2012), 37–41.
- 98) and Matthew F. Dowd, “The Extraterrestrial Life Debate from Antiquity to 1900” in Douglas A. Vakoch (ed.), *Astrobiology, History, and Society: Life beyond Earth and the Impact of Discovery* (New York: Springer: 2013), pp. 3–56.
- 99) “History of the f_i Factor before 1961 in the Drake Equation” in Douglas Vakoch and Matthew F. Dowd (eds.), *The Drake Equation* (Cambridge: Cambridge University Press), 163–180.
- 100) “William Whewell, the Plurality of Worlds, and the Modern Solar System,” *Zygon: Journal of Religion and Science*, 50:2 (June, 2016), 431–49.
- 101) “Introduction” to “Online Bibliography Extraterrestrial Life Debate,” created and maintained by the University of Bern (Switzerland) Center for Space and Habitability. I supplied hundreds of references in the bibliography and wrote the “Introduction.” See http://www.lifebeyonourplanet.unibe.ch/publications/online_bibliography/index_eng.html
- 102) “William and John Herschel’s Quest for Extraterrestrial Intelligent Life,” which is in Clifford Cunningham (ed.), *Scientific Legacy of William Herschel* (Springer, 2018), 239–274.
- 103) “My Involvement with the Herschel,” which is in Clifford Cunningham (ed.), *Scientific Legacy of William Herschel* (Springer, 2018), xviii–xv.
- 104) “A New Interpretation of Conan Doyle’s Sherlock Holmes Stories,” in Mary Ann Bradley, Louise Haskett, and Melanie Hoffman (eds.), *70 Years of Gas Lamp: The Illustrious Clients’ Sixth Casebook* (Gasogene Books, Wessex Press, 2018), 100–137.
- 105) *The Gestalt Shift in Conan Doyle’s Sherlock Holmes Stories*, forthcoming in December 2018 from Palgrave Macmillan (New York and London).

Readers

Although definitely not published books, these book-length studies, written over the last twenty-five years, have been used as texts in courses in the Program of Liberal Studies and/or History and Philosophy of Science Graduate Program. Each contains a collection of classic texts along with introductions and extensive commentaries. The parts written by me typically make up about half the volume. My *Theories of the World from Antiquity to the Copernican Revolution* (Dover) originated as one of these as did my *Modern Theories of the Universe from Herschel to Hubble* (Dover) and *Mechanics from Aristotle to Einstein* (Green Lion).

- 1) *The Nature and Development of Mathematics*, ca. 176 pp..
- 2) *Theories of Light from Antiquity to Young and Fresnel*, ca. 160 pp.
- 3) *History of Theories of Heat and Thermodynamics*, ca. 160 pp.

Ministry

Crowe, M., “*It’s the Group That Does the Healing:*” *The Story over More than a Quarter Century of a Support Group for the Divorced and Widowed*. Self published booklet (41 pp.) on the history of the support group for divorced or widowed that I founded at Little Flower Catholic Church and led for one thousand meetings (1990–2009). Copy in Notre Dame Archives.

Doctoral Dissertations Directed

- 1976 Luis M. Laita, *The Genesis of Boolean Logic*.
- 1980 Barbara McGettrick Turpin, *The Discovery of the Electron: The Evolution of a Scientific Concept, 1800–1899*.

- 1998 Marvin P. Bolt, *John Herschel's Natural Philosophy: On the Knowing of Nature and the Nature of Knowing in Early-Nineteenth-Century Britain*.
- 2002 Steve Ruskin, *A "Private Adventure?" John Herschel's Cape Voyage and the Production of the Cape Results*.
- 2002 Sofie Lachapelle, *A World Outside Science: French Attitudes toward Mediumistic Phenomena, 1853–1931*. Co-directed by Thomas Kselman.
- 2004 Matthew F. Dowd, *Astronomy and Compositus at Oxford University in the Early Thirteenth Century: The Works of Robert Grosseteste*.
- 2015 Stephen Case, *Making Stars Physical: John Herschel's Stellar Astronomy 1816–71*

Some Campus Activities over the Years

Founding Chair of Notre Dame's Graduate Program in History and Philosophy of Science; Founder of Notre Dame's Biennial History of Astronomy Workshops, which every other year since 1993 have brought ca. sixty scholars in this area to Notre Dame for a three to four day conference; Academic and Faculty Affairs Subcommittee of the Board of Trustees; Academic Council (thrice); Arts and Letters College Council (many times); Faculty Committee on University Libraries (member and chair); Faculty Senate (two terms; served as: Treasurer; Chairman of Administrative Affairs Committee; Chairman of Subcommittee on Selection Procedures for Higher Administrative Positions; Chairman of Subcommittee on Faculty Development and Renewal); Graduate Council; Student Life Council; Arts and Letters Computing Committee (many years); numerous departmental committees; Co-Chair, Program of Liberal Studies 50th Anniversary Celebration (2000–2001).

Some Activities beyond the Campus

History of Science Society: Council 1973–5; Program Chair 1974; Chair, Committee on Program Priorities and Procedures 1975–6; Nominating Committee 1981–2; Chair, Watson Davis Prize Committee 1985–6; Committee on Education 1985–1991; Midwest History of Science Society: Program Co-Chair 1975 and 1988; President 1980–1; Council 1976–; Visiting Scholar, History and Philosophy of Science and St. Edmund's College, University of Cambridge, 1986–7; Founder in 1993 of the Biennial History of Astronomy Workshops, the Eleventh Meeting having been held in 2013. Served as co-chair or program chair for the first four meetings. Program Co-chair; Organizer: Conference at Notre Dame: "Perspectives on the Question of Extraterrestrial Intelligent Life," July 1, 1999. From 2010 to 2018 taught or co-taught a course on Sherlock Holmes for Forever Learning Institute, a senior center at Little Flower Church in Sought Bend.