

A Professional Genealogy[Ⓕ] of

David W. C. MacMillan

*presented
in commemoration of
The Tenth Anniversary
of the founding of the
MacMillan Research Group[Ⓕ]*

[Ⓕ] Compiled by Vera V. Mainz & Gregory S. Girolami, July 2008.

[Ⓕ] Presented by the Members of the MacMillan Research Group, July 26th 2008.

Introduction to the Chemical Genealogy Database[Ⓜ]

A professional genealogy is a tracing of one's intellectual line of descent, from student to teacher back through the decades. Many chemical genealogies have been generated over the years that have traced the lines of descent for individuals or for groups of individuals such as are found in chemistry departments.¹ The exercise of constructing such genealogies is a rewarding and informative experience.

In our view, however, previous genealogies share two common drawbacks: they lack consistency in the criteria used to construct the lines of descent and the sources of the information used to generate them are usually never stated. For example, whereas most people in previous chemical genealogies are traced to their PhD advisor, other people are traced to the most famous mentor the person worked with even if that connection was little more than perfunctory or occurred long after the younger person had already reached maturity as a scientist. A notable illustration of this tendency is the case of Liebig: his scientific progenitor is almost always taken to be the famous French chemist Gay-Lussac, but his actual PhD research advisor was a German chemist named Kastner, who greatly influenced Liebig's early development but who is usually never mentioned. To be sure, there are as many ways to assign lines of descent in an intellectual genealogy as there are people who build them, but if the lines are to have real meaning, the criteria used to make such decisions should be stated and should be consistently followed.

In the present Chemical Genealogy, we have tried to be consistent in our construction of the genealogical "family trees": our criterion for deciding scientific progenitors has been to choose the research advisor for the highest non-honorary degree. If a person did not receive a degree in a scientific field, we tried to identify the mentor or mentors who influenced him the most scientifically during his formative years (usually early twenties in age).

In addition to our attempts to construct a set of family trees based on well-defined criteria, we have also tried to trace the trees back as far as possible. This is an interesting exercise, because it illuminates the roots of our chemical profession in the medical, pharmaceutical, and philosophical doctrines of the 16th-17th centuries.

A further goal of this genealogical research was to generate more than the familiar tree showing the lines of descent. In particular, we wished to compile all the data used to build the tree and to make the data available in an easily searchable format. In addition, all the references used to decide the lines of descent, to derive the biographical information, and to construct the scientific summaries are listed in the database.

We hope that this database will serve as a reference source for others interested in constructing a chemical genealogy. It is particularly useful for this purpose because it includes complete citations to original biographical articles about the scientists included in the family trees.

[Ⓜ] by Vera V. Mainz & Gregory S. Girolami, 1998.

Compiling the Database

The starting points for the present Chemical Genealogy are the current faculty at the Department of Chemistry at the University of Illinois and nine other departments. These other schools include the University of California at Berkeley, the California Institute of Technology, the University of Chicago, Columbia University, Cornell University, Harvard University, the Massachusetts Institute of Technology, Stanford University, and the University of Wisconsin - Madison.

The process of tracing the connections can be summarized as follows:

- 1) Living persons were contacted and asked to specify the name(s) of their PhD research advisor and the date and place of their own degree. If the person received no PhD degree, then they were asked if they had an advisor for some other highest non-honorary degree. Similar information about the advisor was also solicited and used as the starting point tracing the line of descent to the previous "generation".
- 2) If the person was no longer living, biographical data was obtained from published obituaries and biographies, if available. Some of the more common resources used in compilation of the present database are given in references 2-102. For American chemists of the 20th century, we checked the current edition of *American Men & Women of Science* or the *American Chemical Society Directory of Graduate Research* to find out whether the person was listed. These are both good sources for living scientists or chemists, and both give current contact information for the person. The *Directory of Graduate Research*, which has been published every two years from 1953 to date, also lists the names of recent PhD graduates and their thesis titles. Note that there is no index to these dissertations or students, so possible advisors must be looked up to see whether the person being traced appears in the list of recent PhD students from that group. *American Men & Women of Science* (and its predecessor, *American Men of Science*) gives a cumulative career summary (education, work history) to the date of the listing. If the person was not listed in either of the current volumes, we checked the cumulative index for *American Men & Women of Science* to see if there was a listing in a previous edition.
- 3) For chemists active before 1950, we checked *J. C. Poggendorff's Biographisch-Literarisches Handwörterbuch zur Geschichte der Exacten Wissenschaften*. *Poggendorff's* contains biographical information for scientists throughout the world in all disciplines. It gives a comprehensive listing of a person's publications by journal, and lists biographies and obituaries about the person. NOTE: *Poggendorff's* lists many obituary and biographical references that are not indexed in *Chemical Abstracts*. Other references that were useful for finding information about chemists of all nationalities were references 3, 19, 33, 43, 46, 47, and 71. References 6 and 7 were particularly useful for American chemists, reference 32 for English chemists, references 4, 19, 29, 52, and 64 for German chemists, and references 17, 62, and 69 for French chemists.
- 4) If we could not find sufficient information in the above sources but suspected that the person was deceased, we checked the cumulative index of *Who Was Who In America* for a listing. We also checked under the Obituaries and Biographies headings in the Subject Index of *Chemical Abstracts* (either on-line or the old-fashioned way). Once a death date was available, we checked the appropriate yearly index of *Chem. Eng. News* under Obituaries or the person's name.
- 5) If published information could not be located (unfortunately, a common situation for 20th century scientists), we contacted and requested biographical information from the alumni relations office or chemistry department of the institution from which the person obtained his highest degree. Often,

biographical information can also be obtained from the BS granting institution or from the institution(s) where the person was employed.

6) To find information about the identity of a person's research advisor, we checked *Dissertation Abstracts*. For participating institutions (essentially all US universities except MIT and Harvard), this reference provides the following information about PhD recipients: the thesis title, subject area, date, and institution it was granted by. Since around 1990, the thesis advisor and a thesis abstract are also included. If the thesis title and date but not the name of the advisor was listed, we searched in the Author Index of *Chemical Abstracts* for the years around the thesis date for the person's name and looked for a paper with a title similar to that of the thesis. Checking this reference usually confirmed who the advisor was. If it was not obvious who the advisor was, or if there might be more than one, we either called the appropriate library of the institution and asked them to check the acknowledgment page of the thesis or requested a copy of that page through InterLibrary Loan.

7) Scientists who received their degrees before the founding of *Chemical Abstracts* (1906) and who are not listed in *Poggendorff's* can present special problems. The *Catalog of Papers Collected by the Royal Society of London*, which covers the years 1800-1900, lists the papers published in these years by scientists of all disciplines. It also includes references to obituaries for specific authors. We sometimes used the *Catalog* to find an author's earliest publications, and then consulted these publications to see if an advisor was mentioned. We know of no good single source of similar information covering the years 1901-1906 between the end of the *Catalog* and beginning of *Chemical Abstracts*, with the possible exception of *Chemisches Zentralblatt*.

The Family Trees

The drawings of the family trees were accomplished using the AutoCAD program on a PC. The main lines in each tree are the lines of "direct" descent, and these are indicated by solid lines. There are many cases, however, in which an individual was strongly influenced by someone other than the research advisor for the highest degree (e.g., a post-doctoral advisor). These connections are shown using dashed lines on the trees, and are usually noted in the comments for each database entry as a footnote.

Besides trees for individual faculty members (mostly at the Department of Chemistry of the University of Illinois), there are trees for the four main areas within the Department (analytical, inorganic, organic, and physical). In order to simplify the drawings, dashed connections were included only for those people who did not have direct connections. The tree for the entire Illinois Department of Chemistry was formed by combining the divisional trees. The individual, area, and departmental trees can be manipulated via AutoCAD to form new trees as desired.

Acknowledgment

We would like to thank the staff of the Library at the University of Illinois, especially Tina Chrzastowski, the Chemistry Library staff, and the Interlibrary Loan staff, for their invaluable assistance in locating many hard-to-find references.

References

- 1a) Bartow, V. *J. Chem. Ed.* 1939, 16, 236-238.
- 1b) McCarty, C. N. *J. Chem. Ed.* 1969, 46, 317-318.
- 1c) Graham, R. P. *J. Chem. Ed.* 1948, 71, 632-633.
- 1d) Stone, D. B.; Schweitzer, G. K. *Chemistry* 1976, 49(5), 10-11.
- 1e) Rocke, A. J.; Ihde, A. J. *J. Chem. Ed.* 1979, 56, 93-95.
- 1f) Miller, C.; Kauffman, G. B. *Chemistry Department Newsletter, California State University, Fresno* Summer 1984, 2(1), 23.
- 1g) Mainz, V. V.; Girolami, G. S. *A Database for the University of Illinois Chemical Genealogy; Privately published: 1992.*
- 2) *A Biographical Dictionary of Eminent Scotsmen*; Chambers, R., Ed.; Blackie & Son: 1854.
- 3) *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969.
- 4) *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint.
- 5) *American Chemical Society Directory of Graduate Research*; American Chemical Society: Volumes published every two years from 1953 to date.
- 6) *American Chemists and Chemical Engineers*; Miles, W. D., Ed.; American Chemical Society: 1976; vol. 1.
- 7) *American Chemists and Chemical Engineers*; Miles, W. D., Gould, R. F., Eds.; Gould Books: 1994; vol. 2.
- 8) *American Men of Science*; The Science Press: 1st Ed. - 1906, 2nd Ed. - 1910, 3rd Ed. - 1921, 4th Ed. - 1927, 5th Ed. - 1933, 6th Ed. - 1938, 7th Ed. - 1944, 8th Ed. - 1949, 9th Ed. - 1955.
- 9) *American Men & Women of Science (10th Ed.)*; Jacques Cattell Press, Inc.: 1960.
- 10) *American Men & Women of Science (11th Ed.)*; R. R. Bowker Co.: 1966.
- 11) *American Men & Women of Science (12th Ed.)*; Jacques Cattell Press/R. R. Bowker Co.: 1973.
- 12) *American Men & Women of Science (13th Ed.)*; R. R. Bowker Co.: 13th Ed. - 1976, 14th Ed. - 1979, 15th Ed. - 1982, 16th Ed. - 1986, 17th Ed. - 1989.
- 13) *An Eighteenth Century Lectureship in Chemistry*; Kent, A., Ed.; Jackson, Son & Co.: 1950.
- 14) Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982.
- 15) *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint.
- 16) *Biographie Nationale publiée par L'Académie Royale des Sciences, des Lettres et des Beaux-Arts de Belgique*; Établissements Émile Bruylant: 1866-1986.
- 17) *Biographie Universelle*; Chez Michaud Freres, Imprim.-Libraires: 1811-1827.
- 18) *Biographisch Woordenboek der Nederlanden*; J. J. van Brederode: 1852-1878.
- 19) *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962.
- 20) *Biographisches Lexikon zur Geschichte der Böhmischen Länder*; R. Oldenbourg: 1979-1989.
- 21) *Biographiskt Lexicon öfver Namnkunnige Svenska Män*; Leffler & Sebell: 1835-1857.
- 22) *British Chemists*; Findlay, A., and Mills, W. H., Eds.; The Chemical Society: 1947.
- 23) Campbell, E. D. *History of the Chemical Laboratory of the University of Michigan 1856-1916*; Michigan University Press: 1916.
- 24) Campbell, W. A.; Greenwood, N. N. *Contemporary British Chemists*; Taylor & Francis: 1971.
- 25) Cap, P. A. *Etudes Biographiques pour servir a l'Histoire des Sciences*; Masson et Fils: 1857-1864.
- 26) Chittenden, R. J. *History of the Sheffield Scientific School of Yale University 1846-1922*; Yale Univ. Press: 1928.
- 27) Cuvier, G. *Eloges Historiques*; E. Ducrocq: 1834.
- 28) *Dansk Biogradisk Leksikon*; Glydendalske Boghandel, Nordisk Forlag A/S: 1979-1984.
- 29) *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1929-1930.
- 30) *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822.
- 31) *Dictionary of American Biography*; Malone, D., Ed.; Charles Scribner's Sons: 1936.
- 32) *Dictionary of National Biography*; Smith, Elder & Co.: 1908-1986.
- 33) *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990.
- 34) *Dictionary of South African Biography*; Beyers, C. J., Ed.; Human Sciences Research Council: 1968-1987.
- 35) *Dictionnaire de Biographie Francaise*; Librairie Letouzey et Ane: 1933-1989.
- 36) *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839.
- 37) *Dictionnaire Historique et Biographique de la Suisse*; Neuchatel Administration du Historique et Biographique de la Suisse: 1921-1933.
- 38) *Dizionario Biografico degli Italiani*; Istituto della Enciclopedia Italiana: 1960-1998.
- 39) Dumas, J. B. *Discours et Eloges Academiques*; Gauthier-Villars: 1885; vol. 1 and vol. 2.
- 40) Elliott, C. A. *Biographical Dictionary of American Science*; Greenwood Press: 1979.
- 41) *Encyclopedia of American Biography (New Series)*; American Historical Company, Inc.: 1942.
- 42) Farber, E. *Nobel Prize Winners in Chemistry 1901-1961*; rev. ed.; Abelard-Schuman: 1963.

- 43) Ferchl-Mittenwald, F. *Chemisch-Pharmazeutisches Bio- und Bibliographikon*; Arthur Nemayer: 1937.
- 44) Figuier, L. *Vies des Savants Illustres*; Hachette & Co.: 1876-1879.
- 45) Fontenelle, B. *Eloges des Academiciens avec l'histoire de l'Academie Royale des Sciences en 1699*; I. van der Kloot: 1740; vol. 1.
- 46) Fruton, J. S. *A Bio-Bibliography for the History of the Biochemical Sciences since 1800*; American Philosophical Society: 1982.
- 47) Fruton, J. S. *A Bio-Bibliography for the History of the Biochemical Sciences since 1800 Supplement*; American Philosophical Society: 1986.
- 48) *Grande Encyclopédie Inventaire Raisonné des Sciences, des Lettres et des Arts par une Société de Savants et de Gens de Lettres*; Berthelot, C., Ed.; Société Anonyme de la Grande Encyclopédie: 1886-1902.
- 49) *Great Chemists*; Farber, E., Ed.; Interscience: 1961.
- 50) *Great Soviet Encyclopedia (3rd Ed.)*; Macmillan: 1973-1983.
- 51) Hinsdale, B. A. *History of the University of Michigan*; Demmon, I. N., Ed.; Michigan University Press: 1906.
- 52) Hufbauer, K. *The Formation of the German Chemical Community (1720-1795)*; University of California Press: 1982.
- 53) *J. C. Poggendorff's Biographisch-Literarisches Handwörterbuch zur Geschichte der Exacten Wissenschaften*; Johann Ambrosius Barth: 1863-1904; vol. 1-4; Verlag Chemie: 1926-1940; vol. 5-6; Akademie Chemie: 1956-1996; vol. 7A-7B.
- 54) Jaffe, B. *Crucibles*; Tudor Publ. Co.: 1930.
- 55) *Jöcher's Allgemeine Gelehrten Lexicon*; Johann Friedrich Gleditschen: 1750-1787; vol. 1-4, vol. 1-2(suppl.); Georg Jöntzen: 1810-1813; vol. 3-4(suppl.); Johann Georg Heyfe: 1816-1819; vol. 5-6(suppl.); Georg Olms: 1961; vol. 7(suppl.).
- 56) Jolly, W. L. *From Retorts to Lasers*; University of California: 1987.
- 57) *Macmillan Dictionary of Canadian Biography*; Wallace, W. S., Ed.; McKay, W. A., rev.; Macmillan of Canada: 1978; p480.
- 58) Mangin, A. *Les Savants Illustres de la France*; Ducrocq: 1865.
- 59) *McGraw-Hill Modern Men of Science*; McGraw-Hill: 1966.
- 60) *McGraw-Hill Modern Scientists and Engineers*; McGraw-Hill: 1980.
- 61) McGrayne, S. B. *Nobel Prize Women in Science .. Their Lives, Struggles, and Momentous Discoveries*; Birch Lane Press: 1993.
- 62) *Michaud Biographie Universelle (2nd Ed.)*; Delagrabe: 1843-1865.
- 63) *National Cyclopaedia of American Biography*; James T. White & Co.: 1921-1984.
- 64) *Neue Deutsche Biographie*; Duncker & Humblot: 1953-1998.
- 65) *Nieuw Nederlandsch Biografisch Woordenboek*; A. W. Sijthoff's Uitgevers-Maatschappij: 1911-1937.
- 66) *Nobel Laureates in Chemistry 1901-1992*; James, L. K., Ed.; American Chemical Society: 1993.
- 68) *Norsk Biografisk Leksikon*; H. Aschehoug: 1954.
- 69) *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866.
- 70) *Österreichisches Biographisches Lexikon 1815-1950*; Hermann Boehlaus Nachf.: 1957-1991.
- 71) Partington, J. R. *A History of Chemistry*; Macmillan: 1961-1964.
- 72) Prandtl, W. *Deutsche Chemiker in der Ersten Hälfte des Neunzehnten Jahrhunderts*; Verlag Chemie: 1956.
- 73) *Les Prix Nobel*; P. A. Norstedt & Soener.
- 74) *Prominent Personalities in the USSR*; Crowley, E. L.; Lebel, A. I.; Schulz, H. E., Eds.; Scarecrow Press: 1968.
- 75) *Prominent Scientists of Continental Europe*; Turkevich, J.; Turkevich, L. B., Eds.; American Elsevier: 1968.
- 76) Pütter, J. S. *Versuch einer akademischen Gelehrten-Geschichte von Georg-Augustus-Universität zu Göttingen*; Vandenhoeck-Ruprechtisch: 1765-1788; vol. 1-2; Saalfeld, F.; Hannover: 1820; vol. 3.
- 77) Rothsuh, K. E. *History of Physiology*; Risse, G. B., transl.; Krieger Publ. Co.: 1973.
- 78) Schiffner, C. *Aus dem Leben alter Freiburger Bergstudenten*; Ernst Mauckisch: 1935.
- 79) *Science, Medicine and History*; Underwood, E. A., Ed.; Oxford University Press: 1953.
- 80) *Selected Readings in the History of Physiology (2nd Ed.)*; Fulton, J. F.; Wilson, L. G., Eds.; Charles C. Thomas: 1966.
- 81) Servos, J. W. *Physical Chemistry from Ostwald to Pauling The Making of a Science in America*; Princeton University Press: 1990.
- 82) Seymour, R. B.; Fisher, C. H. *Profiles of Eminent American Chemists*; Litarran Enterprises Pty. Ltd.: 1988.
- 83) Sigerist, H. E. *The Great Doctors*; Paul, E.; Paul, C., transl.; W. W. Norton & Co.: 1933.
- 84) Stirling, W. *Some Apostles of Physiology*; Waterlow & Sons: 1902.
- 85) Struthers, J. *Historical Sketch of the Edinburgh Anatomical School*; Maclachlan and Stewart: 1867.
- 86) *Svenskt Biografiskt Lexikon*; Albert Bonniers: 1918-1985.
- 87) *Swedish Men of Science 1650-1950*; Lindroth, S., Ed.; Almqvist & Wiksell: 1952.
- 88) *The Development of Harvard University*; Morison, S. E., Ed.; Harvard University Press: 1930.

- 89) *The Harvard Book*; Vaille, F. O.; Clark, H. A., Eds.; Welch, Bigelow & Co.: 1875.
- 90) *The International Who's Who*; Europa Publications Ltd.: 1982.
- 91) *The New Encyclopaedia Britannica Micropaedia*; Encyclopaedia Britannica Inc.: 1989.
- 92) Thomson, T. *History of Chemistry*; H. Colburn & R. Bentley: 1830-1831.
- 93) Thorndike, L. *A History of Magic and Experimental Science*; History of Science Society Publications: 1941.
- 94) Thorpe, E. *Essays in Historical Chemistry*; Macmillan: 1923.
- 95) Tilden, W. A. *Famous Chemists*; Routledge & Sons: 1921.
- 96) University of California *In Memoriam*; University of California Press.
- 97) Weeks, M. E. *Discovery of the Elements (7th Ed.)*; Leicester, H. M., Ed.; J. Chem. Ed.: 1968.
- 98) *Who Was Who In America*; A. N. Marquis Co.: Historical Volume (1607-1896) - 1967; vol. 1 (1897-1942) - 1967; vol. 2 (1943 - 1950) - 1950; vol. 3 (1951-1960) - 1963; vol. 4 (1961-1968) - 1968; vol. 5 (1969-1973) - 1973; vol. 6 (1974-1976) - 1976; vol. 7 (1977-1981) - 1981; vol. 8 (1982-1985) - 1985; vol. 9 (1985-1989) - 1989; vol. 10 (1989-1993) - 1993.
- 99) *Who's Who in Science in Europe (4th Ed.)*; Longman: 1984.
- 100) *Who's Who in Science in Europe (6th Ed.)*; Longman: 1989.
- 81) Servos, J. W. *Physical Chemistry from Ostwald to Pauling The Making of a Science in America*; Princeton University Press: 1990.
- 82) Seymour, R. B.; Fisher, C. H. *Profiles of Eminent American Chemists*; Litarran Enterprises Pty. Ltd.: 1988.
- 83) Sigerist, H. E. *The Great Doctors*; Paul, E.; Paul, C., transl.; W. W. Norton & Co.: 1933.
- 84) Stirling, W. *Some Apostles of Physiology*; Waterlow & Sons: 1902.
- 85) Struthers, J. *Historical Sketch of the Edinburgh Anatomical School*; Maclachlan and Stewart: 1867.
- 86) *Svenskt Biografiskt Lexikon*; Albert Bonniers: 1918-1985.
- 87) *Swedish Men of Science 1650-1950*; Lindroth, S., Ed.; Almqvist & Wiksell: 1952.
- 88) *The Development of Harvard University*; Morison, S. E., Ed.; Harvard University Press: 1930.
- 89) *The Harvard Book*; Vaille, F. O.; Clark, H. A., Eds.; Welch, Bigelow & Co.: 1875.
- 90) *The International Who's Who*; Europa Publications Ltd.: 1982.
- 91) *The New Encyclopaedia Britannica Micropaedia*; Encyclopaedia Britannica Inc.: 1989.
- 92) Thomson, T. *History of Chemistry*; H. Colburn & R. Bentley: 1830-1831.
- 93) Thorndike, L. *A History of Magic and Experimental Science*; History of Science Society Publications: 1941.
- 94) Thorpe, E. *Essays in Historical Chemistry*; Macmillan: 1923.
- 95) Tilden, W. A. *Famous Chemists*; Routledge & Sons: 1921.
- 96) University of California *In Memoriam*; University of California Press.
- 97) Weeks, M. E. *Discovery of the Elements (7th Ed.)*; Leicester, H. M., Ed.; J. Chem. Ed.: 1968.
- 98) *Who Was Who In America*; A. N. Marquis Co.: Historical Volume (1607-1896) - 1967; vol. 1 (1897-1942) - 1967; vol. 2 (1943 - 1950) - 1950; vol. 3 (1951-1960) - 1963; vol. 4 (1961-1968) - 1968; vol. 5 (1969-1973) - 1973; vol. 6 (1974-1976) - 1976; vol. 7 (1977-1981) - 1981; vol. 8 (1982-1985) - 1985; vol. 9 (1985-1989) - 1989; vol. 10 (1989-1993) - 1993.
- 99) *Who's Who in Science in Europe (4th Ed.)*; Longman: 1984.
- 100) *Who's Who in Science in Europe (6th Ed.)*; Longman: 1989.
- 101) *Who's Who in World Jewry*; Karpman, I. J. Carmin, Ed.; Olive Books of Israel: 1978.
- 102) *World Who's Who In Science*; Debus, A. G., Ed.; Marquis-Who's Who Inc.: 1968.

Biographical Information

Afzelius, Johann

1753 - 1837

DEGREE: MS

DATE: 1776

PLACE: Uppsala

TEACHER/RESEARCH ADVISOR: Bergman, T. O.

did mineral analyses (e.g., barium selenite); isolated formic acid from ants and showed it was different from acetic acid; studied chemistry of nickel and oxalic acid; teacher.

1. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p200.
2. *Svenskt Biografiskt Lexikon*; Albert Bonniers: 1918-1985; vol. 1, p218-224.

Allen, John

1771 - 1843

DEGREE: MD

DATE: 1791

PLACE: Edinburgh

TEACHER/RESEARCH ADVISOR: Arnot

physician, lecturer, historian; translated Cuvier's "Introduction to the Study of Animal Economy"; wrote books on Spanish history, English royalty, and Scottish independence.

1. *Dictionary of National Biography*; Smith, Elder & Co.: 1908-1986; vol. 1, p309-310.

Baldinger, Ernst Gottfried

1738 - 1804

DEGREE: MD

DATE: 1760

PLACE: Jena

TEACHER/RESEARCH ADVISOR: Mangold

professor of medicine; founded a chemical laboratory at Marburg; established in 1775 first specialized scientific journal published in any language, *Magazine fur Ärzte*; wrote text on medical ailments of soldiers based on his experiences as a surgeon in the Seven Years' War.

1. *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint; vol. 2, p4-5.
2. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 1, p300-301.
3. *Neue Deutsche Biographie*; Duncker & Humblot: 1953-1990; vol. 1, p550-551.
4. *Sudhoff's Archiv Gesch. Med. Naturwiss.* **1958**, 42, 312-318.
5. *Z. Bücherfreunde* **1913-14**, 5(part2), 264-265.
6. See *Beitrage Geschichte Univ. Erfurt* **1960**, 7, 67 for confirmation of thesis advisor.
7. *Medical Life* **1924**, 31, 97-103.
8. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p631-634.
9. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 1, p517-522.
10. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 1, p256-259.

Bergman, Tobern Olof

1735 - 1784

DEGREE: PhD (mathematics) DATE: 1758
TEACHER/RESEARCH ADVISOR: Ferrner

PLACE: Uppsala

introduced binomial nomenclature for salts; started new classification of minerals based upon chemical composition; wrote book on blow pipe analysis; founded quantitative inorganic analysis and developed quantitative methods to determine Ca, Pb, and sulfuric acid; introduced idea of constant combining proportions; studied chemistry of alum; drew up comprehensive tables of chemical affinities; discovered pyroelectric effect in tourmaline crystals; studied silicic acid solutions, zeolites, and hydrothermal recrystallization of quartz.

1. *Swedish Men of Science 1650-1950*; Lindroth, E., Ed.; Almqvist & Wiksell: 1952; p131-140.
2. *J. Chem. Ed.* **1940**, *17*, 555-562.
3. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p207.
4. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p179-199.
5. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 2, p4-8.
6. *Crells Ann. Chem.* **1787**, *7*, 74-96.
7. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p49.
8. *Svenkst Biografiskt Lexikon*; Albert Bonniers: 1918-1985; vol. 3, p591-605.
9. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p607.
10. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 2, p170-176.
11. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 1, p356-357.

Berthier, Pierre

1782 - 1861

DEGREE: Ing. Ordinaire DATE: 1805
TEACHER/RESEARCH ADVISOR: Schreiber

PLACE: Ecole des Mines

discovered bauxite; analyzed many minerals, esp. feldspars, nickel arsenates, and kaolin (a basic copper sulfate); prepared alloys of iron and chromium and recommended chrome steel for sword blades and cutlery; described a method for refining nickel from its ores; studied manganese and nickel oxides; described the preparation of H₂S from metal sulfides plus acid; studied beryllium, lithium, and zirconium silicates; wrote a widely-quoted textbook on assaying and chemical metallurgy.

FOOTNOTE: Berthier probably acquired his knowledge of methods of chemical analysis from Berthollet, under whom Berthier studied from 1798-1801 at the Ecole Polytechnique in Paris.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 2, p72.
2. Lajeunesse, R. S. *Grands Mineurs Française*; Dunod: 1948; p82-89.
3. *Dictionnaire de Biographie Française*; Libraire Letouzey et Ane: 1933-1989; vol. 6, col 218.
4. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p97-98.
5. Ferchl-Mittenwald, F. *Chemisch-Pharmazeutisches Bio- und Bibliographikon*; Arthur Nemayer: 1937; p40.

Berthollet, Claude Louis

1748 - 1822

DEGREE: MD DATE: 1778
TEACHER/RESEARCH ADVISOR: Bucquet/Macquer

PLACE: Paris

determined composition of NH₃, HCN, H₂S; the latter two compounds disproved Lavoisier's contention that oxygen was the key component of acids; introduced aqueous chlorine as a bleaching agent; one of the originators of volumetric analysis; showed presence of nitrogen in animal matter; discovered cyanogen chloride and potassium chlorate; co-founded modern chemical nomenclature.

FOOTNOTE: Berthollet also received an MD degree in Turin in 1770. While in Paris between 1772 and 1780, Berthollet submitted four theses for his doctorate in medicine; the theses were presided over by four different professors. Berthollet's first publications (in 1776) were of a chemical nature, and were inspired by lectures given by Bucquet and Macquer that Berthollet attended while pursuing his degree.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 2, p73-82.
2. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p233-234.
3. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p496-516.
4. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p315-324.
5. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p54-55.
6. *J. Chem. Ed.* **1946**, 23, 158-165.
7. *Chem. Ind. (London)* **1944**, 22, 99-102.
8. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p730-731.
9. *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1929; vol. 1, p342-349.
10. Cuvier, G. *Eloges Historiques*; E. Ducrocq: 1834; p285-319.
11. Sadoun-Goupil, M. *Le Chimiste C. L. Berthollet*; Librairie Philosophique J. Vrin: 1977.
12. Mangin, A. *Les Savants Illustres de la France*; Ducrocq: 1865; p273-289.
13. *Annals Phil.* **1825**, 9, 1-18, 81-96, and 161-185.
14. Thomson, T. *History of Chemistry*; H. Colburn & R. Bentley: 1830-1831; vol. 2, p141-165.
15. *Mem. l'Acad. Roy. Sci. l'Inst. France* **1829**, 8, clxxix-ccx.
16. *The Chemist* **1825**, 2, 250-252, 258-261, 329-332, 345-348, 362-363, 380-384, and 393-396.

Berzelius, Jons Jacob

1779 - 1848

DEGREE: MD

DATE: 1802

PLACE: Uppsala

TEACHER/RESEARCH ADVISOR: Afzelius

discovered Ce, Se, Si, and Th; first used the term "organic chemistry" and published first independent treatment of organic chemistry in 1827; first to electrolyze salts; invented series of electronegativities; suggested modern symbols for elements and invented modern chemical formulas; proposed words: isomerism, allotropy, catalysis, protein, polymer, halogen, and electronegative; proved law of definite proportions; generated first accurate list of atomic weights; invented the mercury cathode; discovered ammonium amalgam and pyruvic acid; studied chemistry of silicic acid; extensively investigated fluorides of many elements; analyzed meteorites and concluded they were of extraterrestrial origin.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 2, p90-97.
2. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p385-402.
3. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p288-289.
4. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p142-177.
5. Jaffe, B. *Crucibles*; Tudor Publ. Co.: 1930; p136-156.
6. Weeks, M. E. *Discovery of the Elements (7th Ed.)*; Leicester, H. M., Ed.; J. Chem. Ed.: 1968; p305-317.
7. *Swedish Men of Science 1650-1950*; Lindroth, E., Ed.; Almqvist & Wiksell: 1952; p160-171.
8. Tilden, W. A. *Famous Chemists*; Routledge & Sons: 1921; p131-151.

9. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p55-56.
10. *Chem. Ind. (London)* **1948**, 474-476.
11. *Am. J. Sci.* **1853**, *16*, 1-15, 173-186, 309-313, and **1854**, *17*, 103-113.
12. *Am. J. Sci.* **1848**, *6*, 448-451.
13. *Acta Chem. Scand.* **1948**, *2*, 539.
14. *Z. Angew. Chem.* **1930**, *43*, 325-329, 351-354, and 366-370.
15. *J. Chem. Ed.* **1948**, *25*, 500-505.
16. *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1929; vol. 1, p428-449.
17. Berzelius, J. J. *J. J. Berzelius Selbstbiographische Aufzeichnungen*; Soderbaum, H. G., Ed.; H. G. Soderbaum: 1903.
18. Soderbaum, H. G. *Jac. Berzelius, Levnadsteckning*; Almqvist & Wiksells: 1929-31.
19. Jorpes, J. E. *Jac. Berzelius. His Life and Work*; University of California Press: 1970.

Brasavola, Antonio Musa

1500 - 1555

DEGREE: MD/PhD

DATE: 1520

PLACE: Ferrara

TEACHER/RESEARCH ADVISOR: Lonigo

physician to Francis I of France, Kaiser Charles V of Germany, King Henry VIII of England, and Popes Paul III, Leo X, Clemens VII, and Julius III; introduced the use of many plants for medical purposes; published a summary of Galen's writings; organized the famous botanical gardens of Belvedere.

1. *Dizionario Biografico degli Italiani*; Istituto della Enciclopedia Italiana: 1960-1991; vol. 14, p51-52.
2. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 1, p680.
3. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 1, p197-198.
4. Thorndike, L. *A History of Magic and Experimental Science*; History of Science Society Publications: 1941; vol. 5, p445-471.
5. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 2, p511-512.
6. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 1, p507-508.

Brucaeus, Henricus

1531 - 1593

DEGREE: none

DATE: 1550 ca.

PLACE: College Royal, Paris

TEACHER/RESEARCH ADVISOR: Ramus

professor of mathematics and medicine; wrote texts on the plague, scurvy, and the mathematics of spheres and motion.

FOOTNOTE: Brucaeus received an honorary MD degree in Bologna in about 1560.

1. *Biographie Nationale de Belgique*; Emile Bruylant: 1866-1986; vol. 3-4, p105.
2. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 1, p727.
3. *Michaud Biographie Universelle (2nd Ed.)*; Delagrave: 1843-1865; vol. 5, p661.
4. *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint; vol. 3, p374-375.
5. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 7, col 559-560.
6. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 1, p283.
7. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 3, p10.

Bucquet, Jean Baptiste Michel

1746 - 1780

DEGREE: MD

DATE: 1770

PLACE: Paris

TEACHER/RESEARCH ADVISOR: Rouelle

analyzed zeolite; first to teach Lavoisier's theories in France; collaborator with Lavoisier from 1777; first detailed accounts on plant chemistry; showed CO₂ was acidic; analyzed opium; discovered morphine; studied chemistry of NH₄Cl and arsenic salts; analyzed blood and isolated fibrin.

FOOTNOTE: While Lavoisier had no students per se, Bucquet and Lavoisier collaborated early in both their careers. Lavoisier's ideas had a major impact on Bucquet and vice versa.

1. *Ambix* **1966**, 13, 74-83.
2. *Ambix* **1989**, 36, 5-13.
3. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 2, p572-573.
4. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p103-104.
5. *Michaud Biographie Universelle (2nd Ed.)*; Delagrabe: 1843-1865; vol. 6, p107.
6. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 7, col 714-715.
7. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p707-708.
8. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 3, p39-41.
9. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 1, p553-554.

Camerarius, Elias Rudolph, Jr.

1673 - 1734

DEGREE: MD

DATE: 1691

PLACE: Tübingen

TEACHER/RESEARCH ADVISOR: Camerarius, E., Sr.

professor of medicine; wrote a history of the epidemic fever; proposed a new system of physiology; despite great scholarship and his skepticism of the work of others, Camerarius was an exceptionally credulous man who devoted himself zealously to mysticism and the secret arts - he opposed innovation and progress and was especially hostile to the iatrophysical methods then being developed for the treatment of disease.

1. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p177-178.
2. *Michaud Biographie Universelle (2nd Ed.)*; Delagrabe: 1843-1865; vol. 6, p474-475.
3. *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint; vol. 3, p719.
4. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 1, p809.
5. Haller, A. *Bibliotheca Medicina Practicae*; J. Schweighauser: 1776-1788; vol. 4, p92-96.

Camerarius, Elias Rudolph, Sr.

1641 - 1695

DEGREE: MD

DATE: 1663

PLACE: Tübingen

TEACHER/RESEARCH ADVISOR:

professor of medicine; wrote books on the palpitations of the heart, pleurisy, skull fractures, and the use of medicinal plants.

1. *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint; vol. 3, p719.
2. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 1, p808.
3. *Michaud Biographie Universelle (2nd Ed.)*; Delagrabe: 1843-1865; vol. 6, p474.

Casseri, Giulio Cesare 1552 - 1616

DEGREE: MD DATE: 1580 PLACE: Padua
TEACHER/RESEARCH ADVISOR: Fabrici

professor of surgery and anatomy; gave first detailed descriptions of the organs of speech and hearing, esp. of the tympanic nerve and its relation to the hammer and stirrup bones of the ear; published text containing extensive anatomical tables.

1. *Dizionario Biografico degli Italiani*; Istituto della Enciclopedia Italiana: 1960-1991; vol. 21, p453-456.
2. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 1, p849-850.
3. *The New Encyclopaedia Britannica Micropaedia*; Encyclopaedia Britannica Inc.: 1989; vol. 2, p925.
4. Sterzi, G. *Giulio Casseri Anatomico e Chirurgo*; Istituto veneto di arti grafiche: 1909.
5. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 3, p176-177.
6. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 1, p642-644.
7. Portal, A. *Histoire de l'Anatomie et de la Chirurgie*; Firmin, Didot Freres: 1770-1773; vol. 2, p229-236.

Charpentier, Johann Friedrich Wilhelm de 1738 - 1805

DEGREE: DATE: 1766 ca. PLACE: Leipzig
TEACHER/RESEARCH ADVISOR:

professor of mathematics; wrote a mineralogical geography of Saxony; built the amalgam works in Freiberg.

1. *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint; vol. 4, p105-107.
2. *Neue Deutsche Biographie*; Duncker & Humblot: 1953-1990; vol. 3, p193.
3. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 10, col 5.
4. Ferchl-Mittenwald, F. *Chemisch-Pharmazeutisches Bio- und Bibliographikon*; Arthur Nemayer: 1937; p92.
5. *Z. Deut. Geol. Gesellsch.* **1943**, 95, 154.

Conant, James Bryant 1893 - 1978

DEGREE: PhD DATE: 1916 PLACE: Harvard
TEACHER/RESEARCH ADVISOR: Kohler/Richards

investigated mechanism of mustard gas synthesis and S_N2 reactions; discovered presence of copper in hemocyanin and showed that the prosthetic group was non-porphyrinic but contains sulfur; deduced that chlorophyll is a reduced porphyrin ring; showed that hemoglobin contains Fe(II) and methemoglobin contains Fe(III); pioneered study of superacid solutions; studied high pressure polymerization of olefins; first to clearly distinguish kinetic and thermodynamic controls and the relationship between equilibrium constants and reaction rates; determined pK_a 's of weak acids such as cyclopentadiene; synthesized di-tert-butyl-tetraphenylethane; ambassador to post-war Germany; critic of American educational system.

FOOTNOTE: Conant obtained a double PhD thesis: two years at "half-time" with Kohler and one year at full-time with Richards.

1. *Biog. Mem. Nat. Acad. Sci.* **1983**, 54, 90-124.

2. *Org. Synth.* **1978**, 58, vii-xi.
3. *Chem. Brit.* **1979**, 251-252.
4. *Nature* **1978**, 273, 793-795.
5. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 17, p175-178.
6. *J. Chem. Ed.* **1972**, 49, 411-412.
7. *Biog. Mem. Fell. Roy. Soc.* **1979**, 25, 209-232.
8. Conant, J. B. *My Several Lives*; Harper & Row: 1970.

Cooke, Josiah Parsons

1827 - 1894

DEGREE: AB

DATE: 1848

PLACE: Harvard

TEACHER/RESEARCH ADVISOR: none

established Harvard chemistry department and introduced first laboratory instruction in an American university; measured atomic weights of Sb, H, and O; studied iodides of antimony; his ideas on the numerical relationships between atomic weights and the properties of the elements foreshadowed the periodic table; studied the crystallography of minerals, esp. vermiculite and other silicates.

FOOTNOTE: Cooke attended Silliman's lectures at the age of 16, but received no formal education in chemistry. Shortly after he received his AB degree from Harvard and was appointed Professor of Chemistry, Cooke travelled to Europe to buy chemicals and equipment, and attended lectures given by Dumas and Regnault while in Paris. Although Cooke called Silliman "my only instructor in chemistry", he felt he learned much of his chemical philosophy while in Europe.

1. *Proc. Am. Acad. Arts Sci.* **1895**, 30, 513-543.
2. *Biog. Mem. Nat. Acad. Sci.* **1902**, 4, 175-183.
3. Elliott, C. A. *Biographical Dictionary of American Science*; Greenwood Press: 1979; p61-62.
4. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 3, p397-398.
5. *Dictionary of American Biography*; Malone, D., Ed.; Charles Scribner's Sons: 1936; vol. 4, p387-388.
6. *Pop. Sci. Monthly* **1877**, 10, 491-495.
7. *American Chemists and Chemical Engineers*; Miles, W. D., Ed.; American Chemical Society: 1976; p91-92.
8. *Am. J. Sci.* **1894**, 48, 353-354.
9. *Am. Chem. J.* **1894**, 16, 566-568.
10. *Sci. Am.* **1887**, 57, 377.
11. *National Cyclopaedia of American Biography*; James T. White & Co.: 1921-1984; vol. 2, p12.
12. *The Development of Harvard University*; Morison, S. E., Ed.; Harvard University Press: 1930; p258-276.

De La Rive, Charles Gaspard

1770 - 1834

DEGREE: MD

DATE: 1797

PLACE: Edinburgh

TEACHER/RESEARCH ADVISOR: Allen

teacher; early supporter of Davy's views on electrochemistry, Dalton's atomic theory, and Berzelius's theory of definite proportions; studied sound produced by a jet of hydrogen burning in a tube; invented a new galvanometer based on the electrolytic decomposition of water; followed his teacher Allen in attributing animal heat to the combustion in the blood of food particles; invented a qualitative test for the presence of arsenic.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 8, p37-39.
2. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p157-158.
3. *Smithsonian Inst. Report* **1874**, 29, 184-205.

4. *Mem. l'Acad. Sci. l'Inst. Fr.* **1876**, 40, ix-lix.
5. *Michaud Biographie Universelle (2nd Ed.)*; Delagrave: 1843-1865; vol. 23, p264-265.
6. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 29, col 603-606.
7. *Bibliothèque Universelle Sci. Belles-Lettres Arts* **1834**, 55, 303-338.
8. Dumas, J. B. *Discours et Eloges Academiques*; Gauthier-Villars: 1885; vol. 1, p250-314.

Duhre, Anders Gabriel 1680 - 1739

DEGREE: none DATE: 1711 ca. PLACE: Uppsala
TEACHER/RESEARCH ADVISOR: Elvius

popularized teaching classes in Swedish; wrote one of the first textbooks on algebra in Swedish.

1. *Svenkst Biografiskt Lexikon*; Albert Bonniers: 1918-1985; vol. 11, p506-510.

Dumas, Jean Baptiste André 1800 - 1884

DEGREE: none DATE: 1823 ca. PLACE: Geneva
TEACHER/RESEARCH ADVISOR: LeRoyer/De La Rive

established presence of iodine in marine sponges; devised tincture of iodine; recognized function of kidneys in the elimination of urea; discovered methanol; isolated anthracene; analyzed camphor and menthol; analyzed CHCl_3 and extensively studied replacement of hydrogen by chlorine in organic compounds; developed theory of chemical substitution and concept of homologous series; devised first practical method for determining nitrogen in organic compounds; discovered dehydration of amides to nitriles.

FOOTNOTE: In Geneva, Dumas studied pharmacy in LeRoyer's laboratory and listened to chemistry lectures by De La Rive. Although his chemical research during this period was apparently carried out independently, it was to De La Rive that Dumas turned for advice. In 1820, Dumas published researches on iodine as a remedy for goiter with LeRoyer. From 1821 to 1823, Dumas collaborated with J. L. Prévost on a series of physiological investigations. In 1823, Dumas went to Paris and shortly thereafter was named professor at the Athenaeum.

1. *Nature* **1880**, 21 (Feb. 6, special number), i-xl.
2. *Genie Civil* **1884**, 5, 409-418.
3. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p342.
4. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p154-155.
5. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p337-340.
6. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p521-533.
7. *Proc. Roy. Soc.* **1884**, 37, x-xxvii.
8. *J. Chem. Soc. Trans.* **1885**, 47, 310-323.
9. *J. Chem. Ed.* **1951**, 28, 630-633.
10. *Proc. Am. Acad. Arts Sci.* **1884**, 19, 545-556.
11. *Am. J. Sci.* **1884**, 28, 289-299.
12. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 4, p242-248.
13. *Chem. Ber.* **1884**, 17, 629A-760A.
14. *Bull. Soc. Chim. Fr.* **1886**, 45, i-x and 1-64.
15. *Compt. Rend.* **1884**, 98, 933-945.
16. Tilden, W. A. *Famous Chemists*; Routledge & Sons: 1921; p205-215.
17. Thorpe, E. *Essays in Historical Chemistry*; Macmillan: 1923; p318-363.

18. See *Naturwiss. Anzeiger* **1820**, Sept(supplement) 1-4 for Dumas' connection to LeRoyer.
19. *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1930; vol. 2, p53-68.
20. Chaigneau, M. *Jean-Baptiste Dumas Sa Vie, Son Oeuvre 1800-1884*; Guy le Prat: 1984.

Elvius, Petrus (the elder) 1660 - 1718

DEGREE: MA DATE: 1688 PLACE: Uppsala
TEACHER/RESEARCH ADVISOR: Hoffvenius

astronomer, mathematician; wrote textbooks on astronomical observation and logarithmic tables; designed a planetarium based on Copernican theory; pioneered giving lectures in Swedish rather than Latin; published and corrected almanacs.

1. *Svenskt Biografisk Lexikon*; Albert Bonniers: 1918-1985; vol. 13, p418-422.

Fabrici, Girolamo (Aquapendente) 1533 - 1619

DEGREE: MD DATE: 1559 PLACE: Padua
TEACHER/RESEARCH ADVISOR: Fallopio

professor of anatomy and surgery; first to describe in detail the valves in veins; wrote treatises on the anatomy of the larynx, the lens of the eye, the mechanics of respiration, and the actions of muscles; published exhaustive study of the development of the chick embryo and thereby founded fields of comparative and developmental embryology; teacher of William Harvey, who discovered the circulation of the blood.

1. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p172.
2. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 2, p460-462.
3. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p89.
4. *Annals Science* **1963**, 19, 1-26.
5. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 1, p299-300.
6. Franklin, K. J. *De Venarum Ostioli 1603 of Hieronymus Fabricius*; Charles C. Thomas: 1933; p7-17.
7. Adelman, H. B. *The Embryological Treatises of Hieronymus Fabricius of Aquapendente*; Cornell University Press: 1942; p6-35.
8. *Memorie e Documenti per la Storia della Universita di Padova*; 1922; vol. 1, p241-348.
9. Portal, A. *Histoire de l'Anatomie et de la Chirurgie*; Firmin, Didot Freres: 1770-1773; vol. 2, p195-229.

Fallopio, Gabriele 1523 - 1562

DEGREE: MD DATE: 1548 PLACE: Ferrara
TEACHER/RESEARCH ADVISOR: Brasavola

professor of botany, surgery, and anatomy; discovered Fallopian tubes and described the anatomy of the kidneys; described the structure of the skull, esp. the muscles and the cranial and facial nerves; studied the ossification of bones and dentition of the teeth during growth; first to describe the cochlea, the vestibules, and the semicircular canals of the ear; colleague and supporter of Vesalius.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 4, p519-521.
2. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p173-174.

3. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p88.
4. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 2, p475.
5. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 1, p175-177.
6. Favaro, G. *Gabriello Fallopio, Modenese*; Tipografia Editrice Immacolata Concezione: 1928.
7. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 4, p111-113.
8. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 2, p273-277.

Ferrner, Bengt 1724 - 1802

DEGREE: none DATE: 1751 ca. PLACE: Uppsala
TEACHER/RESEARCH ADVISOR: Klingenstierna/Strömer

mathematician, astronomer, meteorologist; in charge of preparing for the observation of the transit of Venus in 1761 and Halley's comet in 1759; specialized in the design of astronomical instruments; served as an industrial spy for the Swedish king while in England.

1. *Svenskt Biografiskt Lexikon*; Albert Bonniers: 1918-1985; vol. 15, p635-644.

Fieser, Louis Frederick 1899 - 1977

DEGREE: PhD DATE: 1924 PLACE: Harvard
TEACHER/RESEARCH ADVISOR: Conant

studied chemistry of quinones and antimalarials; synthesized and established structure of vitamin K1; synthesized and studied chemistry of carcinogenic hydrocarbons and phenanthrene derivatives; investigated stereochemistry of the steroid nucleus; helped develop napalm and cortisone.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 17, p291-295.
2. *Nature* **1977**, 270, 768-769.
3. *Org. Synth.* **1978**, 58, xiii-xvi.
4. *J. Org. Chem.* **1965**, 30(Jun), 18a-20a.
5. Fieser, L. *The Scientific Method*; Reinhold Publ. Corp.: 1964.
6. *J. Chem. Ed.* **1967**, 44, 490-494.

Fittig, Wilhelm Rudolph 1835 - 1910

DEGREE: PhD DATE: 1858 PLACE: Göttingen
TEACHER/RESEARCH ADVISOR: Limpricht

discovered pinacol, mesitylene, diacetyl, and biphenyl; studied action of sodium on ketones and hydrocarbons; discovered Fittig reaction for the synthesis of alkylbenzenes; proposed quinoid (diketone) structure of benzoquinone; isolated phenanthrene from coal tar; discovered and synthesized the first lactones; established constitution of piperine; investigated structures of naphthalene and fluorene.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 5, p12-13.
2. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p767-768.
3. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p182.
4. *J. Chem. Soc. Trans.* **1911**, 99, 1651-1653.

5. *Chem. Ber.* **1911**, *44*, 1339-1351.
6. *Am. Chem. J.* **1911**, *45*, 210-215.
7. *Neue Deutsche Biographie*; Duncker & Humblot: 1953-1990; vol. 5, p217.
8. *Chem. Ztg.* **1910**, *34*, 1277-1278.

Fourcroy, Antoine François de

1755 - 1809

DEGREE: MD

DATE: 1780

PLACE: Paris

TEACHER/RESEARCH ADVISOR: Bucquet

important advocate of Lavoisier's views; co-discovered iridium (with Vauquelin); investigated chemistry of urea and chlorine; co-founded modern chemical nomenclature; carried out quantitative analyses of mineral waters; analyzed bone, milk, urinary calculi, and gallstones; showed that muscles contain a large proportion of nitrogen; studied (with Vauquelin) chemistry of metal sulfites and phosphites; showed (with Thenard) that mercury exists in two oxidation states; showed that sulfuric acid can act as a desiccant.

1. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p246-247.
2. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p535-551.
3. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p189-190.
4. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 5, p89-93.
5. *Endeavour* **1959**, *18*, 70-74.
6. *Mem. Classe Sci. Math. Phys. l'Inst. Imp. Fr.* **1810**, *11*, xcvi-cxxviii.
7. *Michaud Biographie Universelle (2nd Ed.)*; Delagrave: 1843-1865; vol. 15, p367-371.
8. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p781-788.
9. Smeaton, W. A. *Fourcroy, Chemist and Revolutionary*; Heffer: 1962.
10. Cuvier, G. *Eloges Historiques*; E. Ducrocq: 1834; p101-138.
11. Mangin, A. *Les Savants Illustres de la France*; Ducrocq: 1865; p261-272.
12. *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1929; vol. 1, p356-368.
13. Kersaint, G. *Antoine-Francois de Fourcroy, 1755-1809, sa vie et son oeuvre*; Editions du Muséum: 1966.
14. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 4, p222-230.

Gay-Lussac, Joseph Louis

1778 - 1850

DEGREE: MA

DATE: 1800

PLACE: Paris

TEACHER/RESEARCH ADVISOR: Berthollet

co-discovered Charles's Law relating temperature to the volume of gases; discovered boron and established elementary nature of iodine and sulfur (both with Thenard); analyzed sugar; showed that fluoride was a constituent of bones; discovered law of combining volumes and originator of volumetric analysis; showed that one volume of oxygen reacts with two volumes of hydrogen to give water, and established similar relationships for $\text{NH}_3 + \text{HCl}$, $\text{N}_2 + \text{O}_2$, and $\text{N}_2 + 3\text{H}_2$; developed assay of Ag^+ by titration with chloride; studied chemistry of cyanogen and determined its composition; showed that "prussic acid" was HCN; first prepared ethyl iodide, hydrogen fluoride, organic amides, and the peroxides of Na and K; coined the name racemic acid; held world record for manned balloon flight (7019 meters) and pioneered measurement of temperature, pressure, humidity, and magnetic field strength as a function of height.

1. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p282-284.

2. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 5, p317-327.
3. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p77-90.
4. Weeks, M. E. *Discovery of the Elements (7th Ed.)*; Leicester, H. M., Ed.; J. Chem. Ed.: 1968; p545-549.
5. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p359-367.
6. *Proc. Roy. Soc.* **1850**, 5, 1013-1023.
7. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p209.
8. Tilden, W. A. *Famous Chemists*; Routledge & Sons: 1921; p119-126.
9. *Proc. Am. Acad. Arts Sci.* **1950**, 78, 18-20.
10. *Ann. Rept. Smithsonian Inst.* **1876**, 3, 138-172.
11. *Nature* **1950**, 165, 708-709.
12. Crosland, M. P. *Gay-Lussac. Scientist and Bourgeois*; Cambridge University Press: 1978.
13. *Gay-Lussac: La Carriere et l'Ouvre d'un chimiste francais durant la premiere moitre du XIXe siecle*; Sadoun-Goupil, M., Ed.; Ecole Polytechnique: 1980.
14. *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1929; vol. 1, p386-404.
15. Mangin, A. *Savants Illustres de la France*; Ducrocq: 1865; p401-413.

Glaser, Christophle

1615 - 1678

DEGREE: MD

DATE: 1640 ca.

PLACE: Basel

TEACHER/RESEARCH ADVISOR:

Professor at Jardin du Roi; described preparation of arsenic trichloride, bismuth oxynitrate, and potassium sulfate (glaserite); imprisoned in the Bastille for supplying arsenic to Sainte-Croix, who poisoned the Marchioness de Brinvilliers.

1. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p24-26.
2. *J. Chem. Ed.* **1942**, 19, 53-60.
3. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 5, p417-418.
4. *Chymia* **1965**, 10, 25-52.
5. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 4, p437-438.

Gmelin, Johann Friedrich

1748 - 1804

DEGREE: MD

DATE: 1769

PLACE: Tübingen

TEACHER/RESEARCH ADVISOR: Gmelin, P. F.

apothecary, chemist, botanist, and physician; advocate of the phlogiston theory and opponent of Lavoisier; explored synthesis of metallic alloys, especially of transition metals; wrote many textbooks, esp. on pharmacy, mineralogy, poisons, technical chemistry, botany, and the history of chemistry.

1. Hufbauer, K. *The Formation of the German Chemical Community (1720-1795)*; University of California Press: 1982; p202.
2. *J. Chem. Ed.* **1954**, 32, 534-541.
3. *Chem. Ber.* **1939**, 72, 5A-33A.
4. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 2, p776-777.
5. *Michaud Biographie Universelle (2nd Ed.)*; Delagrabe: 1843-1865; vol. 16, p648-649.
6. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p729-730.
7. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 4, p454-456.
8. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 2, p567-569.

Gmelin, Leopold

1788 - 1853

DEGREE: PhD

DATE: 1812

PLACE: Göttingen

TEACHER/RESEARCH ADVISOR: Stromeyer/Jacquin, J. F.

first to recognize the importance of carbon in organic compounds; coined the words ester and ketone; discovered $K_4Fe(CN)_6$ and hexahydroxybenzene; studied chemistry of digestion; discovered taurine; advocated H=1 standard for atomic weights; established series of reviews of inorganic chemistry still published today.

1. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p217.
2. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 5, p429-432.
3. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p307-308.
4. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p180-182.
5. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p453-463.
6. *Quart. J. Chem. Soc.* **1855**, 7, 144-149.
7. *J. Chem. Ed.* **1954**, 32, 534-541.
8. *Chem. Ber.* **1939**, 72, 5A-33A.
9. *Neue Deutsche Biographie*; Duncker & Humblot: 1953-1990; vol. 6, p476-481.
10. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 2, p777-778.

Gmelin, Philipp Friedrich

1721 - 1768

DEGREE: MD

DATE: 1742

PLACE: Tübingen

TEACHER/RESEARCH ADVISOR: Mauchart

professor of botany and chemistry; studied chemistry of antimony; wrote texts on the pancreatic ducts, on mineral waters, and on botany.

1. *J. Chem. Ed.* **1954**, 32, 534-541.
2. *Chem. Ber.* **1939**, 72, 5A-33A.
3. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 2, p776.
4. *Michaud Biographie Universelle (2nd Ed.)*; Delagrave: 1843-1865; vol. 16, p646.
5. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 4, p461-462.

Göttling, Johann Friedrich August

1753 - 1809

DEGREE: Apothecary

DATE: 1775

PLACE: Langensalza

TEACHER/RESEARCH ADVISOR: Wiegleb

developed and sold chemical assay kits and studied process for extracting sugar from beets, both to supplement his small university salary; studied chemistry of sulfur, arsenic, phosphorus, and mercury; wrote texts on analytical chemistry; studied oxidation of organic compounds by nitric acid; one of first in Germany to take a stand against the phlogiston hypothesis and for the new "French" chemistry of Lavoisier.

1. Hufbauer, K. *The Formation of the German Chemical Community (1720-1795)*; University of California Press: 1982; p207-208.
2. *Pharmazie* **1962**, 17, 624-634.

3. *Neue Deutsche Biographie*; Duncker & Humblot: 1953-1990; vol. 6, p580-581.
4. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 2, p787.
5. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 4, p473-474.

Gronovius, Johannes Frederick II 1690 - 1760

DEGREE: DATE: 1715 PLACE: Leiden
TEACHER/RESEARCH ADVISOR:

jurist and botanist; wrote texts on zoology and geology.

1. *Biographisch Woordenboek der Nederlanden*; J. J. van Brederode: 1852-1878; vol. 7, p445.
2. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 22, col 158.
3. *Michaud Biographie Universelle (2nd Ed.)*; Delagrabe: 1843-1865; vol. 17, p590.

Gronovius, Laurent Theodor II 1730 - 1777

DEGREE: MD DATE: 1750 ca. PLACE: Leiden
TEACHER/RESEARCH ADVISOR: Gronovius, J. F.

botanist and zoologist; wrote a text on ichthyology and a zoological encyclopedia.

1. *Biographisch Woordenboek der Nederlanden*; J. J. van Brederode: 1852-1878; vol. 7, p446-447.
2. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 4, p526.
3. *Michaud Biographie Universelle (2nd Ed.)*; Delagrabe: 1843-1865; vol. 17, p590.
4. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 22, col 158.
5. *Jöcher's Allgemeine Gelehrten Lexicon*; Johann Friedrich Gleditschen: 1750-1787; vol. 2(suppl.), col 1625.

Hamberger, Georg Erhardt 1697 - 1755

DEGREE: MD DATE: 1721 PLACE: Jena
TEACHER/RESEARCH ADVISOR: Wedel, J. A.

professor of medicine, surgery, and botany; studied the physiology of respiration, esp. the mechanism of breathing; wrote important textbook on physiology and described the function of the thorax muscles, intercostal muscles, and pleural sac; studied reaction of camphor with nitric acid; wrote about the causes of gravitation and the ascension of gases.

1. *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint; vol. 10, p470-471.
2. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 3, p39.
3. *Neue Deutsche Biographie*; Duncker & Humblot: 1953-1990; vol. 7, p579-580.
4. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p279-280.
5. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 5, p64-68.
6. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 3, p31-36.
7. Börner, F. *Nachrichten von dem Vornehmsten Lebensumständen und Schriften Jetzlebender Berühmter Aerzte und Naturforscher*; J. C. Meissner: 1749; vol. 1, p60-71.

Hoffvenius, Petrus

1630 - 1682

DEGREE: MD

DATE: 1660

PLACE: Leiden

TEACHER/RESEARCH ADVISOR: Linden

professor of medicine; called the father of Swedish medicine; supporter of Descartes; studied the pineal gland and respiration.

1. *Svenskt Biografiskt Lexikon*; Albert Bonniers: 1918-1985; vol. 19, p186-189.
2. *Biographiskt Lexicon öfver Namnkunnige Svenska Män*; Leffler & Sebell: 1835-1857; vol. 5-6, p188-195.

Jacquin, Nicolas Joseph

1727 - 1817

DEGREE: none

DATE: 1752 ca.

PLACE: Leiden

TEACHER/RESEARCH ADVISOR: Gronovius, L. T.

professor of chemistry and botany; "the Linnaeus of Austria"; studied chemical relationship between limestone, lime, and quicklime; important early supporter of Black's ideas on the burning of lime and the nature of combustion; studied the decarboxylation of aliphatic carboxylic acids; spent five years studying and collecting the flora of the Carribean islands.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 7, p57-59.
2. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p146-147.
3. Hufbauer, K. *The Formation of the German Chemical Community (1720-1795)*; University of California Press: 1982; p188-189.
4. *J. South African Bot.* **1942**, 8, 201-224.
5. *Neue Deutsche Biographie*; Duncker & Humblot: 1953-1990; vol. 10, p257-259.
6. *Allg. Nord. Ann. Chem.* **1820**, 5, 230-235.
7. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 26, col 273-276.
8. *Michaud Biographie Universelle (2nd Ed.)*; Delagrabe: 1843-1865; vol. 20, p515-516.
9. *Österreich. Rundschau* **1905**, 3, 237-251.
10. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 5, p337-339.
11. *Stud. Gesch. Univ. Wien* **1965**, 3, 126-202.
12. *Zur Gesch. Pharm. (Geschichtsbeilage Deut. Apoth. Ztg.)* **1962**, 14, 17-24.

Johnson, William Summer

1913 - 1995

DEGREE: PhD

DATE: 1940

PLACE: Harvard

TEACHER/RESEARCH ADVISOR: Fieser

developed methods for the total synthesis of complex natural products by biomimetic pathways, including the hydrochrysen synthesis of steroids, biomimetic polyene cyclizations esp. allylic cation

initiated cyclizations, asymmetric synthesis by chiral acetals, and the Stobb condensation; developed improved preparations of cortisone, hydrocortisone, progesterone, estrone, and aldosterone; studied the synthesis of quinoline derivatives and the use of diazomethane in organic synthesis; carried out the first experimental determination of the difference in enthalpy between the chair and boat forms of cyclohexane.

1. Personal communication (**8Jul93**).

2. *Tetrahedron* **1991**, 47(41), xi-l.
3. Johnson, W. S. *A Fifty-Year Love Affair with Organic Chemistry*; Am. Chem. Soc.: 1991.

Kastner, Karl Friedrich Wilhelm Gottlob 1783 - 1857

DEGREE: PhD DATE: 1805 PLACE: Jena
TEACHER/RESEARCH ADVISOR: Göttling

pharmacist; chemist; teacher; wrote textbooks on chemistry, German industry, and meteorology; studied triboluminescence induced by sublimation or dissolution, catalytic effect of Pt on hydrogen combustion, chlorination of starch and sugar, medical applications of bisulfates and calcium salts, and preparation of various inorganic compounds; analyzed mineral waters and developed water purification methods; invented a galvanometer; forgotten man in German chemistry.

1. See Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p294.
2. *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint; vol. 15, p439.
3. Personal communication from Hufbauer (1989).
4. *Neue Deutsche Biographie*; Duncker & Humblot: 1953-1990; vol. 11, p324.
5. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 27, col 471-472.
6. *Arch. Pharm.* **1858**, 146, 321-325.

Klingenstierna, Samuel 1698 - 1765

DEGREE: LLB DATE: 1717 PLACE: Uppsala
TEACHER/RESEARCH ADVISOR: Duhre

professor of mathematics and physics; studied the geometry of optics and was the first to give a comprehensive theory for the design of lenses that are achromatic and lack spherical aberration.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 7, p403-404.
2. *Swedish Men of Science 1650-1950*; Lindroth, D., Ed.; Almqvist & Wiksell: 1952; p59-65.
3. *Biographiskt Lexicon öfver Namnkunnige Svenska Män*; Leffler & Sebell: 1835-1857; vol. 7-8, p77-84.

Kohler, Elmer Peter 1865 - 1938

DEGREE: PhD DATE: 1892 PLACE: Johns Hopkins
TEACHER/RESEARCH ADVISOR: Remsen

discovered 1,4 addition to alpha, beta-unsaturated ketones; carried out comprehensive studies of tautomerism, isomerism, and configuration of unsaturated compounds; studied chemistry of aliphatic sulfonic acids, sulfonyl chlorides, and substituted cyclopropanes; discovered alpha-disulfones, alpha-ketosulfones, and isoxazoline oxides [R₂C=N(O)R]; first to resolve an allene into optical isomers; prepared first diarylmethyl free radical.

1. *Biog. Mem. Nat. Acad. Sci.* **1952**, 27, 265-291.
2. *Science* **1939**, 89, 595-596.
3. *Nucleus* **1938**, 16, 35-45.
4. *Proc. Am. Acad. Arts Sci.* **1940**, 74, 130-141.

Lavoisier, Antoine Laurent

1743 - 1794

DEGREE: LLB

DATE: 1764

PLACE: Paris

TEACHER/RESEARCH ADVISOR: Rouelle

Founder of Modern Chemistry. overturned phlogiston theory and proposed modern view of combustion; established chemical components of water; co-founded modern chemical nomenclature; founded science of calorimetry; discovered law of conservation of matter; established chemical identity of metal oxides; wrote first modern chemistry textbook "Traite Elementaire de Chimie" in 1789; guillotined after French Revolution.

1. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p222-226.
2. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 8, p66-91.
3. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p263-281.
4. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p363-495.
5. Jaffe, B. *Crucibles*; Tudor Publ. Co.: 1930; p93-113.
6. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p313-315.
7. *Proc. Roy. Soc. A* **1947**, 189, 427-456.
8. Tilden, W. A. *Famous Chemists*; Routledge & Sons: 1921; p63-77.
9. Thorpe, E. *Essays in Historical Chemistry*; Macmillan: 1923; p123-148.
10. *Isis* **1954**, 45, 51-62.
11. *Isis* **1956**, 47, 211-216.
12. McKie, D. *Antoine Lavoisier*; V. Gollancz: 1952.
13. *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1929; vol. 1, p304-333.

Lémery, Nicolas

1645 - 1715

DEGREE: Apothecary

DATE: 1667 ca.

PLACE: Paris

TEACHER/RESEARCH ADVISOR: Glaser

first to distinguish between vegetable (organic) and mineral (inorganic) chemistry; published influential textbook on chemistry; adopted an atomic theory assuming that fundamental particles have characteristic shapes; discovered a commercial process for the production of sulfuric acid; obtained boric acid from borax; investigated chemistry of antimony sulfide; analyzed camphor and honey.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 8, p172-175.
2. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p28-41.
3. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p149-161.
4. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p321.
5. *J. Soc. Chem. Ind. (London)* **1935**, 54, 347-348.
6. *Isis* **1925**, 7, 430-432.
7. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 30, col 598-603.
8. *Revue d'Histoire Pharm.* **1931**, 19, 208-219.
9. *Chimie Analytique* **1946**, 28, 17-18.
10. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p8-10.
11. Figuiet, L. *Vies des Savants Illustres*; Hachette & Co.: 1879; vol. 4, p435-443.
12. Cap, P. A. *Etudes Biographiques pour servir a l'Histoire des Sciences*; Masson et Fils: 1857; vol. 1, p180-226.
13. Fontenelle, B. *Eloges des Academiciens avec l'histoire de l'Academie Royale des Sciences en 1699*; I. van der Kloot: 1740; vol. 1, p334-350.

14. *Dictionnaire des Sciences Medicales Biographie Medicale*; C. L. F. Panoucke: 1820-1822; vol. 5, p572-574.

LeRoyer, Augustin

1793 - 1863

DEGREE: none

DATE:

PLACE: Geneva

TEACHER/RESEARCH ADVISOR: Tingry

pharmacist; discovered (with Dumas) presence of iodine in sponges and manufactured iodine for the treatment of goiter; co-advanced a new theory of digestion.

FOOTNOTE: Little information on LeRoyer could be found. He operated the family pharmacy jointly with Tingry, an older man trained as a chemist and who taught classes in Geneva. From this we suggest that Tingry was LeRoyer's teacher.

1. *Dictionnaire Historique et Biographique de la Suisse*; Neuchatel Administration du Historique et Biographique de la Suisse: 1921-1933; vol. 4, p503.
2. *Revue d'Hist. Pharm.* **1960**, 14, 431-432.
3. See Sweizer. *Apoth.-Ztg.* **1971**, 109, 914-918.
4. See *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 11, p132b.
5. See *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 9, p109b.
6. See Chaigneau, M. *Jean-Baptiste Dumas Sa Vie, Son Oeuvre 1800-1884*; Guy Le Prat: 1984; p19-25.
7. Ducommon, F. *Pharmaciens d'Autrefois*; Society Genevoise de Pharmacie: 1959.

Liebig, Justus von

1803 - 1873

DEGREE: PhD

DATE: 1822

PLACE: Erlangen

TEACHER/RESEARCH ADVISOR: Kastner

promoted view that metabolism involved oxidation of food; discovered structural isomers, and concept of functional groups (old compound-radical theory); first to experiment with artificial fertilizers; pioneer in agricultural and food chemistry; devised combustion analysis; one of great chemistry teachers of all time - he was the intellectual father/grandfather of most chemists of his time; systemized organic acids.

FOOTNOTE: Liebig followed Kastner from Bonn to Erlangen on the promise that Kastner would teach him mineral analyses. Later claiming that Kastner did not know much about the subject (and finding it prudent to leave Erlangen after instigating a student riot), Liebig went to Paris on funds arranged by Kastner to learn organic chemistry from Gay-Lussac. Kastner also arranged for Liebig to receive his PhD from Erlangen in absentia.

1. *J. Chem. Ed.* **1927**, 4, 1461-1476.
2. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 8, p329-350.
3. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p351-352.
4. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p294-317.
5. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p535-549.
6. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p328-329.
7. *J. Chem. Soc. Trans.* **1875**, 28, 1065-1140.
8. *J. Chem. Ed.* **1938**, 15, 553-562.
9. *Pop. Sci. Monthly* **1891-2**, 40, 655-666.
10. *Chem. News* **1891**, 63, 265-267 and 276-278.

11. *Chem. Ber.* **1903**, 36, 1315-1330.
12. *Chem. Ber.* **1873**, 6, 465-474.
13. Tilden, W. A. *Famous Chemists*; Routledge & Sons: 1921; p188-204.
14. *Neue Deutsche Biographie*; Duncker & Humblot: 1953-1990; vol. 14, p497-501.
15. *Liebig and after Liebig*; Moulton, F. R., Ed.; AAAS: 1942.
16. Prandtl, W. *Deutsche Chemiker in der Ersten Hälfte des Neunzehnten Jahrhunderts*; Verlag Chemie: 1956; p79-154.
17. *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1930; vol. 2, p1-30.
18. Erlenmeyer, E. *Über den Einfluss des Freiherrn Justus von Liebig auf die Entwicklung der reinen Chemie eine Denkschrift* K. B. Akademie: 1874.

Limpricht, Heinrich Franz Peter

1827 - 1909

DEGREE: PhD

DATE: 1850

PLACE: Göttingen

TEACHER/RESEARCH ADVISOR: Wöhler

discovered furan and sulfo acids; studied chemistry of pyrrole, furan, thiophene, nitriles, uric acid, and cyanuric acid; investigated chemistry of chloro derivatives of aromatic compounds; developed new syntheses of aliphatic acids, alcohols, and aldehydes; studied chemistry of alanine, isoleucine, and other amino acids; discovered syntheses of anthracene and diphenylacetylene.

1. *Chem. Zeitung* **1909**, 33, 545.
2. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p766-767.
3. *Chem. Ber.* **1909**, 42, 1859-1860.
4. *Chem. Ber.* **1909**, 42, 5001-5036.

Linden, Johannes Antonides van der

1609 - 1664

DEGREE: MD

DATE: 1630

PLACE: Franeker

TEACHER/RESEARCH ADVISOR: Winsemius

professor of medicine, anatomy, and botany; philologist and philosopher; published books on medical bibliography, physiology, milk, and venereal diseases; published an edition of Hippocrates' *Opera Omnia* and an edition of Celsius' *De Medicina*.

1. *Science, Medicine and History*; Underwood, E. A., Ed.; Oxford University Press: 1953; vol. 2, p3-20.
2. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 3, p790-791.
3. *Nieuw Nederlandsch Biografisch Woordenboek*; A. W. Sijthoff's Uitgevers-Maatschappij: 1911-1937; vol. 7, p770-771.
4. *Biografisch Woordenboek der Nederlanden*; J. J. van Brederode: 1852-1878; vol. 11, p471-474.
5. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 1, p415-417.
6. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 31, col 255-257.
7. *Nederl. Tijdschr. v. Geneeskunde* **1863**, 7, 193-206.
8. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 3, p458-460.

arsenate salts; showed Prussian Blue contains Fe and devised a method to use it to dye wool and silk; re-introduced the term "gas"; wrote first modern chemical dictionary; used burning lenses to study effect of high temperatures on platinum (with Baume) and diamonds (with Lavoisier).

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 8, p618-624.
2. *Endeavour* **1957**, 16, 133-136.
3. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p80-90.
4. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p347-348.
5. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 32, col 595-596.
6. *Michaud Biographie Universelle (2nd Ed.)*; Delagrave: 1843-1865; vol. 25, p658-659.
7. *Biographie Universelle*; Chez Michaud Freres, Imprim.-Libraires: 1811-1827; vol. 26, p76-78.
8. Coleby, J. M. *Chemical Studies of P.J Macquer*; G. Allen & Unwin Ltd.: 1938.
9. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p430-431.

Mangold, Christoph Andreas

1719 - 1767

DEGREE: MD

DATE: 1751

PLACE: Erfurt

TEACHER/RESEARCH ADVISOR: Hamberger

professor of anatomy, chemistry, and philosophy; investigated the chemistry of gunpowder; analyzed cinnabar; proposed a new system of medical thought based on the ideas that a medical diagnosis can only be made after careful comparison to the patient's symptoms and medical tests with those of many other previously studied patients, and that none of the then-popular simple theories of diseases and illnesses was true or useful; recognized the importance of distinguishing the underlying illness and the overlying complications; recognized that a therapy must not be judged effective just because the symptoms are relieved since some patients get better by themselves.

1. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 4, p56-57.
2. Hufbauer, K. *The Formation of the German Chemical Community (1720-1795)*; University of California Press: 1982; p184-185.
3. *Beitragte Geschichte Univ. Erfurt* **1960**, 7, 67-75.
4. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 3, p512.

Mauchart, Burchard David

1696 - 1751

DEGREE: Lic. Med.

DATE: 1722

PLACE: Tübingen

TEACHER/RESEARCH ADVISOR: Camerarius, E., Jr.

professor of anatomy and surgery; specialist in ophthalmology.

FOOTNOTE: Mauchart studied for two years in Paris from 1718-1720 under the ophthalmologist (more properly, oculist) Woolhouse.

1. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 4, p121-122.
2. *Jöcher's Allgemeine Gelehrten Lexicon*; Georg Jöntzen: 1810-1813; vol. 4(suppl.), col 1014.
3. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 34, col 341-342.
4. *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint; vol. 20, p687.
5. *Michaud Biographie Universelle (2nd Ed.)*; Delagrave: 1843-1865; vol. 27, p301-302.
6. *Comment. Rebus Sci. Nat. Med.* **1752**, 1(part 3), 531-538.
7. Börner, F. *Nachrichten von dem Vornehmsten Lebensumständen und Schriften Jetzlebender Berühmter Aerzte und Naturforscher*; J. C. Meissner: 1749; vol. 1, p345-363.

Overman, Larry Eugene

1943 -

DEGREE: PhD

DATE: 1969

PLACE: Wisconsin-Madison

TEACHER/RESEARCH ADVISOR: Whitlock, Jr.

developed novel methodologies, particularly transition metal catalyzed reactions, with applications towards the synthesis of complex natural products, such as strychnine, eunicellin, & minfiensine. a notable methodology, which now bears his name, includes the 1,3-transposition of alcohol and amine functionalities via the [3,3]-sigmatropic rearrangement of allylic trichloroacetimidates to afford the corresponding trichloroacetamides, which can be readily transformed into many chemically and biologically important natural and unnatural amino acids.

1. Personal Communication D. Nagib (9Jul08).
2. Kurti, L. Czako, B. *Strategic Applications of Named Reactions in Organic Synthesis*, 2005; p322-323.

Pauw, Petrus

1564 - 1617

DEGREE: MD

DATE: 1587

PLACE: Rostock

TEACHER/RESEARCH ADVISOR: Brucaeus

professor of medicine, anatomy, and botany; wrote a text on skeletal anatomy and gave excellent descriptions of the frontal and maxillary sinuses; wrote with Fabricius a description of the intestinal valves.

1. *Nieuw Nederlandsch Biografisch Woordenboek*; A. W. Sijthoff's Uitgevers-Maatschappij: 1911-1937; vol. 4, col 1051-1053.
2. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol.1, p341.

Ramus, Petrus

1515 - 1572

DEGREE: MA (philosophy)

DATE: 1536

PLACE: Paris

TEACHER/RESEARCH ADVISOR:

professor of philosophy and mathematics; champion of revival of arithmetic, geometry, astronomy, and physics in the educational curriculum (which had fallen into neglect) by emphasizing the practical origins and applications of these subjects.

FOOTNOTE: Ramus studied under Jean Le Hennuyer, a Dominican theologian.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 11, p286-290.
2. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 41, col 570-576.
3. Ong, W. J. *Ramus, Method, and the Decay of Dialogue*; Harvard University Press: 1958.

Regnault, Henri Victor

1810 - 1878

DEGREE: PhD

DATE: 1837

PLACE: Paris

TEACHER/RESEARCH ADVISOR: Berthier

first to prepare CCl_4 , vinyl chloride, and trichloroethylene; studied reactions of halogens with unsaturated hydrocarbons, organic acids, and alkaloids; carried out detailed measurements of specific heats, densities, and compressibilities of gases; first accurate determination of absolute zero; first to measure the volume of CO_2 expired by animals per volume of O_2 inspired; noted that the metabolic rate of animals decreases with decreasing surface area to volume ratio.

FOOTNOTE: Regnault's master at the Ecole des Mines was Berthier, an analytical inorganic chemist. Regnault's interest in organic chemistry was probably a consequence of his visit to Liebig's laboratory in 1835.

1. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p371.
2. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p396-397.
3. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p438.
4. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 11, p352-354.
5. *Nature* **1878**, 17, 263-264.
6. *J. Chem. Soc. Trans.* **1878**, 33, 235-239.
7. *Mem. l'Acad. Sci. l'Inst. Fr.* **1883**, 42, xxxvii-lxxv.
8. Dumas, J. B. *Discours et Eloges Academiques*; Gauthier-Villars: 1885; vol. 2, p152-200.
9. *Comptes Rendus* **1878**, 86, 131-143.
10. *Annales des Mines* **1881**, 19(7th ser.), 212-244.
11. *Revue Scientifique* **1881**, 1(3rd ser.), 354-363.
12. *Moniteur Scientifique* **1885**, 15(3rd ser.), 227-237.

Remsen, Ira

1846 - 1927

DEGREE: PhD

DATE: 1870

PLACE: Göttingen

TEACHER/RESEARCH ADVISOR: Fittig

discovered rules governing oxidation of aromatic sidechains and protective effect of ortho-substituents; synthesized saccharin; first attempt (in the reaction of CO with O_3) to prove the existence of a reactive intermediate by a trapping experiment; champion of idea that many elements have multiple valencies; founder of first journal of chemistry in the US (*Am. Chem. J.*); investigated structure of POCl_3 and stoichiometry of metal double salts; wrote several influential organic chemistry textbooks.

1. *Biog. Mem. Nat. Acad. Sci.* **1931**, 14, 204-257.
2. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 11, p370-371.
3. *J. Am. Chem. Soc. Proc.* **1928**, 50, 67-79.
4. *American Chemists and Chemical Engineers*; Miles, W. D., Ed.; American Chemical Society: 1976; p402-403.
5. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p796-797.
6. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p439.
7. *J. Chem. Soc.* **1927**, 3182-3189.
8. *J. Chem. Ed.* **1939**, 16, 353-360.
9. *Science* **1927**, 66, 243-246.
10. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p819-822.
11. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p507.
12. *Proc. Welch Fdn. Conf.* **1977**, 20, 46-71.
13. Getman, F. H. *The Life of Ira Remsen*; J. Chem. Ed.: 1940.

Richards, Theodore William

1868 - 1928

DEGREE: PhD

DATE: 1888

PLACE: Harvard

TEACHER/RESEARCH ADVISOR: Cooke

Nobel prize in 1915 for atomic weight determinations of Cu, O, Ba, Sr, Ca, Zn, Mg, Fe, Co, Ag, C, N, and Pb; found atomic weight of lead varied with source, thus confirming theory of isotopes; studied compressibilities and atomic volumes of elements; invented the adiabatic calorimeter and used it to measure many heats of dilution, combustion, dissolution, and neutralization; invented a nephelometer for measuring traces of solids suspended in liquids; investigated physical properties of metal amalgams.

1. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p618-619.
2. *Proc. Roy. Soc. A* **1928**, *131*, xxix-xxxiv.
3. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p443.
4. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p878-882.
5. *Biog. Mem. Nat. Acad. Sci.* **1974**, *44*, 251-286.
6. *J. Chem. Soc.* **1930**, 1937-1969.
7. *American Chemists and Chemical Engineers*; Miles, W. D., Ed.; American Chemical Society: 1976; p407-408.
8. *Proc. Welch Fdn. Conf.* **1977**, *20*, 106-115.
9. *Mem. Lect. Chem. Soc.* **1914-1932**, *3*, 131-163.
10. *Science* **1928**, *68*, 333-339.
11. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p822-826.
12. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 11, p416-418.

Rolfinck, Werner

1599 - 1673

DEGREE: MD

DATE: 1625

PLACE: Padua

TEACHER/RESEARCH ADVISOR: Spiegelhel

first professor of chemistry in Jena; also taught anatomy, surgery, and botany; gave lectures that involved dissection of executed criminals - an innovation that aroused controversy; first to demonstrate the location of cataracts in the lens of the eye; wrote texts on pharmaceutical chemistry; opposed alchemical and superstitious thinking, and wrote book on chemical impossibilities such as the transmutation of metals to gold, the resuscitation of a plant from its ashes, obtaining oils from precious stones, etc.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 11, p511.
2. Partington, J. R. *A History of Chemistry*; Macmillan: 1961; vol. 2, p312-314.
3. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 4, p861-862.
4. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p45-46.
5. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 4, p8-14.

Rouelle, Guillaume François

1703 - 1770

DEGREE: Apothecary

DATE: 1725

PLACE: Paris

TEACHER/RESEARCH ADVISOR: Spitzley

founder of French school of chemistry; geologist; phlogistonist; proposed first modern definition of

salts and first to distinguish neutral, acid, and basic salts; explained dehydrating action of sulfuric acid; proposed a theory of distillation; studied the reaction of essential oils with nitric acid; studied the chemical components of plants; analyzed mineral waters; established that the Egyptians used Na₂CO₃, succinic acid, and coal to effect mummification.

1. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p73-76.
2. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 11, p562-564.
3. *Chymia* **1960**, 6, 68-101.
4. *Chymia* **1961**, 7, 73-102.
5. *Endeavour* **1953**, 130-133.
6. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p.185-192.
7. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p450.
8. *Michaud Biographie Universelle (2nd Ed.)*; Delagrabe: 1843-1865; vol. 36, p585-588.
9. *Revue d'Histoire des Sciences* **1970**, 23, 305-332.
10. *Mem. Soc. Vaudoise Sci. Nat.* **1943**, 7, 219-444.
11. *J. de Pharm. et de Chemie* **1842**, 2, 218-241.
12. *Revue d'Hist. de la Pharm.* **1933**, 21, 169-186.
13. *Revue d'Hist. de la Pharm.* **1949**, 434-442.
14. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 42, col 710-711.
15. *Correspondence Litteraire, Philosophique, et Critique par Grimm, Diderot, etc.*; Tourneaux, M., Ed.; Garnier Freres: 1877-1882; vol. 6, p106-109.
16. Figuiet, L. *Vies des Savants Illustres*; Hachette & Co.: 1879; vol. 3, p433-443.
17. Cap, P. A. *Etudes Biographiques pour servir a l'Histoire des Sciences*; Masson et Fils: 1857; vol. 1, p231-263.
18. *Oeuvres Completes de Diderot*; Garnier Freres, Libraires-Editeurs: 1875-1877; vol. 6, p405-410.

Schreiber, Johann Gottfried

1746 - 1827

DEGREE: DATE: 1772 ca. PLACE: Academie des Mines, Freiberg
TEACHER/RESEARCH ADVISOR: Charpentier/Lömmel

mining engineer; described naturally occurring iron nuggets; studied gold and silver ores.

1. *Annales des Mines* **1827**, 2, 621-628.
2. Ferchl-Mittenwald, F. *Chemisch-Pharmazeutisches Bio- und Bibliographikon*; Arthur Nemayer: 1937; p486.

Spiegel, Adriaan van den

1578 - 1625

DEGREE: MD DATE: 1603 ca. PLACE: Padua
TEACHER/RESEARCH ADVISOR: Fabrici/Casseri

professor of anatomy, surgery, and botany; published works on malaria and tapeworms, and one of the first texts on plant anatomy; wrote an influential anatomical text, *De humani corporis fabrica*, that was published posthumously; also wrote a treatise on human embryology.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 12, p577-578.
2. *Biographie Nationale Belgique*; Emile Bruylant: 1866-1986; vol. 23, col 330-334.
3. *Atti Reale Istit. Veneto Sci., Lett. Arti Part II* **1925-6**, 85, 213-250.
4. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 1, p365-366.
5. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 4, p196-197.

Spitzley, J. G. 1690 - 1750

DEGREE: Apothecary DATE: PLACE: Paris
TEACHER/RESEARCH ADVISOR: Lémery

NOTE: birth and death dates are guesses.

1. See Figuiet, L. *Vies des Savants Illustres*; Hachette & Co.: 1879; vol. 3, p438 and *J. de Pharm. et de Chemie* **1842**, 2, 218 for confirmation of connection to Lémery.

Strömer, Mårten 1707 - 1770

DEGREE: none DATE: 1730 ca. PLACE: Uppsala
TEACHER/RESEARCH ADVISOR:

mathematician and astronomer; studied the motion of bodies; translated Euclid's *Elements* into Swedish; wrote texts on geometry, trigonometry, magnetic declination, barometric pressure, meteorology, electricity, and astronomy; improved Celsius' thermometer by reversing the scale to make 0 degrees the freezing point and 100 degrees the boiling point of water rather than vice-versa; was among the first in Europe to apply electricity as an aid in healing.

1. *Biographiskt Lexicon öfver Namnkunnige Svenska Män*; Leffler & Sebell: 1835-1857; vol. 15-16, p113-114.

Stromeyer, Friedrich 1776 - 1835

DEGREE: MD DATE: 1800 PLACE: Göttingen
TEACHER/RESEARCH ADVISOR: Vauquelin/Gmelin, J. F.

discovered cadmium; started first German university chemistry teaching laboratory; first to recommend starch as a reagent for free iodine; studied chemistry of arsine and bismuthate salts.

1. *J. Chem. Ed.* **1953**, 30, 202-204.
2. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p276-277.
3. Weeks, M. E. *Discovery of the Elements (7th Ed.)*; Leicester, H. M., Ed.; J. Chem. Ed.: 1968; p502-508.
4. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p659-660.
5. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 5, p566.

Tingry, Pierre François 1743 - 1821

DEGREE: DATE: 1770 ca. Place: Paris
TEACHER/RESEARCH ADVISOR: Rouelle

chemist, pharmacist, and mineralogist; professor of natural history and applied chemistry; wrote texts on the chemistry of varnish and on mineral waters; wrote articles on phosphoric acid, phosphorescence, electricity, and fossils.

1. *Michaud Biographie Universelle (2nd Ed.)*; Delagrave: 1843-1865; vol. 41, p569.

2. *Dictionnaire Historique et Biographique de la Suisse*; Neuchatel Administration du Historique et Biographique de la Suisse: 1921-1933; vol. 10, p613.
3. *Bibliothèque Universelle des Sciences, belles-lettres, et arts* **1821**, 16, 173-174.
4. Ducommun, F. E. *La Pharmacie à Genève. Aperçu Historique 1780-1980*; Filanosa Nyon: 1980; p16-18.

Vauquelin, Louis Nicolas

1763 - 1829

DEGREE: MA

DATE: 1790

PLACE: Paris

TEACHER/RESEARCH ADVISOR: Fourcroy

discovered chromium, recognized existence of beryllium, and discovered BeO; discovered first amino acid - asparagine (isolated from asparagus!); isolated camphoric acid, quinic acid, and cyanic acid from natural products; developed methods for the separation of platinum metals; studied action of wine, vinegar, and oils on vessels made of tin and lead; investigated the respiration of insects.

1. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p551-557.
2. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p252-253.
3. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 13, p596-598.
4. *J. Chem. Ed.* **1941**, 18, 3-7.
5. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p528.
6. Weeks, M. E. *Discovery of the Elements (7th Ed.)*; Leicester, H. M., Ed.; J. Chem. Ed.: 1968; p271-278.
7. *Mem. l'Acad. Sci. l'Inst. Fr.* **1833**, 12, xli-lvi.
8. *J. Chim. Medicale* **1850**, 6, 540-559.
9. *Nouvelle Biographie Generale*; Firmin, Didot Freres: 1852-1866; vol. 45, col 1033-1036.
10. *Hist. Memb. l'Acad. Roy. Med.* **1845**, 1, 316-350.
11. *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1929; vol. 1, p356-368.

Wedel, Georg Wolfgang

1645 - 1721

DEGREE: MD

DATE: 1669

PLACE: Jena

TEACHER/RESEARCH ADVISOR: Rolfinck

professor of surgery, botany, theoretical medicine, practical medicine, and chemistry; prolific author, esp. on alchemy and pharmaceutical chemistry; studied plating of copper onto iron from copper sulfate solutions; studied volatile salts obtained from plants; invented new medicines; drew up a new and accurate edition of the Greek Bible translated into German.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 14, p212-213.
2. Partington, J. R. *A History of Chemistry*; Macmillan: 1961; vol. 2, p315-317.
3. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 5, p875.
4. *Jöcher's Allgemeine Gelehrten Lexicon*; Johann Friedrich Gleditschen: 1750-1787; vol. 4, col 1842-1845.
5. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p5-6.
6. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 4, p373-382.

Wedel, Johann Adolph

1675 - 1747

DEGREE: MD

DATE: 1697

PLACE: Jena

TEACHER/RESEARCH ADVISOR: Wedel, G. W.

professor of medicine; published texts on fermentation, camphor, magnesium carbonate, the combustion of sulfur, and on a variety of medical topics.

1. Partington, J. R. *A History of Chemistry*; Macmillan: 1961; vol. 2, p317.
2. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 5, p876.
3. *Dictionnaire Historique de la Médecine*; Bechet Jeune: 1828-1839; vol. 4, p382-384.

Whitlock, Howard William, Jr.

1936 -

DEGREE: PhD

DATE: 1961

PLACE: Wisconsin-Madison

TEACHER/RESEARCH ADVISOR: Johnson, W. S.

1. Personal Communication D. Nagib (**9Jul08**).

Wiegleb, Johann Christian

1732 - 1800

DEGREE: Apothecary

DATE: 1765 ca.

PLACE: Langensalza

TEACHER/RESEARCH ADVISOR: Baldinger

phlogistonist; apothecary; founded the first chemical-pharmaceutical institute in Germany; investigated fermentation, alkaline salts in plants, and the combustion of chalk; disputed possibility of the transmutation of elements; reported that oxalic acid is a separate compound.

FOOTNOTE: Wiegleb was apprenticed to the apothecary Sartorius in Dresden for 6 years, from 1748 to 1754, but began his first real study of chemistry with Baldinger's help.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 14, p332-333.
2. Hufbauer, K. *The Formation of the German Chemical Community (1720-1795)*; University of California Press: 1982; p190-191.
3. Personal communication from Hufbauer (1989).
4. *Pharmazie* **1965**, 20, 230-239.
5. Partington, J. R. *A History of Chemistry*; Macmillan: 1962; vol. 3, p147-148.
6. *Allg. J. Chem.* **1800**, 4, 684-720.
7. *Allgemeine Deutsche Biographie*; Duncker & Humblot: 1967-1971 Reprint; vol. 42, p390.

Winsemius, Menelaus

1591 - 1637

DEGREE: MD

DATE: 1613

PLACE: Leiden

TEACHER/RESEARCH ADVISOR: Pauw

professor of medicine, anatomy, and botany; improved the botanical gardens at the University of Franeker; published, with his students, an anatomical compendium.

1. *Nieuw Nederlandsch Biografisch Woordenboek*; A. W. Sijthoff's Uitgevers-Maatschappij: 1911-1937; vol. 10, col 1223.
2. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 5, p961.
3. *Biografisch Woordenboek der Nederlanden*; J. J. van Brederode: 1852-1878; vol. 20, p308.

Wöhler, Friedrich

1800 - 1882

DEGREE: MD

DATE: 1823

PLACE: Heidelberg

TEACHER/RESEARCH ADVISOR: Gmelin, L.

discovered aluminum, beryllium, and yttrium; synthesized urea from ammonium cyanate and thereby showed that organic and inorganic chemistry were related -- this discovery also introduced the concept of intramolecular rearrangement of atoms; with Liebig, formulated compound-radical theory; discovered hydroquinones, calcium carbide, and the chemical relationship between C and Si; invented industrial method for obtaining nickel and cobalt from their ores.

FOOTNOTE: Wöhler was a medical student at Heidelberg where Gmelin was the Professor of Chemistry. Gmelin persuaded Wöhler to study chemistry and sent him to Berzelius' laboratories to learn the subject in depth.

1. Asimov, I. *Asimov's Biographical Encyclopedia of Science and Technology (2nd Ed.)*; Doubleday: 1982; p342-343.
2. Weeks, M. E. *Discovery of the Elements (7th Ed.)*; Leicester, H. M., Ed.; J. Chem. Ed.: 1968; p565-571.
3. Jaffe, B. *Crucibles*; Tudor Publ. Co.: 1930; p175-198.
4. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 14, p474-479.
5. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p320-334.
6. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p505-520.
7. *Chem. Ber.* **1882**, 15, 3127-3290.
8. *Am. Chemist* **1875**, 6, 131-136.
9. *Pop. Sci. Monthly* **1880**, 17, 539-551.
10. *Chem. News* **1884**, 49, 91-93.
11. *J. Chem. Ed.* **1928**, 5, 1536-1557.
12. *Proc. Roy. Soc.* **1883**, 35, xii-xx.
13. *Proc. Roy. Inst. Gr. Brit.* **1882-4**, 10, 477-482.
14. *J. Chem. Soc. Trans.* **1883**, 43, 258-263.
15. *Proc. Am. Acad. Arts Sci.* **1950**, 78, 25-26.
16. Thorpe, E. *Essays in Historical Chemistry*; Macmillan: 1923; p294-317.
17. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p566-567.
18. *Am. Chem. J.* **1882-3**, 4, 289-292.
19. Prandtl, W. *Deutsche Chemiker in der Ersten Hälfte des Neunzehnten Jahrhunderts*; Verlag Chemie: 1956; p155-192.
20. *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1930; vol. 2, p31-52.

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1. *Biographie Medicale*; Bayle, G.-L.; Thillaye, J. B.-J., Eds.; B. M. Israel: 1967 Reprint; vol. 2, p197.
2. *Dictionary of National Biography*; Smith, Elder & Co.: 1908-1986; vol. 21, p900-901.
3. *Biographisches Lexikon der hervorragenden Ärzte*; Urban & Schwarzenberg: 1962; vol. 5, p994.
4. *Michaud Biographie Universelle (2nd Ed.)*; Delagrave: 1843-1865; vol. 45, p63.
5. Hirschberg, J. *Geschichte der Augenheilkunde*; Engelmann: 1899-1918; vol. 3(part 2), p385-396.

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