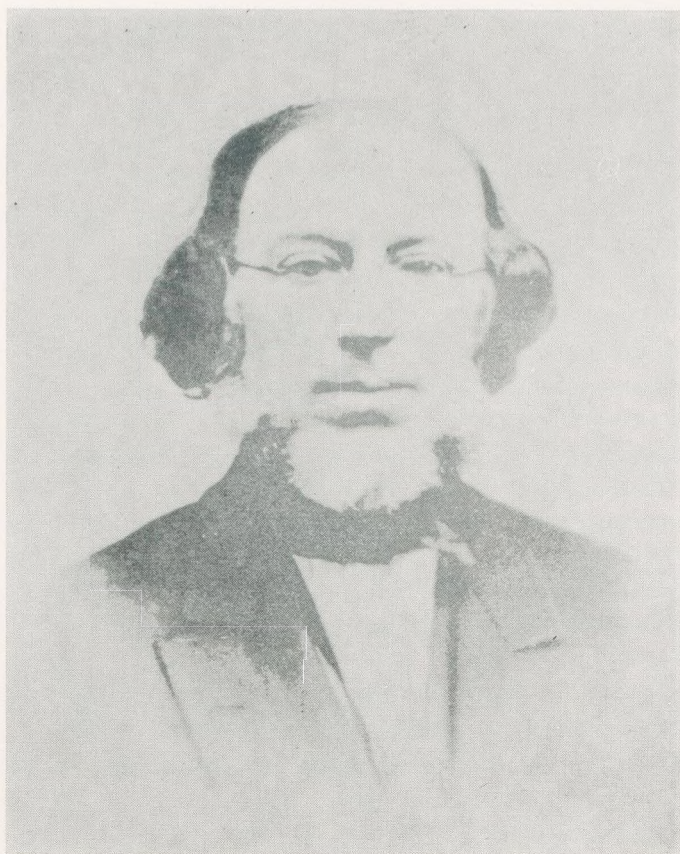




A CHRONOLOGY OF
JAMES BLAKE, M.D.

PIONEER MOLECULAR PHARMACOLOGIST, AND CALIFORNIA'S
FIRST GREAT SCIENTIST

*A Chronology of James Blake, pioneer molecular pharmacologist
and California's first great scientist*

- 1815 born July 14, of ale-brewing family in Gosport, England.
- 1835 student, University College, London, with great teachers, William Sharpey, Thomas Graham, and Michael Faraday.
- 1838 studied in Paris, under brilliant Francois Magendie.
- 1839 June 3, presented *Memoire sur les Effets de Diverses Substances Salines* at Parisian Academy of Medicine (*Arch. Gen. Med.*, 6:289-300, 1839). At Royal Society of London reported on *Observations and Experiments on the Mode in which Various Poisonous Agents Act on the Animal Body* (*Edin. Med. Surg. J.*, 53:35-49, 1840). By comparing organ-system effects from intravenous and intra-arterial injections of various inorganic salts, and of such crude drugs as infusions of digitals, Blake estimated circulation time, and indicated the concept of "target organ" for drug action.
- 1840 began medical practice, with office on Gower Street, later on Pall to Mall. Charter member of Chemical Society. Fellow Royal College of Surgeons. Grant from British Association for the Advancement of Science to aid his studies. Annual reports appeared in *Trans. B.A.A.S.*
- 1847 Professor of Anatomy and Surgery, St. Louis Medical School, USA. Published summary of London studies (*Amer. J. Med. Sci.*, 15:63-76, 1848), showing that the elements can be arranged in families on the basis of the biological action of their salts. Suggested the interaction of molecules of drugs with molecules of living material.
- 1849 in Gold Rush, overland, to California.
- 1850 settled in Sacramento, engaging in practice and assay of ores. Described vanadium salts. In 1856 exposed malpractice in article in
- 1862 *California Medical Journal*, using theory of probability. Recommended open-air rest treatment for tuberculosis.
- 1862 came to San Francisco, with office on Bush Street. Editor of *California & Western Medicine*. Deplored war; recommended quarantine station; resigned because of poor quality of contributions.
- 1864 Professor of Midwifery & Diseases of Women & Children, Toland Medical School on Stockton Street. In 1873 this was Medical School of the University of California.
- 1868 President of California Academy of Sciences. Reports in *Proc. California Acad. Sci.* on archeology (native artifacts); biochemistry
- 1872 (cholesterol content of yolks of ambloctoid fish); botany (signif-

icance of algae in hot springs); climatology (polar front and moisture-laden ocean air make weather); earthquakes & epicenters; Reports continued on embryology (viviparous fish); geology (topography of Nevada Great Basin, glacial action in Sierra & elevations of land masses); mammalogy (sea-lion skeletons); oenology (fitness of grapes for wine & fitness of soils for grape varieties); physics ("barking sands" of Kauai), & zoology (type descriptions of marine organisms).

- 1874 Clinical notes on drug antagonisms, on infant mortality, & on infectious diseases.
- 1876 Left San Francisco to found tuberculosis sanatorium on Monte Sol, at head of Napa Valley; ran it well with Mrs. Emmaline Woods, "a native of Maine," who chewed tobacco, swore and wore pants.
- 1880 Sold Monte Sol to Livermore family (who still own it), and moved to Middletown, where he built a house with chemical laboratory, and a connected cottage for Mrs. Woods.
- 1882 Received salts of newly found rare-earth elements from Sir William Crookes, and estimated rates of urinary excretion by spectroscopy. Took trip to England reporting before Chemical Society, and publishing in *Journal of Anatomy*.
- 1886 Another trip to England, Germany & France, reporting on biological actions of beryllium. Honored by chairing sessions of Deutsche Chemische Gesellschaft.
- 1888 Continued medical practice, charging no fee, and impressing neighbors with gentleness and love of flowers. None knew of his animal experiments.
- 1890 Third trip to England & France, reporting on effect of change of valence on biological action of inorganic salts.
- 1892 Published on toxicity of thallium salts, and on their rates of urinary excretion. Publication in French resulted in lack of recognition of its importance.
- 1893 Died November 18, in Middletown. Buried in Middletown Cemetery, with lilacs now growing thickly on his grave.

For accounts of Blake, see: Henry Harris, *California's Medical Story*, San Francisco, 1932; C. D. Leake, *Calif. West. Med.*, 47:405, 1937; *Gesnerus*, 8:114, 1951; W. F. Bynum, *Bull. Hist. Med.*, 44:518, 1970.

Questioning of James Blake

Now, why, you quiet, gentle Englishman,
did you so suddenly leave London?
There you were on the way
to fortune and to fame;
you were successful as a surgeon,
and you thrilled the scientists
of Europe by showing order in
the elements through
the biological action of their salts.
Why did you suddenly leave London?

Then, why, you independent Englishman,
did you so suddenly leave St. Louis?
You were successful, and well
regarded, when you came:
Why did you suddenly leave St. Louis?

And then, you genial Gold-Rush Doc,
why did you leave the brawl of Sacramento?

Again, you brilliant scientist,
why did you leave the cool of San Francisco?

Our scientists seldom care
to answer questions which begin with "why";
yet, willingly, and in detail, they try
to answer questions which begin with "how."
But scientists grow mellow as they age,
as do we all, until we reach the stage
where "why" and "how" are lost in stressful "now."

A keep-sake, prepared by Chauncey D. Leake, for those attending the
Fifth International Congress of Pharmacology,
San Francisco, July 23-29, 1972.