

GENEALOGY DATABASE ENTRY

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Mitscherlich, Eilhard

1794 - 1863

DEGREE: PhD (orient. lang.) DATE: 1814

PLACE: Göttingen

TEACHER/RESEARCH ADVISOR: Stromeyer

discovered the law of isomorphism, that "an equal number of atoms, combined in the same way produce the same crystal forms", which greatly assisted in the determination of atomic weights; discovered dimorphism, e.g., the rhombic and monoclinic forms of sulfur; collaborated with Fresnel in investigating the double refraction of crystals as a function of temperature; synthesized salts of manganate and permanganate; first to obtain iodine azide and selenic acid; determined the vapor densities of many elements and compounds; obtained benzene by the dry distillation of the calcium salt of benzoic acid, and formulated it as C_6H_6 via vapor-density measurements; synthesized nitrobenzene, azobenzene, trichlorobenzene, hexachlorobenzene, and their corresponding bromine derivatives; developed the contact theory (an early form of the theory of catalysis), whereby certain chemical reactions can take place only in the presence of certain other substances; discovered invert sugar; developed the first practical polarization apparatus; wrote an important textbook, *Lehrbuch der Chemie*, in 1829; produced artificially a large number of natural minerals by fusing the constituents together in the required proportions.

FOOTNOTE: After obtaining his doctorate in Persian, Mitscherlich decided in 1817 to take courses toward a medical degree, which would allow him to travel to the Orient as a ship's doctor. However, he turned increasingly toward chemistry under the guidance of Stromeyer. Mitscherlich's work in Berlin from 1818-1819 and with Berzelius from 1819-1821 was carried out largely independently.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 9, p423-426.
2. *J. Chem. Soc.* **1864**, 17, 440-442.
3. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p205-213.
4. *Great Chemists*; Farber, E., Ed.; Interscience: 1961; p481-493.
5. *J. Chem. Ed.* **1949**, 26, 358-361.
6. *Das Buch der Grossen Chemiker*; Bugge, G., Ed.; Verlag Chemie: 1929; vol. 1, p450-457.
7. Prandtl, W. *Deutsche Chemiker in der Ersten Hälfte des Neunzehnten Jahrhunderts*; Verlag Chemie: 1956; p242-285.
8. *Chem. Ztg.* **1913**, 37, 1369-1370 and 1398-1399.
9. Mitscherlich, A. *E. Mitscherlichs Gesammelte Schriften*; Ernst Siegfried Mittler und Sohn: 1896; p1-26.
10. *A Biographical Dictionary of Scientists*; Williams, T. I., Ed.; Wiley: 1969; p371.
11. *Proc. Roy. Soc.* **1864**, 13, ix-xvi.
12. *Am. J. Sci.* **1863**, 36, 457.