

GENEALOGY DATABASE ENTRY

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Magnus, Heinrich Gustav

1802 - 1870

DEGREE: PhD

DATE: 1827

PLACE: Berlin

TEACHER/RESEARCH ADVISOR: Mitscherlich

discovered the first platinum-ammine compound (Magnus' green salt $[\text{Pt}(\text{NH}_3)_4][\text{PtCl}_4]$) and its related potassium salt ($\text{K}_2[\text{PtCl}_4]$); worked on the addition compound of ethylene and platinumous chloride later described by W. C. Zeise (Zeise's salt $\text{K}[\text{Pt}(\text{C}_2\text{H}_4)\text{Cl}_3]$); discovered periodic acid and its salts, and the polymerization of hydrocarbons upon heating; studied the oxygen and carbon dioxide content of blood and concluded that oxygen is absorbed by arterial blood, transported to the capillaries where CO_2 is absorbed and transported by venous blood to the lungs; investigated the theory of heat, thermal expansion of gases (showing that different gases have unequal rates of expansion), boiling of liquids, vapor formation, electrolysis (Magnus' rule governing the deposition of separate ions during electrolysis of mixed salts), induced and thermoelectric currents, optics, hydrodynamics, magnetism, and mechanics; discovered the pyrophoric nature of finely divided iron.

FOOTNOTE: After receiving his PhD degree, Magnus studied for one year with Berzelius, who became his lifelong friend and advisor.

1. *Dictionary of Scientific Biography*; Charles Scribner's Sons: 1970-1990; vol. 9, p18-19.
2. Partington, J. R. *A History of Chemistry*; Macmillan: 1964; vol. 4, p352-353.
3. *J. Chem. Soc.* **1871**, 24, 610-615.
4. Prandtl, W. *Deutsche Chemiker in der Ersten Hälfte des Neunzehnten Jahrhunderts*; Verlag Chemie: 1956; p303-314.
5. *Aus Jac. Berzelius und Gustav Magnus' Briefwechsel in den Jahren 1828-1847*; Hjelt, E., Ed.; Druck und Verlag von Friedrich Vieweg & Sohn: 1900; p1-5.