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TO GET RID OF ITS DUST

Nicolas-Jean-Baptiste-Gaston Guibourt

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Turpentine

Abstract Nicolas-Jean-Baptiste-Gaston Guibourt (1790–1867), a French pharmacist, who studied the oxides, sulfides, and other compounds of mercury, arsenic and its compounds, a large number of natural products, among them turpentine, starch, astringent juices, and musk; also established the norm to express the power of pepsin.

PALABRAS CLAVE
Alcaloides;
Compuestos de arsénico;
Mercurio;
Óxidos de mercurio;
Sulfuros de mercurio;
Almizcle;
Productos naturales;
Pepsina;
Almidón;
Trementina

Nicolas-Jean-Baptiste-Gaston Guibourt

Resumen Nicolas-Jean-Baptiste-Gaston Guibourt (1790-1867), un farmacéutico Francés; que investigó los óxidos, sulfuros, y otros compuestos del mercurio; el arsénico y sus compuestos, un gran número de productos naturales, entre ellos, trementina, almidón, jugos astringentes y almizcle, y estableció la norma para expresar la potencia de la pepsina.

Life and career (Mialhe, 1867; Buignet, 1872)

Nicolas-Jean-Baptiste-Gaston Guibourt was born in Paris, July 2, 1790. At the age of 16, after finishing his basic education, he entered as an apprentice in the pharmacy of Jean-Pierre Boudet (1748–1828), the best-known Parisian

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establishment. Boudet promptly recognized the innate abilities of the intern and initiated him in the art of laboratory operations, the manipulating and compounding mixtures, and preparing medicaments. Afterwards, Guibourt served as intern of the hospitals (1808) where he took the first prizes of chemistry and pharmacy at the École de Pharmacie de Paris (1810). In 1816 he was awarded the pharmacist degree (*maître en Pharmacie*) after successfully defending a thesis about mercury and its combinations with oxygen and sulfur (Guibourt, 1816a, 1816b). He now began a meteoric professional, research, and academic career. He was appointed as an intern at the Hôtel Dieu (the oldest hospital of Paris), director of the annex of the Hôtel de la Pitié, assistant director of the central pharmacy of the civil hospitals, and director of the magazine of the same (1816). The experience accumulated in these positions led him to publish his first major books, *Histoire des Drogues Simples* (describing the origin, nature and properties of common drugs) (Guibourt, 1820b) and *Pharmacopée Raisonnée; ou, Traité de Pharmacie Pratique et Théorique* (Henry & Guibourt, 1828). The first edition of the latter was published in collaboration with his mentor Étienne Ossian Henry (1798–1873), later editions appeared under his name only. Guibourt was intent in publishing an updated edition of his first book, but unfortunately he died before. His colleague Gustave Planchon (1833–1900) carried on the desires of his mentor (Guibourt & Planchon, 1869). All the professional achievements were accompanied by a large number of scientific publications and promptly led to parallel success in the academic field. In 1824 Guibourt became a member of the Académie de Médicine and in 1832 he was appointed Professor of Materia Medica at the École Supérieure de Pharmacie de Paris, succeeding Pierre-Joseph Pelletier (1788–1842) (Buignet, 1872; Mialhe, 1867).

In 1845 the heavy load of his many professional and academic pursuits led Guibourt to give up the pharmaceutical business he had followed for 27 years and devote all his efforts to his activities at the École de Pharmacie. To this institution he donated his large collection of samples, properly labeled and ordered by scientific groups, and described with scrupulous detail.

Guibourt received many honors and awards for his professional scientific activities. He was a member of many French and foreign scientific societies, among them: the Société de Pharmacie de Paris (1818) and twice its President; resident member of the Société de Médicine de Paris (1823) and its treasurer for 26 years (1828–1854), resident member of the Académie Royale de Medicine de Paris (1824); honorary member of the Société des Pharmaciens de l'Allemagne septentrionale (1830), associate member of the Société Physico Médicale d'Erlangen (Bavaria, 1841), member of the Académie des Sciences, belles-lettres et arts de Rouen (1851), honorary member of the Pharmaceutical Society of Great-Britain (1861), foreign member of the Société de Medicine of Norway (1856), member of the Colegio Farmacéutico de Madrid (1864–1865), honorary member of the Association General de Pharmaciens of Austria and of the Société Pharmaciens du Nord et du Sud (united) of Germany, member of the Pharmaceutical Society of St. Petersburg (1867), member of the Chemical Society of Naples, etc. He was elected chevalier of the Legion d'Honneur (1846) and then promoted to officer (1863). Guibourt was a member of the French Redaction Committee of the Codex Medicamentaria; together with Stephan Robinet (1796–1861) he represented the Société de Pharmacie at the first International Pharmaceutical Congress held at Brunswick in 1865; he was Provisional President of the French Pharmaceutical Congress, which met in August 17, four days before his death (August 22, 1867). He was buried at the Montmartre cemetery. Planchon replaced him at the chair in the École de pharmacie (Buignet, 1872; Mialhe, 1867).

Guibourt researches covered a very wide range of subjects. In addition to the ones described below in detail we can mention the preparation of ethyl acetate (Guibourt, 1817), the properties of copahu and its balm (Guibourt, 1830b, 1852c); analysis of a false jalap having a rose odor (Guibourt, 1843); a description of the resins of copal, dammar, and animé (Guibourt, 1844); description of the rye fungus, *Clavicaps purpurea* (Guibourt, 1848); the properties of bamboo tabashir (Guibourt, 1855), etc.

Scientific contribution

Guibourt wrote over 190 papers and books (e.g. Guibourt, 1820b, 1849–1851, 1852a, 1855) in the areas of physics, toxicology, materia medica, pharmacy, mineral and organic chemistry, and animal chemistry. In 1832 he published a partial list of them (Guibourt, 1832). A detailed list appears in the book by Guibourt and Planchon (1869). Here we described a few of the most important ones.

Combinations of mercury

As mentioned above, Guibourt's thesis for receiving the title of *Maître en Pharmacie* was devoted to the combinations of mercury with sulfur and oxygen. An abstract of this work was afterwards published in the *Journal de Pharmacie* and *Annales de Chimie* (Guibourt, 1816b).

When reading the following material it must be considered that he was following the chemical nomenclature used at the time, where the names of compounds of mercury were provided with the suffixes *proto* and *deuto*, to indicate what today we call mercury (I) and mercury (II), respectively.

Although the original plan was to investigate the oxides, sulfides, sulfates, nitrates, and chlorides of mercury, Guibourt limited the subject to the oxides and chlorides because of their wide used in pharmacology. The first chapter was devoted to an historical description of the discovery of mercury, its natural state, extraction, purification, physical properties, and oxidation in contact with air. Mercury was known not to oxidize in the presence of dry air or dry oxygen, at room temperature. In the presence of humid air, it became covered with a very small amount of gray powder containing mercury oxide. According to Guibourt, this oxide dissolved in HCl forming mercury protochloride (HgCl), which then changed to mercury deutochloride ($HgCl_2$). Since this oxidation procedure always produced extremely small amounts of the oxide, Guibourt tried to prepare it by decomposing salts containing a minimum of mercury (mercury in the state II), for example, mercuric nitrate. Decomposing the protonitrate or the protochloride of mercury with KOH, in the total absence of atmospheric air, yielded a yellowish-black precipitate, which treated with HCl,