PHARMACEUTICAL EVENTS ABOUT 1776.

BY OTTO RAUBENHEIMER.

My historical records collected during the past twenty-six years date back to 1800. In the compilation of my paper "Pharmaceutical Events in 1776, a Sesqui-Centennial of Pharmaceutic Events," I had to look further back and during this research came across numerous data several years before and after 1776, which are too valuable to be lost. Therefore this present paper on the Events about 1776.

The arrangement differs somewhat from that of my usual annual historical paper, and is as follows:

Pharmacists, Chemists and Physicians tabulated as to countries.

Botanists and Naturalists.

Quinologia.

Born about 1776.

Died about 1776.

Events Pharmaceutical, Chemical and Medical arranged in chronological order from 1765 to 1787.

Conclusion.

· PHARMACISTS, CHEMISTS AND PHYSICIANS.

Those prominent in their respective professions and active or alive about 1776 are herewith listed according to countries:

DENMARK.

1740-1800, Prof. Mathias Saxtorph.

FRANCE.

1700-1781, Henri Louis Duhamel.

1707-1788. Louis Le Clerc.

1712-1781, Exupère Joseph Bertin.

1712-1789, Angelique M. Leboursier du Coudrav.

1718-1784, Pierre Joseph Macquer.

1725-1797, Pierre Bayen.

1728-1803, J. Fr. Demachy.

1728-1804, Antoine Baumé.

1730-1785, Mlle. Biheron, anatomical modeller.

1731-1799, L. Cl. Cadet de Gassicourt.

1732-1810, Jean Discement.

1733-1816, Guyton de Morveau.

1737-1813, Ant. Aug. Parmentier.

1738-1814, Joseph Ignace Guillotine, M.D. and inventor of the decapitating machine.

1742-1806, Nicolas LeBlanc

1743-1793, Jean Paul Marat, M.D., and revolutionist.

1743-1794, Antoine Laurent Lavoisier.

1744-1829, Jean Baptiste de Lamarck.

1745-1838, Pierre Louis Dulong.

1748-1822, Claude Louis Berthollet.

1749-1827, Pierre Simon Laplace.

1755-1809, Antoine Francois Fourcroy.

1755-1826, Joseph Louis Proust.

1755-1836, André Marie Ampère.

1756-1832, Jean Antoine Chaptal.

1763-1829, Louis N. Vauquelin.

1769-1832, George Cuvier.

SWITZERLAND.

1708-1777, Albrecht von Haller, the master physiologist of his time.

1734-1815, Friedrich Anton Mesmer.

HOLLAND.

1722-1789, Peter Camper, anthropologist and professor of anatomy at Amsterdam.

GERMANY.

1692-1777, Johann Heinrich Pott.

1705-1780, H. David Glaub.

1709-1782, Andreas Sigismund Marggraf, the last German phlogistonist.

1722-1783, Jacob Reinhold Spielmann.

1725-1799, Dr. E. G. Kurella.

1726-1787, Johann Rempf.

1727-1759, Johann Gottfried Zinn.

1732-1778, Karl Gottlieb Wagler.

1732-1800, Joh. Christ. Wiegleb.

1739-1808, Heinrich Aug. Wrisberg.

1743-1817, Heinrich Martin Klaproth.

1744-1816, Lorenz von Crell. 1748-1804, Johann F. Gmelin. 1749-1829, Carl Gottfried Hagen. 1749-1832, Johann Wolfgang Goethe. 1751-1819, Johann Friedrich Westrumb. 1753-1821, Franz Carl Achard. 1755-1809, Joh. F. A. Goettling. 1755-1843, Sam. Christ. F. Hahnemann. 1756-1849, Ernst Wilhelm Martius. 1757-1804, Joh. Tobias Lowitz. 1762-1807, J. B. Richter. 1762-1807, Valentin Rose, Jr. 1762-1836, Christ. Wilhelm Hufeland. 1770-1837, Joh. B. Trommsdorff. 1772-1849, Joh. Gottfried Rademacher.

SWEDEN.

1735-1784, Tobern Olaf Bergmann. 1742-1786, Karl Wilhelm Scheele. 1744-1820, Sam. G. Hermelin. 1745-1818, Johann Gottlieb Gahn.

GREAT BRITAIN.

1700-1778, Sam. Sharp. 1707-1779, Nathan Alcock. 1710-1790, William Cullen. 1710-1801, William Heberden. 1712-1780, John Fothergill. 1713-1788, Percival Pott. 1718-1783. William Hunter. 1721-1770, Mark Akenside. 1728-1774, Oliver Goldsmith. 1728-1793, John Hunter. 1728-1799, Joseph Black. 1728-1813. Charles White. 1731-1802, Erasmus Darwin. 1731-1810, Henry Cavendish, the wealthiest of all scholars, and the most scholarly of all the wealthy! 1733-1804, Joseph Priestley. 1733-1812, Richard Kirwan, the last of the phlogistonists. 1733-1816, Thomas Denman. 1733-1817, Alexander Monro Secundus. 1735-1788, John Brown. 1736-1801, Thomas Fowler. 1736-1819, William Hey. 1740-1804, Thomas Percival. 1741-1799, William Withering. 1744-1815, John Coakly Lettsom. 1745-1800, William Cumberland Cruikshank. 1749-1823, Edward Jenner.

1752-1808, John Sheldon.

1754-1829, Lewis Marie Smithson.

1758-1822, James Gregory.

1760-1808, Thomas Beddoes, the discoverer

of Humphrey Davy.

1766-1829, W. H. Wollaston.

1766-1844, John Dalton.

ITALY.

1711-1778, Laura Maria C. Bassi-Varati. 1725-1818, Leopold Marco Antonio Caldani. 1728-1797, Simon André Tissot. 1729-1799, Lazaro Spallanzoni. 1730-1805, Abbé Felix Fontana. 1737-1798, Luigi Galvani, at first nicknamed "Frog's Dancing Master." 1745-1827, Allessandro Volta. 1747-1832, Antonio Scarpa. 1752-1815, Paolo Mascagin.

UNITED STATES.

1706-1790, Benjamin Franklin. 1708-1779, Thomas Cadwallader. 1725-1793, James Hutchinson. 1735-1789, John Morgan. 1736-1808, William Shippen. 1741-1825, Benjamin Rittenhouse. 1743-1823, William Aspinwall. 1743-1824, Thomas Henderson. 1744-1825, Charles Marshall. 1745-1813, Benjamin Rush. 1750-1829, Aaron Dexter. 1753-1814, Benjamin Thompson Count Rumford. 1754-1846, Benjamin Waterhouse. 1754-1844, Dr. James Thacher of American Dispensatory fame. 1759-1826, Sam. Powell Griffitts. 1759-1839, Judge Thomas Cooper. 1760-1818, Dr. Caspar Wistar. 1764-1831, Dr. Sam. Latham Mitchill. 1768-1836, Elizabeth Marshall. 1768-1837, Dr. Philip S. Physick. 1769-1835, Dr. David Hosack. 1770-1809, James Woodhouse. 1770-1845, Joseph Cloud. 1771-1814, John Maclean. 1773-1825, Adam Seybert. 1773-1864, John Redman Coxe. 1775-1821, Dr. Lyman Spalding, the Father of the U.S.P.

BOTANISTS AND NATURALISTS.

Around 1776 there lived some of our greatest botanists and naturalists as can be seen from the following list, representing all countries, including the United States.

1699-1777, Bernard Jussieu, Fr. 1701-1774, Charles Marie de la Condamine Fr. mathematician and naturalist. 1707-1778, Carl von Linné, Sweden. 1716-1795, Don Antonio d'Ullon, Sp. explorer. 1720-1792, Paul H. Moehring, German botanist and ornithologist. 1727-1817, Nicolas Joseph V. Jacquin, Fr. 1739-1823, William Bartram, Am. 1740-1829, J. J. Molina, Chil. nat. 1741-1799, William Withering, Eng. 1742-1795, Friedrich Ehrhardt, Ger. 1742-1821, Andreas Johann Retzius, Ger. 1743-1828, Carl Peter Thunberg, Swed. 1744-1829, Jean P. A. de Lamarck, Fr. nat. 1746-1802, André Michaux, Fr. bot. in U. S. 1748-1831, Chr. E. von Weigel, Swed.

1748-1836, Antoine Laurent de Jussieu, Fr.
1750-1816, Christ. Conrad Sprengel, G.
1754-1821, Louis Claude Marie Richard, Fr.
1755-1828, J. Ch. Wendland, Ger.
1759-1828, James Edward Smith, Eng.
1762-1823, Alex. D. Koehler, Ger. bot. in America.
1765-1812, Carl Ludwig Willdenow, Ger.
1769-1825, J. E. Christ. Ebermaier, Ger.
1770-1836, Christ. H. Person, Dutch.
1770-1855, Francois André Michanx, Fr. bot. in U. S.
1770-1829, Giuseppe Raddi, Ital.
1773-1859, Thomas Horsfield, Am. bot. in Java.
1774-1820, F. T. Pursh, Ger. bot. in U. S.

What an array of immortal names!

QUINOLOGY.

It was during the life of the above men that botany was reconstructed and systematized and shaped into an exact science. From the middle to the end of the 18th century special attention was paid to cinchona as can be seen from the following short account.

In 1735, a historic expedition was sent to South America by the Spanish government, composed of LaCondamine, Gordin, Ulloa and other "savants." In their report they protested against the habit of destroying the trees to obtain the bark, advising that new trees be planted. Even at such an early date they stated "Though the trees are numerous, yet they have an end."

In 1735, Joseph Jussieu, the botanist, visited Peru collecting specimens under an exploring expedition of the French and Spanish governments. In 1739 together with LaCondamine he visited Loxa for the first examination of the Loxa cinchona tree, remaining in South America after LaCondamine's departure. All in all Jussieu spent thirty-four years in laborious, self-sacrificing pioneering research to be at last robbed by a dishonest servant of his great collection of plants and specimens. In 1771 he returned to France, deprived of reason by the great loss.

Exportation of cinchona plants was naturally opposed by the Peruvian government, which was anxious to retain the monopoly of so important a product, but in 1743 LaCondamine attempted to transport young plants down the Amazon and then to Paris. The box containing these was washed overboard, but subsequent attempts were more successful and cinchona was cultivated in other parts of the world.

The first important publication on cinchona is the paper by Arrot read before the Royal Society in 1737 "Account of the Peruvian or Jesuits' Bark." Before that year no botanical history of the *Quinquinia* or *Arbor Febrifuga Peruviana*, as *Cinchona* was then called, is found worthy of attention.

In 1774, there was published in Edinburg "Dissertatio de Cortice Peruviano" by Thomas Balfour.

In 1784, Ralph Irving presented a dissertation which obtained the first prize given by the Harveian Society of Edinburg. "Experiments on the Red and Quill Peruvian Bark, with Observations on Its History, Mode of Operation and Uses."

This 101-page dissertation was dedicated to John Eliott, Esq., December 16, 1784.

John Rolph, M.D. was physician to Guy's Hospital, London. In 1794 he published a volume of 177 pages entitled "An Inquiry into the Medical Efficacy of a New Species of Peruvian Bark, Lately Imported into This Country under the Name of Yellow Bark."

The two most important early works on cinchona are: H. Ruiz: Quinologia, Madrid 1792. Supplement 1801. H. Ruiz and J. Pavon: "Flora Peruviana et Chilensis," 4 vol. 425 Plates, Madrid 1798–1802.

The above short account of the research on cinchona during the 18th century is again another proof of that interesting study "History of Drugs and Medicines."

BORN ABOUT 1776.

Some of our most celebrated pharmacists, chemists, physicians and scientists were born about this time. Their birth is herewith presented in chronological order:

1762, Richter, Val. Rose, Schrader and Hufeland.

1763, Vauquelin and Haenle.

1764, Dr. Sam. Latham Mitchill.

1765, Seguin.

1766, Dalton and Wollaston.

1767, Saussure and Doerffurt.

1768, Dr. Physick and Elizabeth Marshall.

1769, Jacques and Peschier.

1770, Trommsdorff, Bucholz, Best and Francois André Michaux.

1771. Bichat and McDonald.

1772, Broussais, Lampadius and Rademacher.

1773, Thomas Young, Boivin, Dr John Redman Coxe and Adam Seybert.

1774, Serullas, Biot, Robert Watt, Sir Charles Bell, F. T. Pursh and Dr. Lyman Spalding.

1775, Geiger, Gehlen and Juch.

1776, treated in a separate paper.

1777, Courtois, Thénard, Boullay, Oersted and d'Arcet.

1778, Davy, Gay-Lussac, Stromeyer and Humboldt.

1779, Berzelius.

1780, Doebereiner, Derosne and Robiquet.

1781, Struve.

1782, Duhamel.

1783, J. A. Buchner, Sertuerner and C. S. Rafinesque Schmalz.

DIED ABOUT 1776.

The following deaths occurred about this time.

1768, John Huxham and George Brandt.

1769, Claude L. Cadet de Gassicourt and Cartheuser.

1770, G. F. Rouelle and B. S. Albinus.

1771, Valentine Rose, Sr.

1772, Dr. Gerhard von Swieten.

1773, Nils R. von Rosenstein.

1774, Anna Morandi Manzolini, J. F. Henckel, Dr. Oliver Goldsmith and Charles Marie Condamine.

1775, Johann F. Meckel.

1776, treated in a separate paper.

1777, Johann Heinrich Pott, Joh. Andr. Cramer, Albrecht von Haller and B. Jussieu.

1778, Dr. William Brown, author of the first Pharmacopæia in America and Carl Linné.

EVENTS PHARMACEUTICAL, CHEMICAL AND MEDICAL ARRANGED IN CHRONOLOGICAL ORDER FROM 1765 to 1787.

1765—Dr. John Morgan in his address "Discourse upon the Institution of Medical Schools in America," delivered at the Commencement of the College of Philadelphia, proposed the separation of pharmacy from medicine, the first step on record.

Medical Faculty of University Pennsylvania founded.

Philadelphia Medical Society organized. Royal Veterinary College at Dresden. National Veterinary College at Alfort. Watt invents steam engine.

Fontana publishes memoir on viper poison.

1766—Cavendish discovers hydrogen.

New Jersey Medical Society founded.

1767—Torben Olaf Bergmann begins his classic work in analytical chemistry.

Pharmacy Law of Hesse-Cassel and of Erfurt, Germany.

Medical School of King's College (later

Columbia University) New York City. Marggraf: Chymische Schriften (Berlin). Influenza Pandemic in Europe.

1768-Scheele prepares tartaric acid.

Lavoisier elected member Academie des Sciences and appointed as one of the Ferme Générale.

Dr. David Jackson, father of Samuel Jackson, graduates in the first class of the Medical School, College of Pennsylvania, later the University of Pennsylvania.

G. F. Roessler introduces electric baths. Dr. Heberden describes Angina Pectoris. Elizabeth Marshall, first woman pharmacist in America, born.

1769—Scheele discovers composition of bone ash and prepares phosphoric acid therefrom.

Wiegleb recognizes an acid in sal acetosella. Watt patents his steam engine.

Dartmouth College founded.

Medical Society of New York.

First Children's Hospital in Europe opened by George Armstrong.

1770—Frederick II sanctions the establishment of the "Schweizer Apotheke zum Roten Adler" in Berlin which, in 1814, was bought by J. D. Riedel.

Baumé established first sal ammoniac factory in France.

Lavoisier publishes the proof that water is not converted into earth by evaporation. Priestley recommends rubber for erasers. Wiegleb analyzes white precipitate.

Cotugno demonstrated albumen in urine. William Brown, author of first Pharmacopæia in America, obtained M.D. degree in Edinburg.

First Medical Degree in U. S. conferred by King's College, New York City.

1771—Townsend Speakman's Drugstore established corner Market and Second Sts., Philadelphia.

Ernst Wilhelm Martius, father of the celebrated pharmacognosist, was apprenticed to the Wels-Weinl Hofapotheke in Erlangen.

Parmentier, then chief pharmacien at the Hotel des Invalides, wins the prize offered by the Academy of Besançon by suggesting to plant potatoes as the best means to avert a famine in France.

Marggraf precipitates a Lac by adding alum to extract of red madder. Scheele prepares H. F. from Fluorspar.

Bellevue Hospital in New York founded. Pulsatilla introduced by Anton Stoerck. Roasted Chicory Root introduced as a substitute for coffee.

Linné knew 8551 species of plants.

Gaubius, in Leyden, crystallizes menthol from oil of peppermint and introduces Calumba and Lopez root into the materia medica.

First edition of the Encyclopedia Brittanica.

1772—Charles Marshall succeeds his father Christopher at Chestnut and Second Sts., Philadelphia.

Carl Gottfried Hagen succeeds his father in the Apotheke at Koenigsberg.

Rutherford discovers nitrogen.

Scheele discovers oxygen.

Priestley discovers nitrous oxide.

Price list of medicines (Taxe) issued in Denmark.

Medical Law in New Jersey.

1773-Bergmann analyzed tartar emetic.

Rouelle discovers urea.

Savary in Strassburg investigates sal acetosella.

Repeal of Law against sale of poppy capsules in France.

Guyton de Morveau introduced chlorine fumigation to remove the dead body odor from the church St. Médarde in Dijon.

John Walsh observes animal electricity. Aqua Lauro Cerasi introduced into materia medica.

In France there was established the "Commission royale de medicine pour l'examen des remèdes particuliens et la distribution des eaux minerales."

American Medical Society in Philadelphia. Medical Society of London.

First Insane Asylum in the U. S. in Williamsburg, Va.

Calumba recommended by Pereira.

1774—Priestley published his discovery of "Dephlogisticated Air" (O).

Priestley discovers ammonia gas.

Scheele discovers Cl, Ba and Mn.

Scheele prepares KMnO4 and aldehyde.

Bergmann recognized fixed air (CO₂) as a weak acid. He names it "Luftgas."

The French pharmacist Pierre Bayen (1725-97) observed that the increase in weight by heating metals to form "Calces" is due to access of air.

Lavoisier repeats his experiment of calcining tin and reports that the gain of weight is at the expense of the air and that the loss in weight of air equals the gain in weight of the tin.

Prof. J. W. Schroeder introduced Acorus and also Ledum palustre into materia medica.

Benjamin Jesty vaccinates against small-pox in Dorsetshire.

Dr. Abraham Chovet from Jamaica teaches anatomy in Philadelphia.

Dr. Robert James, London, originator of James' Powder, patented his "Analeptic Pill."

1775—Scheele discovers arsenic acid and prepares impure AsH₃.

Scheele prepares Na₂CO₃ from NaCl + PbO, but did not receive the prize offered by the French Academy of Sciences.

Scheele sublimes pure benzoic acid from benzoin.

Scheele received as "Studiosus Pharmaciae" by the Stockholm Academy.

Bergmann observes Acidum Coerulei Berolinensis (HCN).

Lavoisier decomposes fixed air (CO₂) into C and pure air (O).

Lavoisier defines oxygen.

Wiegleb finds that Stearoptenes of Volatile Oils differ from Camphor.

Volta invents the electrophor.

John Morgan appointed Director Surgeon-General of the American Army.

1776—These events are treated in a separate paper.

1777—W. Will obtained peonal, an aromatic Ketone in colorless crystals by the steam distillation of the Japanese plant Paeonia. Lavosier describes the exchange of gases in respiration.

Scheele publishes Treatise on Air and Fire. R. F. Wenzel establishes fundamentals of Stoichiometry.

John Howard's investigation of prisons and hospitals.

Army Veterinary School at Vienna established.

Frier's Drops (somewhat different from Frier's Balsam) patented in England.

William Shippen chosen Director-General of the American Army Medical Department.

1778—Dr. William Brown publishes the first American Pharmacopœia in Philadelphia. Bergmann discovers Molybdenum and Tungsten.

Count Rumford investigates mechanical

equivalents of heat. Chemische Journal established, continued as Crells Chem. Annalen.

Elvy publishes "Dictionaire Historique de la Medicine."

1779—Scheele discovers glycerin, which he named "Sweet principle of oils" in preparing Empl. Plumbi.

Ingen Housz discovers that plants give off CO₂.

University of Palermo, Sicily, founded.

J. P. Frank issues first system of public hygiene.

Mesmer publishes his memoir on "Animal Magnetism."

1780-Scheele prepares lactic acid.

Benjamin Franklin mounts bifiocal lenses. American Academy of Arts and Sciences founded at Boston.

University of Muenster, Germany, inaugurated.

Oxford University establishes chair of clinical medicine.

1781—Cavendish accomplishes synthesis of water.

The name Oxygenium coined by Lavoisier. University of Georgetown, D. C., founded. Massachusetts Medical Society.

1782-Scheele discovers HCN.

Molina names "Peumus Boldus."

Carl Heinrich Heinitch establishes pharmacy in Lancaster, Pa. Still in existence and in the hands of descendants. According to a sign in the store the date is claimed to be 1780, but most records state 1782. Medical Department of Harvard University founded.

University of Innsbruck reduced to a Lyceum by Joseph II.

1783—Surgeons separated from Barbers in Austria.

Royal Society of Edinburgh publishes Transactions.

1783-85—Lavoisier analyzes water and overthrows Phlogiston Theory.

1784-Scheele prepares citric acid.

Cavendish discovers hydrogen.

Leblanc invents soda process.

Goethe discovers intermaxillary bone.

Cotugno discovers cerebro-spinal fluid.

Royal College of Surgeons in Ireland.

Allgemeines Krankenhaus in Vienna established.

First daily newspaper in the United States published: Pennsylvania Packet or Daily Advertiser.

University Lemberg, Galicia, founded. 1785—Scheele prepares gallic acid.

Fowler's solution originated.

Withering's treatise on Foxglove published. Sir Gilbert Blane publishes treatise on naval medicine.

Josephinium established at Vienna.

Chair of Anatomy established in University of Dublin.

University of Georgia founded.

1786—Odier introduces bismuth subnitrate into materia medica.

Fourcroy and Thouret discover Adipocere. John Hunter publishes treatise on venereal disease.

Lettsom describes drug habit and alcoholism.

Royal College of Physicians, London, publishes transactions.

Berthollet adopts Lavoisier's Combustion Theory.

'Philadelphia pharmacy for the poor established.

1787—Berthollet prepares KClO₃, named "Sel de Berthollet."

Guild of Bathkeepers abolished in Wuerzburg.

Fourcroy and de Morveau adopt Lavoisier's Theory.

College of Physicians in Philadelphia founded.

Dr. Joh. David Schoepf published in Erlangen: Materia Medica Americana. it.

CONCLUSION.

If this paper will arouse a little more interest in that much neglected study of "Historical Pharmacy," then the author is well paid for his trouble.

It was the celebrated pathologist Rokitansky who is responsible for the expression: "An dem Lichte der Alten sollte die Jugend ihre Fackeln entzuenden," which freely translated means: "The deeds of our forefathers should inspire the younger generation."

By all means the younger generation of pharmacists needs this inspiration!

BILL FOR PROTECTING MERCHANDISE PRICES OUTLINED BY CONGRESSMAN KELLY.

"The Seventieth Congress will enact into law a fair trade bill, assuring the public honest merchandising, along the lines of House Bill No. 11, but in amended form so as to embrace a substitute agreed to by members of the House Committee on Interstate and Foreign Commerce of the Sixty-ninth Congress," Representative Kelly of Pittsburgh, Pa., predicted orally on May 21st.

"I introduced in the Sixty-ninth Congress," he said, "a measure (House Bill No. 11) to permit voluntary contracts between independent manufacturers and independent distributors requiring a uniform price. Hearings were held before the House Committee on Interstate and Foreign Commerce and subsequently an unofficial draft of proposed committee amendments was printed for the information of the Committee. I have accepted these amendments and gladly so because they simply clarify the purpose of my House Bill No. 11. At the beginning of the Seventieth

Congress, next December, I shall introduce my bill in the amended form and I believe it will be enacted into law. It will be known as the Fair Trade Bill and its purpose, in brief, will be to assure honest merchandising.

"The problem of protecting the price on standard trade-marked articles in competition with other articles of the same class is the biggest question before American business. Granting the fight to the manufacturer of such a product is the greatest blow which can be struck against monopoly. The Standard Oil Company, the Tobacco Trust and other great combinations won their control by price cutting. They slashed rates until competitors were eliminated and then they raised the prices to recoup all losses. This same practice is used by great retail establishments in luring customers with the idea that all their goods are sold at bargain rates on standard trademarked articles. Of course that is impossible and extortionate profits are made on unnamed and unidentified goods. The public pays the full cost of such practices. Fair competition is always in the public interest."