

Schmidt loved the country and the mountains as he loved his work and intercourse with his colleagues. He was a great meteorologist and a lovable man. His loss will be keenly felt by all who knew him personally and by many who knew him only through his published work. It is a blow which falls particularly severely on Vienna, the more so coming as it does after the sudden and unexpected death of Exner six years ago.

E. GOLD.

### Prof. J. T. Cash, F.R.S.

JOHN THEODORE CASH, emeritus professor of *materia medica* and therapeutics in the University of Aberdeen, who died on November 30, was a man of wide sympathies and, to those fortunate to know him intimately, a delightful companion. Born in Manchester in 1854, he studied arts and medicine at Edinburgh, qualified as M.B., C.M. in 1876, and proceeded to M.D., his thesis for which earned a gold medal, in 1879. After qualification he worked and studied at Paris, Vienna, Berlin and Leipzig.

Cash's early interests were in physiology and hygiene, but later they became almost purely pharmacological. The post-Continental period he spent in London, and investigated the pharmacological action of organic lead compounds, the action of chemical disinfectants (which he reported to the Local Government Board), and contributed, with Lauder Brunton, an important paper on the connexion between chemical constitution and physiological action to the Royal Society. He was elected a fellow of the Royal Society in 1887.

The appointment of Cash to the chair of *materia medica* and therapeutics at Aberdeen in 1886 was a surprise, for the chair had previously been held by medical practitioners, and Theodore Cash was a pure researcher. The appointment was, however, fully justified. Although only a part-time job, he devoted himself wholly to university work. A student of his first class was Arthur Cushny, who became successively professor of pharmacology in the University of Michigan, in University College, London, and lastly professor of *materia medica* and therapeutics in the University of Edinburgh.

At Aberdeen, Cash continued his investigations on chemical constitution and physiological action, then on the action of the pure organic nitrites prepared by Dunstan, and later on the action of the aconitines, which also had been prepared by Dunstan. The results were incorporated in papers to the Royal Society. They show that thoroughness and attention to detail which is characteristic of all Cash's work. He also investigated and wrote, among other matters, on tobacco smoking and skin irritants. His administrative work was equally thorough. For a time he was dean of the Faculty of Medicine and the University's representative on the General Medical Council. His work was acknowledged by the LL.D. of Edinburgh and, after retirement, of Aberdeen.

Cash was renowned as a fisherman as well as a pharmacologist. Once, the present writer when at a fisherman's inn in Scotland inquired from a visitor

what fly he used and he replied "Cash's". On relating the incident to Prof. Cash, he confessed to having prepared and tried his own flies. This incident illustrates the man; he was as modest of his prowess with the rod as of his abilities in other spheres. He fished nearly all the streams of the British Isles, and up to a few years ago could still be found occasionally on the banks of his beloved Don.

Prof. Cash married the youngest daughter of the Right Hon. John Bright. Her death, soon after their removal to Hereford, was a great blow to him. There are four children of the marriage, two sons and two daughters, to whom we extend our sympathy.

C. R. M.

### Dr. G. Schack-Sommer

DR. GUSTAF SCHACK-SOMMER died in London on October 16, aged eighty-two years. The sugar industry, home-grown sugar in particular, and his many friends will regret the passing of one who was blessed with a charming personality and presence, and whose interest in sugar was maintained to the last. He was unmarried. It was his intention to be present at the International Conference of Sugar Analysts in London in September, but unfortunately he was prevented by ill-health at the last moment. His family home was at Marienlyst, Elsinore, in Denmark, but at the time of his birth in 1854 his father was Danish Consul in Hamburg, and it was there that he spent his school life, although the summer vacation was always spent at Elsinore. In 1872 he was attracted to Heidelberg by the work of Bunsen, Kirchhoff and Kopp, and in 1875 he graduated and obtained his Ph.D. degree. His first professional post was in a German chemical works.

In 1877 Dr. Schack-Sommer decided to live in England and took the opportunity offered him to assist at one of the first alkali works in this country, the Newcastle Chemical Works. In 1878 he left Newcastle for Liverpool, where he joined the sugar-refining firm of Crosfield, Barrow and Co., of which he became a partner in 1884. In the same year he renounced his Danish nationality in favour of English. In 1881 he assisted in the foundation of the Society of Chemical Industry; he became a fellow of the Institute of Chemistry a few years later.

Dr. Schack-Sommer's early years in Germany had impressed upon him the benefits resulting from the growing of sugar beets, and from 1889 until 1895 he was instrumental in the growing of sugar beet in Lancashire and Ireland. Each year the results were carefully tabulated, supporting his contention that the crop was as suitable for England as for the Continent. With other pioneers, of whom Lord Denbigh and Sir George Courthorpe were the chief, he never missed an opportunity either at lectures or meetings of impressing all concerned with the merits of beet growing in this country. In 1890 he delivered a lecture which was attended by many members of Parliament interested in agriculture, and he was one of the earliest members of the British Sugar Beet Council, becoming chairman of the Liverpool section in 1895. He frequently recalled the pleasure it had

given him to be present at the invitation of Sir George Courthorpe when the first batch of white sugar ever produced from English grown beets was completed at Cantley in 1912. Earlier attempts in 1868 at Lavenham had only produced syrups.

In 1894 the refinery of David Martineau and Sons, one of the oldest established in the sugar industry, was burnt to the ground, and in the following year Dr. Schack-Sommer assisted members of the old company to carry on its tradition by the formation of a new company. Of this company, now known as Martineaus, Ltd., he became the first chairman, a position which he held for thirty years, until advancing years prompted him to retire at the age of seventy-two. His tact and ability during these years are gratefully remembered, and even in his retirement he was a frequent visitor to the place of his former labours up to within a fortnight of his death.

#### Mr. Hugh Richardson

WE regret to learn that Mr. Hugh Richardson, who for many years had a stimulating influence upon school science teaching, died on November 24 at seventy-two years of age. Mr. Richardson was educated at Bootham School, York, and King's College, Cambridge, where he graduated in 1887. In the following year he became a master on the modern side of Sedbergh School, Yorks, where he remained until 1897, when he became science master at Bootham School, remaining in that position until he retired in 1914. He was an enthusiastic teacher with unusually wide interests and fertility of ideas; and his work at Bootham School represented science teaching at its best, being both practical and comprehensive. The school possesses an astronomical observatory, and Mr. Richardson used this to teach astronomy by similar practical methods to those adopted by him for instruction in physics and chemistry, botany and geography. He was an examiner in botany for matriculation at the University of London in

1904-7, and was secretary of the Educational Science Section of the British Association during the years 1906-15.

When attention was being given to the application of scientific methods in the teaching of geography, Mr. Richardson, with the late Mr. A. T. Simmons, produced in 1905 the first helpful guide for use in schools, in their "Introduction to Practical Geography". He was also the editor from 1911 until 1919 of a Nature Study Series published by the Cambridge University Press.

During the last twenty years Mr. Richardson has led the life of an enlightened country landlord in Northumberland, planting trees, studying butterflies and their natural history relationships and raising varieties of primulas and gentians. He maintained to the last a keen interest in all developments of science and their relation to human life and will be remembered with affection and esteem by all who came in contact with him in educational and scientific circles.

WE regret to announce the following deaths:

Sir John Bland-Sutton, Bt., president of the Royal College of Surgeons in 1923-26, on December 20, aged eighty-one years.

Prof. F. A. Laws, emeritus professor of electrical measurements in the Massachusetts Institute of Technology, on November 12, aged sixty-nine years.

Prof. R. F. C. Leith, emeritus professor of pathology and bacteriology in the University of Birmingham, on December 14, aged eighty-two years.

Sir John Robertson, C.M.G., O.B.E., professor of hygiene and public health in the University of Birmingham, on December 16, aged seventy-four years.

Prof. H. Westergaard, formerly professor of statistics in the University of Copenhagen, known for his statistical work in connexion with population and other social problems, on December 13, aged eighty-four years.

## News and Views

### Twelve Notable American Inventions

THE granting of patents in the United States was provided for in the Constitution, and on April 10, 1790, Congress specified how patents were to be issued. It was, however, not until an act of July 4, 1836, that the Patent Office was established under a Commissioner. In that year, too, the Patent Office started numbering serially the patents issued. In connexion with the centenary of these events, a list of twelve of the inventions that have done most to change life in America, together with the inventors' names, has been drawn up. The list is as follows: The telephone, Alexander Graham Bell (1847-1922); the electric telegraph, Samuel Finley Breese Morse (1791-1872); the electric light, the cinema and the

gramophone, Thomas Alva Edison (1847-1931); the commercial steamboat, Robert Fulton (1765-1815); the aeroplane, Wilbur Wright (1867-1912); the air-brake for trains, George Westinghouse (1846-1916); the linotype machine, Ottomar Mergenthaler (1854-99); the sewing machine, Elias Howe (1819-67); the cotton gin, Eli Whitney (1765-1825); the vulcanization of rubber, Charles Goodyear (1800-60); a practical reaping machine, Cyrus McCormick (1809-84); and aluminium manufacture, Charles Martin Hall (1863-1914). The compilation of any such list is always a matter of great difficulty, but there can be no question that the inventors and inventions here recalled are truly representative of the great contributions to mechanical progress by men of American nationality.