

head of English-speaking astronomers, so Schiaparelli stood at the head of the astronomers on the Continent".

Another astronomer who was born a century ago was Friedrich August Theodor Winnecke (1835-1897), whom Sir David Gill called "the greatest teacher of practical astronomy since the days of Bessel"; and another, Jean Charles Rudolphe Radau (1835-1911), who though German by birth spent most of his life in France and at the time of his death was a member of the Paris Academy of Sciences and the Bureau des Longitudes.

Chemical science of the nineteenth century is represented by Adolph von Baeyer (1835-1917), August Dupre (1835-1907), Rudolph Fittig (1835-1910) and Johann Wislicenus (1835-1902). All were of German birth, but Dupre became a naturalised Englishman and as such held important Government posts. Fittig, von Baeyer and Wislicenus all received the Davy Medal of the Royal Society. One of Fittig's earliest appointments was to the University of Tübingen, and it was in 1871 that Sir William Ramsay, then a youth of nineteen wrote home: "I go regularly to Fittig's lecture at 8. He lectures very distinctly and clearly. It is really very beautiful to see the way the organic compounds are arranged". Of the career of Wislicenus, and of the charm of his character, much is contained in the memorial lecture delivered in 1905 to the Chemical Society by W. H. Perkin, Jr.

The progress of science is furthered by many means, and this is illustrated by comparing the careers of the three physicists Joseph Stefan of Austria, Elisha Gray of the United States and George Carey Foster of University College, London, who were all born in 1835. Stefan by his researches furthered our knowledge of liquids and gases, light and sound and electricity, and his name is now recalled by the Stefan-Boltzmann law of radiation. Gray was a practical electrician with more than sixty patents to his credit, and though originally a professor he was afterwards connected with

manufacturing. It will be remembered that on February 14, 1876, he lodged a caveat for a telephone with the American Patent Office only a few hours after Alexander Graham Bell had visited the office on a similar errand. Carey Foster, on the other hand, although a contributor to scientific literature, was known for the part he played in furthering the best interests of University College, in supporting the claims of women to university privileges and in extending the use of physical laboratories in the teaching of science.

It need scarcely be said that this list of men of science born in 1835 who were devoted to physical subjects could be made longer, but it is perhaps unnecessary to do so. Finally, therefore, attention is directed to the names of one or two distinguished naturalists whose centenaries occur this year. Of these, Alexander Agassiz (1835-1910), the son of Louis Agassiz, was for a time superintendent of the well-known Calumet and Hecla Copper Mines, Lake Superior; but was best known for his work as a zoologist and oceanographer. Born at Neuchâtel, Switzerland, he accompanied his father to the United States in 1846, and there he passed the remainder of his life, holding important positions and taking part in many scientific expeditions. Another naturalist connected with North America was Joseph Frederick Whiteaves (1835-1909), who was born at Oxford and worked there under John Phillips. A visit to Canada in 1861, however, led to his studying the geology of Quebec, and he became palæontologist, zoologist and assistant director of the Geological Survey of Canada. In 1907 he was awarded the Lyell Medal of the Geological Society of London. Of Sir Archibald Geikie (1835-1924) it is but necessary to recall that he was in turn director of the Geological Survey of Scotland, Murchison professor of geology and mineralogy in the University of Edinburgh and director of the Geological Survey of the United Kingdom. He was born on December 28, 1835 and died on November 10, 1924.

## Obituary

PROF. B. H. BUXTON

**B**ERTRAM HENRY BUXTON was the eldest son of Mr. Charles Buxton, M.P., of Fox Warren, Cobham, Surrey. He was born in 1852 and was educated at Eton. He entered the business with which his family was associated, but did not find it congenial. Preferring travel, he was a frequent visitor to the United States; on one of his visits, medicine attracted him. Having voluntarily undertaken duty on board a passenger vessel in quarantine because of cholera, he followed up his observations through the Health Officer of the Port of New York, who introduced

Buxton to bacteriology. At Cornell he studied in the Post Graduate Laboratory and rapidly became proficient. His keen mind quickly appreciated medicinal science. The University gave him a doctor's degree, and finally he occupied the chair of bacteriology.

Buxton's work was outstanding, his technique brilliant; no detail was too small for his scrutiny or attention. He was among the first to recognise the differing strains of typhoid bacillus in culture; he made notable contributions to the study of erysipelas and typhoid fever, and at the Memorial Cancer



Hospital developed Dr. Coley's vaccine of erysipelas for the treatment of inoperable sarcoma. He made fine histological preparations and developed a remarkable skill in microscopic pathology and photomicrography. He pursued these morphological studies until his voluntary retirement in 1912.

Returning to Surrey, Buxton lived at the Manor House, West Byfleet, at the foot of the hill on which is situated his parental home. From 1922 he worked as a guest in the laboratory of the Royal Horticultural Society. With the late Dr. F. V. Darbishire he studied the effect of varying hydrogen ion concentrations on the colour pigments of plants. It was always a great pleasure to watch Buxton at work—so neat and precise in his methods, so keen was his observation of every colour change. His work with Darbishire was reported in the Royal Horticultural Society's *Journal* and in the *Journal of Genetics*. Buxton was also keenly interested in genetics and he raised a cross between *Digitalis purpurea*, the purple foxglove, and *Digitalis ambigua*. As the result of doubling of the chromosome complement, this hybrid became fertile and has now been recognised as a new species, *D. mertonensis*. He collaborated with the cytologists at Merton in these investigations, particularly with Dr. C. D. Darlington and the late Dr. Newton. Other genetical work concerned the Wisley blue primrose and *Primula acaulis*.

Buxton keenly felt the loss of his colleague Darbishire, who died in 1932, and his visits to the laboratory became more infrequent. A year or so ago he

visited Devonshire and decided to live there. He survived his brother Earl Buxton, who was a year younger, by two months. Like him, he was also keenly interested in birds, and on his walks over the Surrey commons and in the woods he derived much pleasure from observing the pheasants and the antics of jays and activities of green woodpeckers. His charm of manner and courtesy was shown to all, his modesty even prevented his colleagues from learning much of his earlier work, but his wide and varied research has established his reputation in two continents.

M. A. H. T.

WE regret to announce the following deaths:

Prof. Arthur Brožek, professor of genetics in the University of Prague, known for his work on plant breeding, on November 8, aged fifty-two years.

Dr. Otto Folin, professor of biological chemistry in the Harvard Medical School, an authority on the technique of urine analysis, on October 26, aged sixty-seven years.

Prof. R. Kövesligethy, professor of cosmography and geophysics in the University of Budapest, an authority on seismology, on October 12, aged seventy-two years.

Miss Rosalie B. J. Lulham, lecturer in natural history at the Froebel Educational Institute, and author of "An Introduction to Zoology through Nature Study", on December 28.

## News and Views

### New Year Honours

THE following names of scientific workers and others associated with scientific interests appear in the New Year Honours List: *Baronet*: Sir Holburt Waring, president of the Royal College of Surgeons. *G.C.B.*: Sir Josiah Stamp. *K.C.M.G.*: Lieut.-Gen. Sir William Furse, director of the Imperial Institute; Dr. A. C. D. Rivett, deputy chairman and chief executive officer of the Council of Scientific and Industrial Research, Commonwealth of Australia. *Knights*: Dr. C. V. Boys, for services to physics; Prof. W. Langdon-Brown, regius professor of physics, University of Cambridge; Dr. E. Deller, principal of the University of London; Dr. Cyril Fox, director of the National Museum of Wales; Dr. J. B. Orr, director of the Rowett Institute for Research in Animal Nutrition, Aberdeen; Prof. E. B. Poulton, honorary life president of the Royal Entomological Society of London, and emeritus professor of zoology in the University of Oxford; Dr. J. D. Sutherland, lately assistant forestry commissioner for Scotland, member of the Forestry Commission. *C.B.*: Col. H. St. J. L. Winterbotham, Director-General of Ordnance Survey, Ministry of Agriculture and Fisheries. *C.M.G.*: Lieut.-Col. C. L. Carbutt, Chief Native Commissioner, Southern Rhodesia; Prof. F. L. Engledow, professor of agriculture, University of Cambridge, and member of the Colonial Advisory

Council of Agriculture and Animal Health; Lieut.-Col. S. P. James, medical officer and adviser on tropical diseases, Ministry of Health, and member of the Colonial Advisory Medical Committee. *C.I.E.*: Rai Bahadur Daya Ram Sahni, Director-General of Archaeology in India. *C.B.E.*: Dr. E. J. Allen, secretary of the Marine Biological Association of the United Kingdom and director of the Plymouth Laboratory; Mr. C. C. Hawkins, lately superintendent of the Department of Technology, City and Guilds of London Institute; Dr. J. S. Plaskett, director of the Astrophysical Observatory, Dominion of Canada. *O.B.E.*: Mr. G. W. Austin, principal scientific officer, R.N. Torpedo Factory, Greenock; Mr. R. W. Harris, secretary of the London School of Hygiene and Tropical Medicine. *M.B.E.*: Dr. Alice E. Wilson, assistant invertebrate palaeontologist, Department of Mines, Dominion of Canada.

### Heavy Water in Chemistry

THE lecture by Prof. Polanyi which is published as a Supplement to this issue of NATURE directs attention to some of the applications which may be made of heavy water in elucidating the mechanism of chemical reactions. The heavy water may be either the variety containing heavy hydrogen in place of ordinary hydrogen, or that containing heavy