

1924 Prof. Kettle has been professor of pathology and bacteriology in the Welsh National School of Medicine, Cardiff. His published work includes the following: "The Pathology of Tumors" (Lewis and Co., 1st ed., 1916, 2nd ed., 1925) and numerous articles in the *Journal of Pathology and Bacteriology*, the *Lancet*, and other medical journals.

Dr. Bronislaw Malinowski has been appointed as from August to the University chair of anthropology tenable at the London School of Economics. He has been University reader in social anthropology since 1923. He is the author of "Crime and Custom in Savage Society" (Kegan Paul, 1926); "Myth in Primitive Psychology" (Kegan Paul, 1926); "The Father in Primitive Psychology" (Kegan Paul, 1927); "Sex and Repression in Savage Society" (Kegan Paul, 1927); and of articles in "The Encyclopædia Britannica" (1926), "The Australia Encyclopædia" (1926), *NATURE*, *Psyche*, *Zeitschrift für Völkerpsychologie*, and other journals.

Dr. W. H. Linnell has been appointed as from Aug. 1 to the University readership in pharmaceutical chemistry tenable at the School of Pharmacy. From 1924 until 1926 Dr. Linnell was an organic research chemist at H.M. Fuel Research Station, and since October 1926 he has been lecturer in pharmaceutical chemistry and Director of the Chemical Research Laboratories in the School of Pharmacy.

OXFORD.—The following elections to University scholarships of the Theodore Williams foundation have been made: F. M. Trefusis, Exeter College, and A. R. C. Oldfield, University College, in human anatomy; Joyce Vignot, Somerville College and J. G. Reid, University College, in pathology; A. L. Jacobs, Jesus College, and A. W. D. Leishman, University College, in physiology. Mr. Robert Pakenham-Walsh, of University College, has been awarded the Welsh prize for excellence in anatomical drawing.

Dr. Harlow Shapley of Harvard College Observatory, Cambridge, Mass., has been appointed to deliver the Halley Lecture in 1928.

Two useful educational bibliographies have reached us from the United States Bureau of Education: a classified list of publications of the Bureau of special interest to secondary school teachers, and a record (*Bulletin*, No. 2, 1927) of current educational publications. The latter is a fifty-eight-page pamphlet comprising some six hundred titles classified and annotated.

THE New Education Fellowship is holding its fourth international conference at Locarno on Aug. 3-15, the general theme being "The True Meaning of Freedom in Education." In the list of speakers appear the names of the following, among others: Prof. Pierre Bovet, Director of the International Bureau of Education, Geneva; Mrs. Beatrice Ensor and Dr. Elisabeth Rotten, Directors of the New Education Fellowship; Dr. Alfred Adler, founder of the School of Individual Psychology, Vienna; Prof. Carson Ryan, of Swarthmore College, U.S.A., President of the National Vocational Guidance Association; Dr. Carleton Washburne, Superintendent of Schools, Winnetka, U.S.A.; Sir Jagadis C. Bose; Prof. O. Decroly of Brussels, originator of the Decroly method; Dr. Adolphe Ferrière, founder of the International Bureau of New Schools; M. P. Otlet; and Mme. Guéritte, of La Nouvelle Education. Bedales, Frensham Heights, and other pioneer schools are to be represented. There will be an exhibition of children's work and auto-didactic material. The headquarters of the Fellowship are at 11 Tavistock Square, London, W.C.1.

### Calendar of Discovery and Invention.

July 31, 1846.—In 1840, Lord Armstrong, then a lawyer thirty years of age, in a letter to the *Mechanics' Magazine*, directed attention to the advantage of water under pressure as a mechanical agent and a reservoir of power. Six years later he erected a crane on the quay at Newcastle which was worked by water power, and on July 31, 1846, took out a patent for an "apparatus for lifting, lowering and hauling." This was the beginning of the present extended use of hydraulic pressure for cranes, capstans, lifts, gun machinery, and machine tools. To develop his machinery, Armstrong in 1847 joined the small engineering firm of Donkin, Cruddas, Potter, and Lambert, of Elswick, and from this sprang the world-famous engineering works on the Tyne.

August 1, 1774.—Oxygen was discovered independently by Priestley and by Scheele, Priestley's famous experiment with the red oxide of mercury being made on Aug. 1, 1774. The new gas, thought by Priestley to be common air deprived of its 'phlogiston,' was called by him 'dephlogisticated air,' and it was Lavoisier who named it oxygen.

August 3, 1677.—One of the earliest scientific academies was that founded in Germany in 1652 and on Aug. 3, 1677, given the title "Sacri Romani Imperii Academia Naturae Curiosorum" by the Emperor Leopold I. The inauguration of this society was stimulated by the writings of Bacon, and it is known to-day as the "Leopoldinisch-Carolinische Deutsche Akademie der Naturforscher" of Halle.

August 4, 1877.—Many inventors have contributed to the improvement of internal combustion engines, but the greatest single improvement was that made just fifty years ago by the German engineer, Nicolas Otto (1832-1891), who on Aug. 4, 1877, took out the German patent for the well-known four-stroke cycle of operations. Lenoir and Hugon had produced the first practical gas engines, and these had been superseded by the engine invented by Otto and Langen in 1866. All these, however, were far inferior to the new type of Otto, who introduced the plan of compressing the explosive mixture in the working cylinder as proposed by Barnett in 1838.

August 4, 1894.—The exploration of the upper atmosphere by means of self-registering instruments lifted by kites was initiated by Abbott Lawrence Rotch (1861-1912), whose first experiments were made on Aug. 4, 1894. Rotch was the founder of the meteorological observatory at Blue Hill, Hyde Park, Mass., 635 feet above sea-level.

August 5, 1816.—Among the pioneers of the electric telegraph was Sir Francis Ronalds who, before the invention of the voltaic battery and the discoveries of Oersted, in 1816 laid down some miles of wire in his garden at 26 Upper Mall, Hammersmith, and transmitted charges by means of friction machines. His offer of a demonstration led to the Admiralty official reply, dated August 5, 1816, "That telegraphs of any kind are now totally unnecessary, and that no other than the one in use [the semaphore] will be adopted."

August 6, 1812.—Regular steamboat traffic in Europe began with Henry Bell's *Comet*, launched on July 24, 1812, which began her trips on Aug. 6. The *Glasgow Herald* of Aug. 10 contained the following paragraph: "We understand that a beautiful and commodious boat has been just finished, constructed to go by wind, power and steam, for carrying passengers on the Clyde between Glasgow, Port Glasgow, Greenock, and Gourock. On Thursday it arrived at the Broomielaw in three hours and a half from Port Glasgow." E. C. S.