

an aerial, Dr. Fison fell through a skylight to the floor below. Three days later he died without regaining consciousness.

Dr. Fison's life-story is that of a teacher whose enjoyment in knowing was so vivid that no delight could equal that of passing his knowledge on. In his earlier life he had for twenty years lectured for the Oxford University Extension Delegacy; and this is a school in which the spirit of enthusiasm for knowledge is engendered. If an extension lecturer be not in complete sympathy with his audience, if he has not the instinct for detecting want of harmony between his mind and theirs, his lectures are a failure; his thought-waves must be of the length for which his auditors' receivers are tuned.

From 1912 until his death Dr. Fison was Secretary to the Gilchrist Trust. Each year in the spring he visited various parts of Britain to inspire enthusiasm and to organise local arrangements; in the autumn and winter to deliver lectures. His efforts to fill successfully the gaps caused by death in the Gilchrist staff discovered to him how very rare are the men who have the gift which he possessed of securing in their first few sentences the complete confidence of their audiences and retaining their strained attention for eighty or ninety minutes—halls crammed with people of all sorts and conditions, from the clergy, doctors, and schoolmasters of the town to miners and mill-hands—sending them away with the feeling that the evening which had closed a long day's work had altered their views of the world and had, at the same time, entertained them hugely.

In 1906 Dr. Fison was appointed lecturer in physics to Guy's Hospital, and somewhat later to the London Hospital also. Although his teaching work was elementary, he held that no teacher can be efficient who does not follow the most recent developments of his subject. He was a sound scholar—in the sense in which the expression is used by students of the humanities who are disposed to arrogate it to themselves. The very large gathering of students at the memorial service in the Chapel of Guy's was a measure of his success. Shortly before the accident brought his activities to a sudden close he talked to the writer of these notes of his plans for an early retirement and the devotion of his remaining days to investigations for which his duties as a teacher had left him but scanty leisure, and the publication of his reflections—his bent was ever towards philosophy—upon various aspects presented by the problems of physical science. His best-known contributions are "Recent Advances in Astronomy" (1898) and "A Textbook of Practical Physics" (1911, rewritten 1922).

#### MR. RAWDON LEVETT.

THE death at Colwyn Bay on February 1 of Mr. Rawdon Levett, at seventy-eight years of age, will be regretted by none more than by the members of the Mathematical Association, of which, under its old name of the Association for the Improvement of Geometrical Teaching, he was one of the original founders. From his pen, in *NATURE*, of December 29, 1870, p. 169, first came the suggestion that such an Association should be formed, and the first conference was held at University College,

London, on January 17, 1871. Levett possessed much more than the driving power and organising capacity which made him so successful a secretary in the first twelve years of the Association. Unlike most of his contemporaries he had familiarised himself with the continental text-books and with the methodology of his subject as taught in France, Germany, and Italy. The ideas of non-Euclidean geometry found in him an apt exponent to any who cared in those days to listen to him, and in the revolution that was to come in the fields of geometry and analysis he played for a time a prominent part. His "Elements of Trigonometry," which he brought out in collaboration with Dr. Davison in 1892, shows how much he had been influenced by De Morgan, by Cauchy and the continental school, and by Chrystal—and in that case the influence had been reciprocal.

The name of Canon J. M. Wilson has stood for half a century with that of Rawdon Levett on the list of officers or of vice-presidents of their Association. Both were at St. John's; Wilson was Senior in 1859; Levett was 11th Wrangler in 1865 (Rayleigh's year). Both were schoolmasters, Wilson in those days at Rugby, and Levett at King Edward's School, Birmingham. Both have retained their interest in the work of the Association, though ill-health had for many years past prevented Levett from taking any active part in its later history. The interests of neither were restricted to the sphere in which their academic honours were won.

Levett was a man of wide reading and general culture. By many his name was probably seen for the first time on the dedicatory page of "John Inglesant"—"I dedicate this volume to you that I may have an opportunity of calling myself your friend." The spiritual kinship that knit together men like Levett and Short-house indicates but one of the intellectual influences that brought to the Birmingham schoolmaster intimate relations with a wide circle of men who appreciated to the full his noble character, rare judgment, and fine literary instinct. Birmingham was the poorer by his loss when the shadow of the White Scourge fell upon him in 1903, and he retired to his Welsh home at Colwyn Bay. Now he is gone, and the only founders left are Canon Wilson, Mr. A. A. Bourne, Sir Thomas Muir, the Rev. E. F. M. MacCarthy (secretary for seven years), and the Rev. W. H. Laverty. W. J. G.

#### PROF. GASTON BONNIER.

WE regret to announce the recent death at Paris of Prof. Gaston Bonnier, professor of botany at the Sorbonne, member of the Institute (Académie des Sciences), of the Academy of Agriculture and the Council of the University of Paris, Officier de la Légion d'Honneur, foreign member of the Linnæan Society of London, and member of many other scientific bodies.

Prof. Bonnier was the president of the Société Botanique de France, and editor of the *Revue générale de Botanique*, founded by him in 1889. Among his numerous botanical publications that have become classic may be particularly mentioned his "Cours de botanique," "Géographie botanique et la botanique descriptive," "Flore complète de la France," "Nouvelle Flore des environs de Paris," and "Flore du nord

de la France et de la Belgique." His published research on the correlation of function, form and structure of plant organs is as remarkable for its simplicity and clearness of style as for its scientific value. His journalistic contributions to *Le Temps* were appreciated by all its readers.

Prof. Bonnier played a most important part in the

reform and extension of the teaching of the natural sciences in France. To his students and research workers, including men and women of many nationalities, he was friend, guide and master.

The French president, the University of Paris, and many scientific bodies were represented at the obsequies, which took place with military honours.

### Current Topics and Events.

ON February 14, Mr. Fisher presented to the House of Commons the usual petition from the Trustees of the British Museum praying for further support. Though this is merely a form arising out of the peculiar mode of government of the museum, we may be permitted on this occasion to emphasise the desirability of doing nothing that should hinder the performance of this trust "for the general benefit of learning and useful knowledge." The British Museum, a term which includes the Natural History Departments, is not one of those Government establishments that swelled its ranks and its expenses under stress of war, nor has it shown a reluctance to reduce them in the difficult times of peace. On the contrary, it has only just brought its scientific staff back to the pre-war level, and it has conscientiously reduced its estimates as required by the Geddes Commission. Its scientific publication is almost, if not entirely, suspended. This is a state of affairs we may lament, but must endure. What we are not prepared to suffer without protest is any further demand for reduction. There are rumours of such a demand, amounting to several thousands of pounds. This could only result in a diminution of the valuable work accomplished by this great establishment, work already most seriously hampered by the inadequate size of the staff. To choke one of the great fountains of "learning and useful knowledge" can never be an economical proceeding, and any attempt to do so will meet with the united protest of all scientific workers.

THE Home Secretary has appointed a committee to inquire into the desirability of extending the Workmen's Compensation (Silicosis) Act of 1918, which provides compensation for men injured by silica in specified industries. The association of miner's phthisis (fibrosis of the lungs with superadded tuberculosis) with the inhalation of hard dust, as in quartz mining or knife grinding, has long been known, and its recognition has led to the introduction of appropriate preventive measures. Collis pointed out that the danger of a dust was in proportion to its content of free silica, and Mavrogordato found that coal dust was actually an antidote when mixed with rock dust, which by itself was highly injurious. Later experiments by Gye and Kettle have shown that the action of silica is chemical rather than mechanical, and that colloidal silica is distinctly poisonous. Chronic silica poisoning in rabbits causes degenerative changes in the liver and kidneys, and, though the applicability of these results to the occurrence of similar lesions in men is at present quite an open

question, it is evident that the harmful effects of this common substance may prove to be much more widespread than is at present supposed.

THE New York correspondent of the *Times*, in the issue of February 13, refers to some successful experiments upon the dissipation of clouds by the Army Air Service of the United States at Dayton, Ohio, under the direction of Prof. Bancroft of Cornell University and Mr. Francis Warren. The process consists in scattering electrified sand with the propeller of an aeroplane moving 500 ft. above the tops of clouds. The sand is said to be charged to 10,000 volts, and the result is referred to in the headline of the note as "rain-making." The coalescence of the cloud particles in consequence of the diminution of surface-tension is suggested as the proximate cause of the disappearance of the clouds, which are stated to have varied from several thousand feet to several miles in length and breadth, and in thickness from 500 ft. to 1500 ft. The general conclusion of the correspondent is that fogs "need be no more and, given only clouds, rain can be had wherever it is wanted." An important question is, of course, how much? "The time required to precipitate the moisture . . . rarely exceeded ten minutes," and in the case of very thin clouds the moisture evaporated before reaching the ground. Further particulars will be awaited with interest. In the meantime the announcement brings once more into prominence the need for special laboratories for the practical physics of the atmosphere, for which a good deal of work has long been waiting. The coalescence of water-drops, the correlative pulverisation of water and their relation to electrification, are not by any means fully explored. The energy-relations are very complicated. It is known, for example, that a bucketful of water tossed out of an aeroplane would be pulverised into an electrified cloud by its own gravitational energy. To get it back again into a continuous mass of water at the ground by the use of electrified sand will be a very interesting completion of the cycle when we understand it.

A TELEGRAM recently received at the Linnean Society from Tiflis announced that an eminent foreign member of the Society, Prof. Serge Gabrilovitch Navashin, of the Botanic Garden, Tiflis, Georgia, was to celebrate on February 18 his fortieth year of scientific work and the twenty-fifth anniversary of his announcement of double fertilisation in plants. This message recalls the new era in the study of the embryogeny of the flowering plants which followed