

lated the invariant E. Its value was given at length in the second edition, where it occupied thirteen pages, but I have not thought it worth while to reprint so long a formula." Yet to the volume which contained this elaborate investigation and many others involving equal skill and almost equal labour he prefixed the words:—"To A. Cayley, Esq., and J. J. Sylvester, Esq., I beg to inscribe this attempt to render some of their discoveries better known, in acknowledgment of the obligations I am under, not only to their published writings but also to their instructive correspondence."

Questions of priority must be left to some more learned pen, and to a writer who has less reason to revere Salmon and to respect his reticence. The value of his work is shown by the number of the editions and of the translations of his treatises, and by the honours he received from every quarter. To a friend who might question him about his honours he would say, "You will find all about them in that drawer." He received them with humility, though he well knew he was worthy of them.

#### DR. W. FRANCIS.

DR. WILLIAM FRANCIS, whose death we recorded last week, was born in London in February, 1817. After his school-time, spent partly at University College School, but chiefly in France and Germany, at St. Omer, Cravelt, and Gera, he studied for a short time at University College, London (then known as the University of London), whence he proceeded to the University of Berlin and subsequently to Giessen, where Liebig was then at the height of his scientific activity. Here he took the degree of Doctor of Philosophy in 1842. His long residence abroad, supplemented by frequent subsequent journeys, many of them on foot, gave him an accurate knowledge of French and German, and enabled him to become personally acquainted with a very large number of the leading men of science on the Continent.

In 1842 he established the *Chemical Gazette*, which he continued to edit until December, 1859, when it was merged in the *Chemical News*. By this publication and by the translations and abstracts he contributed for many years to the *Philosophical Magazine*, he did valuable service in making known the work of foreign chemists to their English colleagues. Among other work of the same kind were translations of important foreign papers, including Ohm's "Die galvanische Kette mathematisch bearbeitet" and Helmholtz's celebrated paper, "Die Erhaltung der Kraft," for Taylor's "Scientific Memoirs." From 1851 until his death he was one of the editors of the *Philosophical Magazine* and of the *Annals and Magazine of Natural History* from 1859. His wide acquaintance with various branches of science, as well as with leading scientific men at home and abroad, made him well fitted for these functions, and the sound judgment with which he discharged them is generally recognised.

Dr. Francis was one of the original members, probably the last survivor of them, of the Chemical Society, having been elected an Associate in 1841 and a Fellow shortly afterwards. He was elected a Fellow of the Linnean Society in 1844. He was also a Fellow of the Royal Astronomical Society and an original member of the Physical Society. For the greater part of his life Dr. Francis was actively engaged in business as a partner, since 1852, in the well-known firm of Taylor and Francis, successors of Richard and John E. Taylor, printers and publishers.

He died at his residence, the Manor House, Richmond, on January 18.

NO. 1788, VOL. 69]

#### NOTES

A PROVISIONAL committee has been formed with the object of commemorating the scientific work of the late Prof. A. Cornu by means of a medal struck for that purpose. The committee includes more than fifty members of the Institute of France; and the secretary is M. E. A. Martel, 8 Rue Me'nars, Paris.

THE King, accompanied by the Queen, opened Parliament in state on Tuesday. In the King's speech reference was made to the insufficiency of the supply of the raw material upon which the cotton industry of this country depends, and the hope was expressed that the efforts which are being made to increase the area under cultivation in various parts of the Empire will be attended with success. Among the measures to be introduced is a Bill to amend the laws relating to education in Scotland.

A LAFFAN message from Rome states that the Academy of Sciences at Turin has divided the Ballauri prize of 1200*l.* between Signor Marconi and Prof. Grassi, of Rome, and has awarded the Brasso prize of 350*l.* to the Duke of the Abruzzi.

DR. D. H. SCOTT, F.R.S., has been elected president of the Royal Microscopical Society for the ensuing year.

THE *Daily Chronicle* announces the death of Mr. W. G. McMillan, secretary to the Institution of Electrical Engineers.

THE petition of the Linnean Society of London praying for the grant of a supplemental charter has been referred to a committee of the Lords of the Privy Council, and is down for consideration by their lordships on March 1.

A PETITION in support of the Bill for the adoption of the metric weights and measures, which will be introduced in the House of Lords by Lord Belhaven and seconded by Lord Kelvin, is being extensively signed throughout the kingdom.

PROF. HENRI CORDIER, of the School of Modern Oriental Languages at Paris, has been appointed president for 1904 of the Geographical Society of Paris.

THE thirty-first annual dinner of the old students of the Royal School of Mines will be held on Friday, February 26, at the Hotel Cecil. The chair will be taken by Mr. A. G. Salamon. Tickets may be obtained from Mr. David A. Louis, 77 Shirland Gardens, London, W.

At the annual meeting of the Psychical Research Society held on January 29, it was announced that the fund intended to endow a research scholarship had reached 6195*l.*, but a minimum of 8000*l.* is needed. Sir Oliver Lodge, the retiring president, introduced the new president, Prof. W. F. Barrett, who delivered his presidential address.

It is proposed to hold a horticultural and gardening exhibition in the month of June next under the auspices of the Royal Botanic Society in the new exhibition grounds of the society, situated in the centre of the Botanic Gardens in Regent's Park. The proposed scheme embraces horticulture, forestry, botany, educational methods, nature-study, and a special section for colonial produce. In addition to the exhibition, lectures and conferences are in course of arrangement.

GRANTS in aid of research have recently been made from the Rumford fund of the American Academy of Arts and Sciences as follows:—to Prof. E. W. Morley, for his research on the nature and effects of ether drift, 100*l.*; to Prof. Carl Barus, for his research on the study by an