

by Colonel Watson, R.E., on "Schools of Modern Oriental Studies"; by Mr. A. Montefiore Brice, on "The Results of the Jackson-Harmsworth Expedition"; a course of three lectures, by Dr. J. L. W. Thudichum, on "The Nature and Manufacture of Wine, with special reference to Colonial Wines"; by Mr. J. Norman Lockyer, C.B., F.R.S., on "How the British Empire aids in Solar Inquiries"; by Prof. W. E. Ayrton, F.R.S., on "Sixty Years of Submarine Telegraphy"; by Mr. Spencer Pickering, F.R.S., on "The Woburn Experimental Fruit Farm." These lectures are open to Fellows of the Institute, and to persons introduced by them.

We warmly congratulate the Executive Council on the new departures. The acknowledgment of the importance of science on the part of the Governing Body comes none too soon.

Much remains to be done in this direction before the Institute can be held to fill the place which many of its best wishers consider it ought to occupy.

FRANCOIS FELIX TISSERAND.

IT is impossible that we should have learnt the death of an astronomer so eminent as M. Tisserand, the Director of the Paris Observatory, without feelings of the deepest regret, yet its terrible suddenness lends an added note of pathos to the melancholy event. From the report of the Paris correspondent of the *Times*, it appears that on the evening of Monday, October 19, M. Tisserand was present at the dinner celebrating the signing of the marriage contract of the son of the late Admiral Mouchez. On the following morning, apparently without the slightest warning, M. Tisserand expired, the cause of death being congestion of the brain. Astronomy, not only in France, but wherever the science is studied, has thus sustained a tremendous and irreparable loss, and especially will sympathy be extended to the members of the staff of the Paris Observatory, who, twice within a few years, have been deprived of their chief.

François Felix Tisserand was born in the department of Côte d'Or on January 15, 1845. He entered the Normal School at Paris in 1863, and in 1868 gained his Doctorate in Science. Although elected an *agrégé* in 1866, he did not take up the duty of giving instruction, but joined the staff of the Imperial Observatory as assistant astronomer. In 1873, the astronomical service was reorganised by M. Le Verrier, and M. Tisserand was nominated Director of the Toulouse Observatory, and Professor of Astronomy in the Faculty of Sciences of the same town. Subsequently he became Professor of Theoretical Mechanics at Paris, but was transferred, in May 1883, to the chair of Mathematical Astronomy. In this year he began that series of lectures at the Sorbonne, the delivery of which has been attended with the happiest results, for these lectures, given first as the deputy, and subsequently as the successor to M. Puiseux, led eventually to the preparation of that great work with which M. Tisserand's name will ever be connected, the "*Traité de mécanique céleste*." Though engaged for some twenty years on this work, and necessarily much occupied with official duties, his energy was not exhausted, nor his services to science limited by this task, which few men could have undertaken and brought to a successful issue. In 1874, he accompanied M. Janssen to Japan for the purpose of observing the transit of Venus, and a few years later he was charged with the duty of completing Delaunay's "*Théorie de la Lune*." Some of the results of this close study of Delaunay's work are shown in the third volume of the "*Traité*," in the chapters entitled "*Réflexions sur la théorie de Delaunay*."

M. Tisserand's original memoirs and papers, the most important of which were contributed, though not exclusively, to the *Comptes rendus*, indicate a remarkable

activity, and even an exceptional versatility, if that be possible within the range of astronomical science. These papers are far too numerous to mention in detail, but among them are valuable contributions on the theory of interpolation, on problems presented by the minor planets and meteors, on observations of sun spots, &c. While at Toulouse, M. Tisserand made a collection of exercises in the infinitesimal calculus, which he published in 1876. But the subject with which M. Tisserand's name will always be associated is Celestial Mechanics. The first volume of his "*Traité de Mécanique céleste*" appeared in 1888; the fourth, which was understood to be the last, has very recently been placed in the hands of astronomers. This is not the place to attempt any analysis of that great work, of which perhaps it is not too much to say, that it will render a similar service to the astronomers of the next century, that the work of Laplace did to those of the last. Herein will be found a unique collection of methods, exhibiting great elegance in the mathematical formulæ, and everywhere enriched by critical and historical reference to the original work of other masters in particular departments. This work will always stand as a worthy monument to the memory of its author.

In 1892, on the death of Admiral Mouchez, M. Tisserand was selected to fill the position of Director of the Paris Observatory. This appointment carried with it, almost of necessity, that of the Presidency of the *Comité permanent*, to whom is entrusted the details connected with the preparation of the *Carte du Ciel*. How loyally he has struggled to give impetus to the scheme that his predecessor had so much at heart, is shown by the various reports which he has presented to the Council of the Observatory, and of which summaries have appeared from time to time in NATURE. Under his auspices, a bureau for the measurement of negatives has been established or extended, additional instruments have been provided for measurement, and energy and progress have everywhere marked his short rule. He has struggled manfully with the arrears of meridian observations, and had schemed a plan of publication reaching as far as 1899. While thoughtful of the necessities of the old astronomy, he has not been unmindful of the new, as the free hand given to M. Deslandres, and the work emanating from the spectroscopic department, abundantly prove. Cut off at the early age of fifty-one, and after so short an occupancy of the post of Director, he has perhaps not had full opportunity to declare his capacity in many directions, but he has done more than enough to justify his selection to the important post he filled, and to furnish a model to his successor. For he worthily upheld the traditions of the institution; and it is not saying too much, although it is saying a very great deal, when we affirm that he was a worthy successor in the line of illustrious astronomers who had preceded him in the control of the Paris Observatory. He had received an abundance of honours, too long to fully enumerate, for the scientific societies of all nations were proud to enrol him among the list of their honoured associates. He was decorated with the Legion of Honour in 1874, and four years later succeeded Le Verrier among the full members of the Academy. He was a member of the Bureau des Longitudes, and held other positions of dignity and credit. The St. Petersburg Academy voted him the *Prix Schubert*, and the Royal Astronomical Society elected him a Foreign Associate in 1881.

W. E. P.

DR. HENRY TRIMEN.

THE friends of Henry Trimen who saw him during his last visit to England—a twelvemonth ago last summer—would not be altogether unprepared for a serious turn in the malady, or rather maladies, from which he suffered; yet the news of his death on the

16th inst. came as a surprise, even to those best acquainted with his condition. For several years he suffered from deafness, which at length became absolute, and then gradual paralysis of the lower limbs set in. This terminated not long since in utter helplessness so far as his legs were concerned, and functional complications arising, he succumbed sooner than was expected. He bore his afflictions with wonderful fortitude, and even cheerfulness; and his only desire was to be spared to complete his great work, the "Handbook to the Flora of Ceylon." But this was not to be. It is to be hoped, however, that a competent botanist will be found to complete this important and admirably-planned publication.

Henry Trimen was born in London in 1843, and educated at King's College. In 1865 he graduated M.B., but he never practised medicine. His favourite study was botany, and he at first specially devoted himself to the British flora and the sources of vegetable drugs. In 1867 he was appointed Lecturer on Botany at St. Mary's Hospital Medical School; and in 1869, he entered the Botanical Department of the British Museum as senior assistant. In the meantime he had published a number of contributions to British botany, chiefly relating to the flora of Surrey, of Hampshire, and especially of Middlesex. His first work appeared in the *Phytologist* in 1862. Soon he became acquainted with W. T. Thiselton-Dyer, the present Director of Kew Gardens, and the result was their admirable "Flora of Middlesex," published in 1869. This work still holds a position in the first rank among county "Floras." In 1866, Trimen discovered *Wolffia arrhiza* at Staines; the first locality recorded for it in England. It was in that year that the writer became acquainted with Trimen and his associate, and made various excursions with them collecting materials for their "Flora." In 1870, Trimen joined Dr. B. Seemann in editing the *Journal of Botany*, and on the death of the latter he assumed the full responsibilities of editor, which he continued to exercise until he went to Ceylon. Concurrently he was conducting his investigations in medical botany, and he associated himself with Robert Bentley in the publication of an illustrated work on "Medicinal Plants"—a work of much research, comprising four volumes containing upwards of 300 coloured plates. Passing over many minor events, we come to the period when he was appointed to succeed Dr. Thwaites in the important and onerous duties of Director of the Botanic Gardens of Ceylon—duties he discharged in a manner satisfactory to the home authorities and the colonists. His annual reports are models of what such reports should be. He at once took up the study of the native flora, and was soon actively engaged in the introduction of valuable economic plants of other countries for cultivation in Ceylon. The first volume of his "Handbook" appeared in 1893; the second in 1894; the third in 1895; and from his last letters we learn that he was still working with a will, in spite of his afflictions.

As a botanist, Trimen was a man of great attainments. As a friend, he was sympathetic, sincere, and constant. His work was always thoroughly and conscientiously performed, and is consequently of an enduring nature. This was recognised in his being elected a Fellow of the Royal Society in 1883. W. BOTTING HEMSLEY.

NOTES.

As briefly announced in these columns on September 17, a Nansen research fund is being raised in Norway. Its object is to commemorate the remarkable Arctic expedition of this explorer by the foundation of a fund called "The Fridtjof Nansen Fund" for scientific research. The *Times* of October 23 says it is intended that, by this means, research in various

departments of science shall be promoted, and the results published. Dr. Nansen himself may be appointed director, but there will be no salary attached to the office, as the whole of the yearly products of the fund will be devoted to the objects stated. Up to the present no less than 300,000 kroner have been subscribed. Consul A. Herberg, Dr. Nansen's friend, has contributed 50,000 kroner; while others, besides numerous Norwegians, are Baron Oscar Dickson, 25,000 kroner; Dr. A. Nobel, 25,000 kroner; and Prof. Frankland, 1000 kroner. It is stated that the fund will probably be placed under the care of the Christiania University, the Norwegian Society of Science, and the Bergen Museum. If any wealthy Englishmen, who are admirers of Dr. Nansen, care to contribute, they should communicate with the Committee of the "Fridtjof Nansens fond til indenskabens emme, University, Christiania."

FROM the *British Central African Gazette* we learn that Mr. Alexander Whyte, Sir Harry Johnston's scientific assistant in British Central Africa, has just returned from a successful expedition into the Nyika plateau on the north-eastern shores of Lake Nyasa, and has made a large collection. The flora of this district proved to be most interesting, resembling that of Mount Milanji in the south of Nyasaland, but differing from it in many respects. Mr. Whyte failed to find any trace of a conifer, but the range is richer in heaths than Milanji. He obtained 6000 specimens of plants and a large zoological collection.

AT a meeting of the Physical Society, to be held on October 30, it will be proposed (*inter alia*) that the subscription to the Society be increased to £2 2s., that life members be invited to contribute an annual subscription of £1 1s., and that, in future, members be styled "Fellows of the Physical Society of London."

A NOTABLE experiment in kite-flying was made at Blue Hill Observatory, N.J., on October 8. The greatest height yet reached by kites was attained, records being made at a height of 9385 feet above sea-level. More than three miles of piano wire were paid out, the ascension beginning at 9.15 a.m., and continuing till 9.5 p.m. The pull on the wire was from 20 to 50 pounds at the start, and ranged from 50 to 95 pounds at the highest point, after which it slowly decreased. The instrument entered and passed through clouds, as shown by the record of very dry air above them. The temperature fell from 46° at the hill to 20° at an altitude of 8750 feet. The meteorograph record in ink, on a revolving cylinder run by clockwork, was the best yet obtained. The lifting force consisted of seven Eddy, or tailless, and two Hargrave, or box kites, from 6 to 9 feet in diameter. The instrument was more than a mile high during three hours.

THE King of Servia has conferred upon Prof. D. E. Hughes, F.R.S., the Grand Officer's Star and Collar of the Royal Order of Takovo.

MR. J. WOLFE BARRY, C.B., F.R.S., is to deliver his presidential address to the Institution of Civil Engineers on November 3, at the inauguration of the seventy-eighth session of the society.

MR. J. DE WINTER, Assistant at the Royal Zoological Society's Garden at Antwerp, has been appointed Superintendent of the Zoological Garden at Gizeh, Cairo, and will shortly leave for Egypt.

THE first meeting of the British Ornithologists' Club for the present session was held at Frascati's Restaurant, Oxford Street, on Wednesday, the 22nd inst., and was attended by thirty-four members and guests. After some preliminary business Mr. Sclater, who was in the chair, gave an address on the progress of Ornithology during the past twelvemonths.