

necessity of introducing the idea of an isolated magnetic pole.

Sir Richard Glazebrook in his paper to the British Association at York points out that an ammeter or a voltmeter depends for its effects on the forces between a current and a permanent magnet, whereas the object of both the systems (b) and (c) referred to above is to avoid reference to permanent magnetism. As he points out, we may measure a current by its electrolytic effects and having done so, its E.M.F. by the heat generated in a coil in a calorimeter. In practice, we have to connect the quantities so measured with the accepted units, the ampere and the volt, thus complicating our fundamental definitions with the value of the electro-chemical equivalent of silver, or, if preferred, hydrogen. He directs attention to those who object to Coulomb's law to Appendix C of the Second Report (Newcastle 1863) of the Electrical Standards Committee of the British Association. It is by Clerk Maxwell and Fleeming Jenkin and deals with the elementary relations between electrical measurements.

Those who favour the basis of the system of magnetic units as the force between the two elements of current were invited to put forward a consistent plan of a series of definitions of electrical and magnetic units.

Another topic which came up for discussion at Paris was—

"Are B and H quantities of the same kind and is their ratio μ a pure numeric? Or should μ be treated as a dimensional quantity?"

In submitting the point of view of the British

National Committee that B and H are quantities not of the same kind, Prof. Wilberforce pointed out that B has been defined according to one method by Maxwell in the early part of his work when considering the electromagnetic system; later, when treating the possibilities of other systems, he defined B in a different manner. According to Maxwell's first method, B and H would be quantities of the same dimensions and according to his second method they would be of different dimensions. Until it can be decided what method of definition is to be adopted, it is impossible to state whether B and H are to be looked upon as quantities of the same kind. The British view is based on the more general method following Maxwell's later work. The view of the Dutch Committee is that B and H are quantities of the same kind.

In the course of the discussion, the chairman referred to the fact that he was one of the last surviving pupils of Maxwell and he felt convinced from recollections of Maxwell's teaching that he was of the opinion that B and H were quantities of a different kind. When a vote was taken, nine were in favour of treating B and H as quantities of a different nature, whilst three were in favour of regarding B and H as quantities of the same nature.

Another issue raised was whether the factor $4\pi/10$ be retained in the definition of magneto-motive force. One speaker remarked that if one omits 4π in one place it occurs elsewhere. The consensus of opinion was against its omission.

EZER GRIFFITHS.

News and Views

Sir Frank Dyson, K.B.E., F.R.S.

SIR FRANK DYSON, Astronomer Royal, will terminate his official connexion with the Royal Observatory, Greenwich, on February 28. He went to Greenwich in 1894, when he was appointed a chief assistant. After retaining this position for ten years, he was appointed Astronomer Royal for Scotland. He returned to Greenwich after six years absence, being appointed as the successor of Sir William Christie. Throughout his career, Sir Frank has taken a keen interest in all the departments of the Observatory; it may perhaps be said that his greatest interest has lain in the determination of the proper motions of the fainter stars. In company with Mr. W. G. Thackeray, he made a careful re-reduction of the catalogue of faint stars observed by Groombridge at Blackheath a century earlier; these were compared with recent Greenwich observations, providing proper motions of several thousands of faint stars. The later Greenwich catalogues have all been planned with the view of the determination of proper motions for successive zones of the sky. Sir Frank has been a keen observer of solar eclipses, obtaining successful results in 1900 (Portugal), 1901 (Sumatra), 1905 (Tunis), 1927 (England); he wrote a paper in the

Phil. Trans. for 1906, which is still regarded as providing the standard determination of coronal wavelengths. It was also under his auspices that the expedition went to Brazil in 1919 to test the Einstein shift of starlight. Both the magnetic department and the time-service have been revolutionised in recent years; the former was moved to Abinger, as the electric railways in London were a disturbing factor. For the latter, a series of Shortt clocks in air-tight cases give very precise results; also daily comparisons with other observatories are made by wireless signals. Sir Frank has considered his successor in obtaining the provision of a new reversible transit-circle, which is nearing completion. The present circle is eighty years old, and its shutters are too narrow, not permitting free circulation of air.

Dr. H. Spencer Jones, F.R.S.

DR. HAROLD SPENCER JONES, His Majesty's Astronomer at the Cape, has been appointed Astronomer Royal in succession to Sir Frank Dyson, and will commence his duties next March. Dr. Spencer Jones is well-known at Greenwich, for he went there in 1913 and served for ten years as chief assistant. The study of optics is one of his favourite pursuits;

during the War he gave much time to testing lenses that were required for military purposes. He observed the solar eclipse of 1914 in Russia, and went to Christmas Island for that of 1922, but it was cloudy. He has been ten years at the Cape and has made a very careful study of the motions of sun, moon and planets; he has discussed the lunar elements both from the meridian observations and from occultations, of which a great number have been observed. He is also a keen spectroscopist, and has contributed many papers on Nova Pictoris, deducing its distance from the rate of expansion of the nebulous envelopes. The heliometer measures of the planets, inaugurated by Sir David Gill, have been continued, and will shortly be published. Prof. de Sitter testified, in his discussion of the satellites of Jupiter, to the value of the results obtained with that instrument. A reversible transit-circle has been in use at the Cape for many years, of somewhat similar type to the new Greenwich instrument; experience with it will doubtless be of service to Dr. Spencer Jones at Greenwich. He will also find the new Yapp reflecting telescope nearly complete.

Dr. J. Jackson

DR. J. JACKSON, chief assistant at the Royal Observatory, Greenwich, has been appointed H.M. Astronomer at the Cape Observatory in succession to Dr. H. Spencer Jones. Dr. Jackson hails from the University of Glasgow, and went to Trinity College, Cambridge, where he was a scholar from 1909 until 1914, and made researches in dynamical astronomy, particularly the perturbations of Jupiter's eighth satellite. He became chief assistant at the Royal Observatory, Greenwich, in October, 1914, where he took a considerable part in the observing activity of the Observatory. He served with the survey section of the Royal Engineers from December, 1917, to the end of the War. Attention may be directed to Dr. Jackson's work on double star orbits and the determination of hypothetical parallaxes with Mr. Furner; to the very interesting results he obtained from his study of the Shortt clocks; and to his determination of the constant of nutation from observations with the Cookson telescope. During the last seven years, he has co-operated with Dr. Knox Shaw and Mr. Robinson in the reduction of Hornsby's observations at the Radcliffe Observatory, Oxford. Quite recently he has published corrections to the orbit of Mercury for the epoch 1774-98. These results are of special importance as they confirm the motion of the perihelion of the planet, discovered by Leverrier and explained by Einstein. With Prof. F. J. M. Stratton he edited vol. 5 of the collected works of Sir George Darwin. From 1920 until 1927 he was editor of the *Observatory* magazine, and was secretary of the Royal Astronomical Society from 1923 until 1929.

Boyle Medal of the Royal Dublin Society

THE council of the Royal Dublin Society at its meeting on December 15 decided, on the recommendation of the Committee of Science and its Industrial

Applications, to confer the Society's Boyle medal on Prof. Paul A. Murphy, professor of plant pathology at University College, Dublin, for his important contributions to plant pathology. Prof. Murphy's researches on the fertilisation, cytology, and life history of the potato blight (*Phytophthora infestans*), and his investigation on the infection of the new by the old crop, have been at once an important contribution to pure science, and an advance of high economic value. He early recognised the economic importance of mosaic virus, and pointed out the close connexion between the deterioration of new varieties and their infection with virus. He also established the compound nature of mosaic and recognised the fact that the disease might be transmitted by symptomless carriers. This knowledge has greatly facilitated the finding and propagating of virus-free plants. His researches have also very materially increased our knowledge and means of control of onion mildew (*Peronospora Schleideni*) and of dry rot in swedes (*Phoma lingam*).

Native Lands in Kenya

ON December 20 question was raised in the House of Commons by Sir R. Hamilton as to the situation which has arisen in Kenya in regard to native rights in the land and the leases which are to be granted by the Crown for mineral development in the new goldfield in the district of Kakamega and elsewhere. Certain amendments to the Native Lands Trust Ordinance have been embodied in a Bill which was read for a second time in the Legislative Council of Kenya on December 21. Under these amendments, it is proposed to exclude temporarily from a native reserve, land leased for mineral development, without the provision of an equivalent area of land in exchange and without the requirement of notice to the local native council concerned. Sir R. Hamilton asked whether these proposals were made with the approval of the Secretary of State for the Colonies, and further, whether the amendment of the Native Lands Trust Ordinance had been considered by the Morris-Carter Commission. In his reply, Sir P. Cunliffe-Lister stated that not only had the provisions of the Bill been agreed to both by the Morris-Carter Commission and by the Central Lands Trust Board, but that he was satisfied that the arrangements for compensation and consultation provided ample safeguards for the interests of the native occupants of the area in question.

THE Secretary of State justified his approval of the amendments on the ground that they are necessary, as an interim measure to deal with immediate practical difficulties which might operate to retard the development of valuable minerals; while provision has been made for compensation in the form of a money payment. His statement that the development of the goldfield would be for the benefit of the native was repeated by the Chief Native Commissioner when introducing the amendments in the Kenya legislature; but he candidly admitted that they would be unpopular with the natives. That admission was an understatement of the case.