

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.

EZEB 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;