

# SCIENCE

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## TRENDS IN MODERN PHYSICS<sup>1</sup>

By Professor ALLAN FERGUSON

PRESIDENT OF SECTION A—MATHEMATICAL AND PHYSICAL SCIENCES

OUR section has suffered heavy losses in the twelve months that have passed since the Norwich meeting, and it is fitting that we should here pay due honor to the memories of McLennan, Glazebrook, Petavel and Pearson, who have, each in his own characteristic fashion, played so great a part in the advances made during this century.

The genius and vigor of Sir John McLennan were quick to seize on and to develop those ideas which were fermenting at Cambridge in the last years of the nineteenth century and to impress on them a character peculiarly his own. His energy and versatility are shown equally in his early studies of penetrating radiation, in his discovery of the single line spectrum of zinc and cadmium, in his later work on the spectrum of the aurora and the nature of the famous green line and in those studies of supraconductivity to which his

last years in Toronto were given. His return to England found him unconquerably young in spirit and prepared to play his part in important investigations in radium beam therapy. He presided over the deliberations of this section at the Liverpool meeting of 1923, and those of us who were present at that meeting have vivid memories of an address which reviewed some of the major problems of atomic structure—an address which, the latest word on the matter in 1923, reads to-day as an ancient tale. The laboratory at Toronto which bears McLennan's name bears witness also to his genius as a leader of research and to his gifts as administrator and director.

Sir Richard Glazebrook belonged to the elder generation—he presided over Section A so long ago as 1893—and to the last occupied himself with certain aspects of those problems of macroscopic physics which dominated the science of his century. His early papers on the Fresnel wave-surface are admirable examples of accurate work accomplished with the aid of simple

<sup>1</sup> Concluding portion of an address given at the Blackpool meeting of the British Association for the Advancement of Science.

# JOURNAL OF MORPHOLOGY

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- A. COHEN AND N. J. BERRILL. Cell division and differentiation in the growth of specialized vertebrate tissues. Seven text figures.
- E. L. SAWYER. The cytology of the hypophysis cerebri of the bat. Two text figures and three plates.
- F. H. WILSON. The segmentation of the abdomen of *Lipeurus heterographus* Nitzsch (Mallophaga). Five text figures.
- E. A. ANDREWS. Spermatophores of the snail *Neritina reclivata*. One plate.
- G. C. DILDINE. Studies in teleostean reproduction. I. Embryonic hermaphroditism in *Lebistes reticulatus*. Two plates.
- R. J. BUSHNELL. The development and metamorphosis of the mid-intestinal epithelium of *Acanthoscelides obtectus* (Say) (Coleoptera). Two plates.
- N. L. BENNINGTON. Germ cell origin and spermatogenesis in the Siamese fighting fish, *Betta splendens*. Six plates.
- T. H. EATON, JR. The myology of salamanders with particular reference to *Dicamptodon ensatus* (Eschscholtz). I. Muscles of the head. Five text figures and one plate.
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