

industries with the Institution, and the increase in the collaboration among large industrial users with the view of assisting manufacturers to reduce the number of types and sizes. This progressive standardization will greatly assist the economy of Great Britain by enabling manufacturers to introduce longer runs and better production methods in their operations. In conclusion, Lord McGowan said that the British Standards Institution is the pioneer national standards organisation, and collaborates with thirty-four other standards bodies overseas, and that with the continued growth in the number of export and import controls exercised by various countries national standards are becoming increasingly important.

New Theory on the Earth's Interior

Sky and Telescope of February contains a brief account of the theory of R. B. Borchers which he advocated in his address as retiring chairman of the Cape Centre of the Astronomical Society of South Africa. This theory suggests that the characteristics of the earth's interior can be described on the basis of variations in condition rather than composition. Assuming a temperature-gradient of one degree for every 90 ft. of depth, he finds that the observed discontinuities in the transmission of earthquake waves at depths of $7\frac{1}{2}$, 23 and 38 miles can be attributed to changes of state due to high temperature and pressure. He describes a transitional region between 750 and 1,800 miles within which depths the temperature and pressure are estimated to increase respectively from $44,000^\circ$ to $105,000^\circ$ C., and from 5,150,000 lb. to 12,300,000 lb. per square inch. The pressure at the centre of the earth is calculated at 50 million pounds per square inch, and in such circumstances an ounce of hydrogen would be compressed into 0.001 to 0.003 of a cubic foot. If $100,000^\circ$ is above the critical temperature for any of the known elements, no pressure applied to these substances at this temperature would cause them to liquefy or solidify; hence he considers that the earth's centre is gaseous, although highly compressed. The gas would be ionized and compounds would produce much higher densities than the known average of 5.52 for the earth. He thinks that iron would lose its magnetic properties under the intense heat at the earth's centre, so the old iron-nickel theory of the earth's core, developed to explain the earth's magnetic properties, cannot be sustained, and in any event is unnecessary if rotating bodies develop magnetism, as has been recently found for stars.

Aeronautical Quarterly

THE Royal Aeronautical Society has produced the first issue (May) of a new publication called the *Aeronautical Quarterly*. The purpose of the journal is to make available reports on new and original work of a scientific nature, and also papers reviewing progress in the various specialized branches of the application of fundamental aeronautical science. The Council of the Society feels that the development of aeronautical science and engineering has now become so rapid that the means of disseminating the knowledge acquired are inadequate; it is intended that the papers in the new journal will present results of original work done in Government research establishments, universities and the industry, not always suitable for presentation before the Society's meetings. Under the terms of its charter the Society is charged, among other things, "to facilitate the exchange of information

and ideas amongst the members of the Society and others", and the editorial board expresses the hope that workers will be encouraged to submit details of their researches, so that the results may be available to others concerned with the development of the many aspects of aviation. A distinguished Editorial Board with the necessary editorial executives have been appointed, and they are advised by panels of referees upon aerodynamics (general, fluid motion, and stability and control), structures, materials, aircraft design, instrumental and electrical equipment, vibration and flutter, aircraft propulsion, air transport, meteorology, flight testing, helicopters and propellers, aircraft accessories, fuels and oils, aviation medicine, performance, and radio and radar. The publication will be available to the public, and contributors need not necessarily be members of the Society.

The Film in Further Education

IN 1946 the Yorkshire Council for Further Education appointed a sub-committee to consider "the use of films in courses held under regulations for Further Education". The sub-committee was made up of representatives of film, theatrical, voluntary and educational organisations. The sub-committee's report has now been published and contains much useful information about the educational, technical and administrative questions which govern the use of the film and filmstrips in various branches of continued education. In the first part of its report the sub-committee discusses the evolution of the film as an educational medium and the uses to which the motion film, filmstrip and lantern slide may be put in educational classes. The second part makes practical suggestions to authorities on how to obtain and make available suitable equipment and material under proper conditions at the proper time and place, at a reasonable cost, and how to train teachers and leaders in their proper use. Because of its concern at the relatively small attention which is given by those concerned with further education to the development of higher standards of criticism and discrimination in connexion with the cinema, the sub-committee has also prepared a section dealing with film appreciation in youth clubs and the organisation of film discussion groups. The appendix contains a valuable bibliography and a list of addresses which will be particularly useful to those beginning classes in film appreciation. Copies of the report may be obtained from 35 Park Square, Leeds, I, price 1s. 9d.

Faraday Society Discussion on Chromatographic Analysis

THE Faraday Society is arranging a general discussion on chromatographic analysis to be held in the Department of Chemistry, University of Reading, during September 22-24. As is usual at the Society's discussions, a number of foreign visitors will be contributing, the countries represented including Sweden, Holland, Italy, Norway, Switzerland and the United States. The papers have been grouped in two sections covering physicochemical principles and applications respectively. Papers will be issued in advance and taken as read, authors being allowed five minutes to emphasize particular points; general discussion will follow. It is hoped to issue papers and discussion as a separate publication in due course. Particulars of the meeting can be obtained from the Secretary, Faraday Society, 6 Gray's Inn Square, London, W.C.1.