

preservation of its amenities, and his major publication, "The Coastline of England and Wales", was intended to serve the double purpose of summarizing the state of our knowledge of the coastline and of focusing attention on the need for preserving this ample but easily marred heritage. He has completed a report on the English and Welsh coasts for the Minister of Town and Country Planning, and is now engaged on a similar project for the Scottish Office. Mr. Steers's interests have by no means been confined to the coastline. His first book, "Map Projections", was a surprising and most adequate production for one who lays no claim to mathematical knowledge. "The Unstable Earth" is more representative of his real interests, which have always been close to geology; but perhaps "Scott Head Island" expresses most nearly his approach to problems, in that it brings together the work of specialists on the various field studies in the elucidation of one specific region.

Hosiery Research Council: Dr. D. Starkie

DR. DAVID STARKIE has been appointed director of research by the Hosiery Research Council. The appointment is one of the most important preliminary steps yet taken in the establishment of a research organisation for the hosiery industry. Dr. Starkie, who is forty-four, was educated at Staveley Grammar School and the University of Sheffield, and obtained a degree in physics, with first-class honours, in 1925. He was awarded his M.Sc. in 1926 and Ph.D. in 1927 as a result of work on the band spectra of the alkali compounds. After leaving the University, Dr. Starkie lectured and carried out research on the physical properties of glass. He spent two years on research with the Metropolitan-Vickers Electrical Co., Ltd., and then became chief physicist at Messrs. A. Jobling and Co., Ltd., glass manufacturers. In 1939 Dr. Starkie was appointed head of the physics research department of the Plastics Section of Imperial Chemical Industries. Much of his time was devoted to the investigation of the properties of synthetic yarns and fibres, and he worked in close collaboration with a special fibres development department formed to develop the use of synthetic fibres in the textile industry. When it was decided to create an optical development department in 1944, Dr. Starkie was placed in charge of its formation, and the results of his work have had important effects in the optical field. Dr. Starkie is a member of a number of scientific societies and service committees and is also on the Council of the British Scientific Instrument Research Association. He will be responsible for the plan and organisation of the new Hosiery and Allied Trades Research Association now being formed. The Hosiery Research Council, which has done the preliminary work, already possesses premises equipped for research at Thorneywood House, Nottingham, where there is the nucleus of a trained staff.

Rumford Medals: Dr. I. S. Bowen

THE Rumford Medals for 1949 of the American Academy of Arts and Sciences, given for the most important discoveries in the fields of heat and light, have been awarded to Ira S. Bowen, director of the Mount Wilson and Palomar Observatories in California. It was Bowen's early laboratory study of high-excitation spectra which laid the foundations for his brilliant work on the identification of the 'nebulium' lines in the spectra of galactic nebulae as forbidden transitions in doubly ionized oxygen.

Later, his analysis of the spectra of planetary nebulae brought to light the unexpectedly high cosmic abundance of the inert gases. The puzzle of the selective excitation of certain permitted lines in nebular spectra was explained by him in a completely satisfactory way in terms of close chance coincidences between the wave-lengths of emission lines in the inaccessible ultra-violet. Dr. Bowen is well known also as an optical designer. Perhaps the most useful device associated with his name is the 'image slicer', by which the starlight that would otherwise be wasted on the slit-jaws of an astronomical spectrograph is directed into the instrument, thus greatly increasing its effective speed. He is now in charge of the installation of the new 200-in. reflector at Mount Palomar, and is credited with a number of devices used in the optical tests. His many friends look forward with confidence to the successful initiation of the new telescope under his direction.

The Palaeobotanical Society and Institute of Palaeobotany, Lucknow

ON April 3, the Hon. Pandit Nehru, Prime Minister of India and Minister for Scientific Research, laid the foundation stone of the newly formed Institute of Palaeobotany in Lucknow. This Institute has come about as the result of a resolution passed on September 10, 1946, by the governing body of the Palaeobotanical Society which had just previously been founded. The president of the Society is Mrs. Savitri (Birbal) Sahni, and the secretary, Prof. Birbal Sahni, professor of botany in the University of Lucknow.

Both Society and Institute have clearly come into being as a result of the enthusiasm of Prof. Sahni, who himself is one of the world's leading palaeobotanists, and the keen interest of his wife. On the schedule of the Palaeobotanical Society are Prof. Sahni's collections of scientific literature and fossil specimens; funds up to Rs. 100,000 given by Prof. and Mrs. Sahni for the building of the Institute; a perpetual endowment of Rs. 1,000 in 3½ per cent Government paper, presented by Pandit L. D. Pant for the Chandra Datt Pant Commemoration; two scholarships, furniture and laboratory equipment given by the Burmah Oil Company. It is also interesting to note that after the death of Prof. and Mrs. Sahni, all their assets are to go to the Society and Institute. Pending the completion of its own building, the work of the new Institute of Palaeobotany is being carried out in a building (given to the Society by the Government of the United Provinces) by the director (Prof. B. Sahni), assistant director (S. R. Narayan Rao), curator (J. Hsü), research fellow (R. V. Sitholey), research assistants (R. N. Lakhanpol and D. C. Bhardwaj) and registrar (B. R. Agarwala). K. R. Surange has also recently joined the staff.

Commonwealth Scientific and Industrial Research Organisation, Australia

THE Australian Government in March repealed the Science and Industry Research Act of the Bruce-Page Government of 1926, replacing it and its subsequent minor amendments by a single Act modifying several of the main features of the original legislation. From the Council for Scientific and Industrial Research, which has functioned for twenty-three years, all former powers and functions have been taken away, and it becomes for the future merely advisory. A new body has been set up under the title Commonwealth Scientific and Industrial Re-

search Organisation. It consists of an Executive of five members and of the officers comprising the staff. The Executive is the governing body. Its members will be appointed by the Governor-General, and at least three of them are to possess scientific qualifications. The chairman and two others will devote the whole of their time to the duties of office. Whereas the former Council carried sole responsibility for the scientific programme placed before the Government, provision is now made for political initiation of work, it being the duty of the Organisation to exercise its powers and functions in relation to any matter referred to it by its minister. In the important matter of staff, while the Executive may appoint such officers and employ such temporary or casual employees as it thinks necessary for the purposes of the Act, it is in each case subject to the specific direction that "the selection of persons . . . shall be made in accordance with such requirements as the Public Service Board determines". So, too, terms and conditions are in all cases "subject to the approval of the Public Service Board". Also, the maximum number of officers and employees whose duties are primarily of an administrative or clerical nature is similarly subject to the Board's approval. Under the earlier Act, the Council and minister settled these matters, independently of the Public Service Board. A somewhat cryptic clause towards the end of the Act runs: "A member of the Executive, a member of the Advisory Council, a member of a State Committee, an officer or an employee shall not, except in the course of his duty as such a member, officer or employee or with the approval of the Executive, disclose any information concerning the work of the Organisation or the contents of any document in the possession of the Organisation. Penalty: Imprisonment for two years." The opportunity has been taken also to effect certain minor changes which experience has shown to be desirable; but it is difficult at this stage to predict just how the new legislation as a whole will affect established scientific activities. The sequel need not be unsatisfactory; but it is known that in some quarters the position is regarded with a measure of anxiety.

Progress in Education

IN his presidential address to the National Union of Teachers at Margate on April 16, Mr. I. Gwynne Rees, of Ross Talbot, outlined the extent to which the 1944 Education Act has already been implemented. Two years ago, at a time of unprecedented difficulties, school life for every pupil in Britain was extended to the age of fifteen. The number of teachers in primary and secondary schools is now 10 per cent greater than before the War, while the average number of pupils per teacher in the primary and secondary schools has been reduced by about 6 per cent; in the primary school, however, the average class still remains nearly 50 per cent larger than in the secondary school. These reforms, said Mr. Rees, have been made possible by the rapid increase in the supply of well-qualified teachers, provision having already been made for the training of 66 per cent more students in the permanent colleges and 44 per cent more in the universities than before the War. The other major reform necessary for the reduction in the size of classes is, he said, the provision of sufficient classrooms. In 1948 work in progress involved an ultimate capital expenditure of £23,000,000, and in 1949 the figure would be £55,000,000. There has also been remarkable pro-

gress in the facilities for higher education. The toll-gate of school fees has been removed, and State scholarships and local education authority awards for further education have doubled in number since 1939. In the earlier stages of education, particular concern is being felt for the infant and junior schools, where the handicapping of the less gifted begins through lack of suitable equipment and through classes of forty, fifty and even sixty children. This seventy-fourth Conference of the National Union of Teachers was distinguished, for the first time, by the presence of the Prime Minister. In an inspiring address, Mr. Attlee declared that the prime duty of all teachers is to train their pupils to become good citizens of a democratic society.

ISI Bulletin

A NEW quarterly journal, *ISI Bulletin*, has been issued by the Indian Standards Institution, P Block, Raisina Road, New Delhi. The price is 2s., and the first number contains thirty-six pages. The Indian Standards Institution was founded in 1947, primarily as an industrial organisation, but with Government support. The president is Dr. S. P. Mookerjee, Minister for Industry and Supply, and its director, Dr. Lal C. Verman. It has set up four executive committees for agricultural products, documentation, quality control and industrial statistics, and weights and measures, together with engineering, textile and chemical division councils, sponsoring a total of 118 committees and sub-committees. Draft standards on textile shrinkage tests and fireclay refractories have already been published. Apart from much detailed information the *Bulletin* contains the president's address to the general council and three very interesting general articles. The first of these, on the "Standard Atmosphere for Testing", compares average atmospheric conditions in India with those in other parts of the world and makes recommendations, which the Indian delegation was successful in getting accepted by the International Standards Organisation, for alternative 'standard atmospheres' to be adopted for use in industrial testing laboratories in tropical and temperate climates respectively. The second paper, on "Quality Control", is mainly a record of various conferences and papers relating to this subject, largely directed to its applications to the textile industry. The last paper deals with "Weights and Measures". It includes a brief summary of the past and present position in India, and puts forward a proposal for the adoption of the metric system with Indian names for the units, and a series of Indian prefixes and affixes to denote the successive powers (multiples and sub-multiples respectively) of 10. The *Bulletin* gives an impression of vitality which augurs well for the future success of the new organisation.

Scientific Information in India

COMMENTING on the Royal Society's Conference on Scientific Information Services in London last year (see *Nature*, August 21, 1948, p. 279), the *Journal of Scientific and Industrial Research (India)* (Nos. 9 and 10, pp. 387, 435; 1948) emphasizes the importance of such aids to research and the urgency of evolving a satisfactory system in India. It accepts the view that the primary requirement is a central organisation, maintaining liaison with similar organisations in other countries and directed by a man of science with width rather than depth of