

Raleigh should be remembered with reference to tobacco. Its introduction was accomplished by Sir John Hawkins in 1565, and Raleigh early acquired the habit of smoking, which he succeeded in introducing to Court circles. Dr. Brushfield writes: "There can be no hesitation in affirming that Raleigh not only introduced it [tobacco] into general use in this country, but . . . was the first that brought it into fashion."

A BRITISH INSTITUTE OF INDUSTRIAL ART.

AT the Royal Society of Arts on October 28 the Right Hon. H. A. L. Fisher, President of the Board of Education, presided over a meeting called to consider a scheme for the promotion of a British Institute of Industrial Art. Mr. Fisher, in his introductory address, referred to the past history of industrial art in Great Britain, remarking that people in this country are apt to depreciate the national ability in artistic directions. What is needed is a centre to promote a closer relation between art and industry, and this the proposed scheme, which will involve the co-operation of the Board of Trade, the Board of Education, and the Royal Society of Arts, aims at providing. The chief feature of the scheme is a permanent exhibition to be held at the Victoria and Albert Museum, where representative works illustrating a high standard of British artistic craftsmanship will be shown. The exhibition should in time become self-supporting, and the nation would purchase annually a selected number of exhibits to form a permanent nucleus. The scheme also provides for a central fund to enable grants to be awarded for research and experimental work, institute scholarships, and initiate propaganda. Co-operation with the British School of Rome, with the view of enabling students to study Roman art, was proposed.

Lord Leverhulme, who opened the discussion, emphasised the importance of a shorter working day, combined with the more efficient use of machinery, in order to provide more leisure for study and artistic effort. Sir William McCormick remarked that the movement would be on parallel lines to the work of the Department of Scientific and Industrial Research, and mentioned several instances of processes—for example, the manufacture of fine porcelain—where scientific investigation and artistic effort could work in combination. Mr. Gordon Selfridge urged that a steady educational effort was needed before the public would sufficiently appreciate beautiful things to justify manufacturers in producing them. For the time being the scheme is to be administered by a representative executive committee, and it is hoped that ultimately sub-committees will be established to deal with the needs of individual industries requiring artistic talent.

CHEMICAL TECHNOLOGY AT THE IMPERIAL COLLEGE.

IN order to meet what seem to be the requirements of the post-war situation on a scale commensurate with Imperial needs, it is proposed to organise the future Department of Chemical Technology of the Imperial College of Science and Technology, South Kensington, so as to include the following four principal sections, namely:—

I.—Fuel Technology and Chemistry of Gases, with Refractory Materials.

(a) General fuel technology, and the constitution of peats, lignites, and coals; (b) the carbonisation of

coal and wood distillation; (c) the chemistry of coal-tar, ammonia, and the manufacture of intermediate products from coal-tar; (d) the chemistry of gases and technical gas catalysis, with special reference to the new developments in the manufacture of ammonia, nitric acid, sulphuric anhydride, etc., resulting from the war; (e) refractory materials, clays, earths, and sands, used in furnace construction and the manufacture of ceramics, glass, and cements; and (f) technical analysis connected with the foregoing.

The arrangements contemplated under (e) would include some provision for investigating the materials used in the manufacture of *optical glass*, which it is hoped will be a useful adjunct to the new Department of Technical Optics; those under (b) meet the need, already felt in many quarters, of an adequate provision being made in this country for the scientific study of *wood distillation*, etc., in the interests of India and the Empire generally; and those under (a) will provide for an extension of the important investigations on lignites which have already been instituted in the Department during the war in the interests of the Dominions.

II.—Chemical Engineering.

Advanced study and investigations upon (a) the materials and principles involved in the design, construction, and use of plant for such general factory operations as the transportation of solids, liquids, and gases; filtration, desiccation, extraction, distillation, evaporation, crystallisation, etc.; condensing plant; the cooling, cleaning, and scrubbing of gases; the refining of solids, the concentration of acids; autoclaves and pressure plant, etc.; (b) the design and construction of foundations, flues, chimneys, etc.; and (c) factory economics and organisation. The underlying idea of this section of the Department's work is that students shall be trained in the working out of designs of commercial plant from their own notes and experimental work, including the drawing up of plans and specifications, and the organisation of factories in which the above-mentioned operations are carried out.

III.—Electro-Chemistry.

This section is to be developed so as to include broadly the principal applications of electricity in chemical industry, and especially to the many processes which are dependent upon the electrolytic or ionising actions of currents. These include, *inter alia*, the manufacture of caustic alkalis, chlorine, hypochlorites, etc.; "peroxidised" products such as persulphates, perchlorites, permanganates, etc.; also white lead, and such metals as sodium, magnesium, aluminium, calcium, etc. Also many organic substances are nowadays made by electrolytic "reduction" or "oxidation" processes.

The value to this country of such processes has been emphasised by the experience of the war, and it is more than ever important for the well-being of our chemical industries that no time should be lost in developing at this college a sub-department in chemical technology for the special study of them.

IV.—Technology of Carbohydrates, Fats, Oils, and Rubber.

The selection of the subjects to be included under this section has been largely influenced by two considerations, namely:—

First, the already large provision (a) in Manchester, Leeds, and Huddersfield for advanced study and research upon dyes and tinctorial chemistry, as applied to the great textile industries of the country; (b) in Leeds and in London in connection with the leather