

Describing the Special Categories programme, Mrs. L. M. Cochrane outlines the reasons which led to the selection and visit of a social work survey team whose five members have covered the fields of delinquency (adult and juvenile offenders); family and child care; organization and administration of public services; group work and community organization; and health and rehabilitation. This visit was the outstanding event of 1954: the personal relationships established wherever the members of the team went were extremely successful, and the full written report was to be presented in 1955. The visit has already led to the suggestion that a similar team should survey adult and workers' education and that the Commission should sponsor research teams to visit British Colonial areas; in commenting generally on the British scholars in the United States, Dr. F. A. Young emphasizes that the special categories, broadly speaking, are an investment in adult education, both as a mean of cultural diffusion and as a form of social service which has generated a cluster of rapidly emerging professions including workers' education, social work, library service, museum technology and educational broadcasting. He points out that the visiting scholars in this section move outside the well-worn academic paths and are continuously discovering much that to them is new and exciting. They seem to be nearer to the everyday life of Britain and come closer to the heart of the United States. Accordingly they are in many ways more effective interpreters, promoting understanding where it is most needed, at the base rather than at the apex of our social structure. The large part they have played in the advancement of scholarship and international understanding, writes Dr. Young, is the basic achievement of the British scholar in America; and elsewhere in the report Prof. Una Ellis-Fermor expresses the view that the Commission has given timely help to young and promising scholars visiting Britain who will in all probability be among the leading university teachers of the future.

CENTRAL LABORATORIES FOR SCIENTIFIC AND INDUSTRIAL RESEARCH, HYDERABAD

REPORT FOR 1954

THE annual report for 1954* of the Central Laboratories for Scientific and Industrial Research, Hyderabad, the new buildings of which were formally opened by Pandit Nehru on January 2, 1954, includes the usual lists of papers published during the year and of staff. Two more pilot-plant buildings were due to be constructed in the following year. In the Oils Section, besides investigations on local bleaching earths, samples of triricinolein and sodium ricinoleate were prepared, as well as castor-oil-modified alkyds of 40 per cent, 50 per cent and 60 per cent oil length by the monoglyceride. Work on dehydrated castor oil included its utilization in the preparation of industrial finishes, while studies continued of the antioxidant properties of catechin in fats and oils and of factors affecting the

refining of cottonseed oil. In the Entomology Section, work has proceeded on a number of lines: the pharmacological action of the portion of *A. squamosa* seed-oil insoluble in petroleum ether, using the frequency of the isolated heart of the cockroach; the insecticidal properties of chlorinated turpentine against *B. chinensis* and *T. castanum*; the anti-oxidant properties of catechin against pyrethrum; and the insecticidal properties and spreading pressure of various indigenous oils. The Fibre and Paper Section has been occupied chiefly in putting the pilot-plant project for making hand-made paper on a regular production footing, and the report of the Laboratories is printed on hand-made paper produced by the Section. A comparative study of different types of paper led to improvements in the quality of several types produced by the Section.

The Fuel Section continued its work on the briquetting and the low-temperature carbonization of non-caking Indian coals and on the products of low-temperature carbonization, and its systematic survey of the coalfields of Hyderabad State. In the Heavy Chemicals and Fertilizers Section the utilization of feldspar and iron pyrites received further attention, as well as the production of sulphur dioxide from gypsum, while preliminary work was carried out on the preparation of hydrazine hydrate; studies continued in phosphate fertilizers and the preparation of active carbon from vegetable waste materials and from a low-temperature coke. The systematic study of Hyderabad clays continued in the Ceramic Section, and in the Organic Chemistry, Pharmaceuticals and Drugs Section, besides work on Indian turpentine, eucalyptus oil and alkaloids from *Strychnos nux-vomica*, investigations proceeded on the preparation of compounds with oestrogenic activity and of insecticides from phenol and its ether. A number of quinazolines have been condensed with magnesium phenyl bromide to give 3:1:4-benzoxazines, and some of them were being examined further for hypnotic action. The synthesis of the analgesic, methyl dihydromorphinone (metopon), was being continued on a larger scale.

In the Biochemistry Section the yield of citric acid by fermentation of molasses has been increased by supplements of 0.5-2 per cent of methyl or ethyl alcohol, and further work on the itaconic acid fermentation has confirmed that glycolysis is the initial sequence from sucrose and that the presence of arsenite induces the mould to accumulate keto acid. The oxidation of glucose to gluconic and 2-keto-gluconic acids by *Pseudomonas fluorescens* was studied in greater detail, and an exhaustive examination made of the amino-acids of the protein from the seed-cake *Annona squamosa*. X-ray studies of Indian clays were continued, and in the Physical Chemistry Section the conductivity of sulphuric, nitric and hydrochloric acids in binary mixtures of methyl or ethyl alcohol, acetone, and dioxan with water was determined. Pilot-plant work in the Chemical Engineering Section included the pretreatment of cotton seed, the preparation of dehydrated castor oil and the fractionation of fusil oil on the 'Quickfit' all-glass vacuum distillation unit, while the Section also continued to study the solvent extraction of oil cake and the condensation of saturated vapours. The Operational Research Section examined the possibilities of utilizing pectin in the fruit-preserving industry and the utilization of amosite asbestos fibre for asbestos cement sheets.

* Central Laboratories for Scientific and Industrial Research, Hyderabad. Annual Report, 1954. Pp. xvii+64. (Hyderabad-Deccan: Central Laboratories for Scientific and Industrial Research, 1955.)