

News and Views

The E.R.A. Laboratory at Perivale

ON October 22, the Duke of Kent opened the new laboratory of the British Electrical and Allied Research Association which has been built at Perivale, Middlesex. Referring to the importance of research, he said that, in a mechanical era such as ours, it is one of the most important features of productive industry. The Association is supported by the Department of Scientific and Industrial Research, the Institution of Electrical Engineers, the British Broadcasting Corporation and many other bodies, including electric supply undertakings in the dominions and colonies. Electrical manufacturing firms are now well-equipped with laboratories for conducting research into problems bringing immediate profit to themselves, and they spend in this way hundreds of thousands of pounds a year. The Research Association conducts researches of general interest, which are of benefit to the user of electricity (the public), the user of electrical plant and apparatus (the electricity supply undertakings and the public) and to the manufacturer who uses electrical materials. The research work is carried out under the guidance of its council and seventy-five technical committees consisting of 450 leading experts in all branches of the industry who give their services voluntarily. The research work as a whole is supervised by the director, who is assisted by a staff of forty-seven technical experts and thirty-two clerical workers. Most of the work is done in existing establishments, the National Physical Laboratory, universities, manufacturers' laboratories, etc., but where special facilities are required it is carried out by the technical staff.

THE Association's new laboratory has a total floor space of about 14,000 square feet; but there is room for increasing the staff without further extension of the premises, and the site is capable of further development. The power frequency and heavy current laboratory contains a trench specially constructed for tests on cables laid horizontally. The standardising laboratory, physics laboratory, and generator room are also on this floor. In the east wing are situated laboratories which are specially equipped for researches on heavy current circuit breakers. The west side contains the radio and telephone laboratories, high-voltage laboratory, chemical laboratory, workshop and main store. The plant comprises a 230 volt-450 ampere hour battery which is charged automatically during the night by a mercury arc rectifier, and its output voltage is controlled by an automatic voltage regulator. Over each investigator's bench there is a small switch-board from which any of the numerous A.C. or D.C. circuits can be obtained. The high-tension laboratory is equipped for tests up to 80,000 volts. The heating plant is operated automatically, and burns a cheap

grade of coal. The laboratory has been designed with a view to economy and efficiency. The night and week-end temperature is automatically maintained at a somewhat lower value than the thermostatically controlled temperature of the working period.

Bridging the Gap: Metropolitan-Vickers Laboratories

BETWEEN the abstract idea of an invention, or new scientific knowledge, to demonstrated utility, there is generally a wide gap, and to bridge this gap much work has to be done in special research laboratories. At the end of the War, Metropolitan-Vickers was one of the first large industrial organisations to realise the great part which scientific research would play in the development of industry. The building of the research laboratories, which now have a floor area of more than 40,000 square feet, was commenced in 1920. A rule has been made that all materials and products which enter the company's works as 'raw materials' must be subjected to test by the Research Department. As this Department is in close touch with the works and factories which develop the raw materials, these tests have been a great help to suppliers in improving their products.

THE Research Department is organised into a series of sections which form one co-operative whole, and this enables each problem to be investigated rapidly in the most efficient way. The four main buildings may be roughly described as the chemical, mechanical, high-tension and physical laboratories. Photographs of some of the apparatus used in making tests is shown in the pamphlet. Many of the machines used are unique; some of them incorporate the latest methods devised by scientific workers, and there are few machines in Great Britain which rival them in size. We were much impressed by the photograph of the M.V. 500 kw. wireless valve, installed at Rugby and continuously evacuated by M.V. oil condensation pumps and a single rotary pump. In the library section, current scientific, technical and economic literature is scrutinised and translations are constantly being made from many languages.

The Mitten Crab in English Rivers

IN the review of Peters and Panning's "Monograph of the Mitten Crab" published in *NATURE* of June 9, 1934, an account was given of the invasion of European rivers by this Chinese species, and the probability of its spreading to English rivers was pointed out. This seems now to have come to pass. About a fortnight ago, a living specimen was found on one of the screens guarding the pipes through which water is pumped from the Thames into the condensers at Lots Road Power Station in Chelsea. It is a full-grown male, the carapace measuring 63 mm. in length, by 68 mm. in breadth. The exact way in which the species has reached Great Britain is