

### Birkbeck College Research Laboratory

By the aid of a gift from the Nuffield Foundation, Birkbeck College (University of London) has been enabled to equip and staff two houses in Torrington Square, London, W.C.1, as a Biomolecular Research Laboratory under the direction of Prof. J. D. Bernal. The main work of the Laboratory will be the application of physical methods, particularly X-ray analysis, to the understanding of the structures and reactions of molecules in biological systems. X-ray methods are being used in two ways, namely, the study of the mutual relations in space of virus molecules in solution and in solid phases by low-angle diffraction; and the investigation of the internal structure of the molecules themselves by high-angle diffraction. In addition to the study of molecules directly connected with proteins, others of more general biological interest are also being examined by modern X-ray analytical methods, as well as other structures chosen to develop methods of X-ray crystal analysis. To make the fullest use of existing techniques and to develop further experimental and theoretical tools for this purpose, two sections devoted to electronics and computation respectively have been added to the Laboratory. The design has already been completed of an electronic computing machine of such speed that complete analysis of complex structures by the method of 'steepest descents' can be carried out in a reasonable time. Another section of the Laboratory is working on the fundamental structure of the active constituents of Portland cement, and the nature of their reaction with water; this investigation is being financed by the Department of Scientific and Industrial Research. The work is not so isolated from the main interests of the Laboratory as may at first sight appear; for already it has been found that the properties of hydrated cements are closely related to those of many biological gels and are strongly influenced by the same long-range forces. Part of the two houses now taken over by Birkbeck College to provide for these investigations is being devoted to chemical research under Prof. W. Wardlaw and will also furnish facilities for chemical work in connexion with the biomolecular studies.

The new Laboratory was formally opened by Sir Lawrence Bragg on July 1. Sir Lawrence welcomed the initiation of a new Laboratory which is to study biomolecular substances, because such borderline subjects between physics, chemistry and biology are becoming so very important. There is always a difficulty in attracting first-rate young research workers into borderline subjects, because they tend to classify themselves as physicists, chemists or biologists and take up research accordingly. Probably the best way of overcoming this difficulty would be to provide first-rate centres of research, directed by well-known scientific workers, for such subjects.

### Rubber Technology Conference

ELSEWHERE in this issue (p. 204) an account is given of some physical and chemical aspects of the contributions to the Rubber Technology Conference held in London during July 23-25. The Conference was attended by no less than 609 members, including 119 from abroad. This compared very favourably with the previous Conference in 1938, when 553 members attended. On the occasion of the 1938 Conference more than a hundred papers were

presented, and this necessitated two simultaneous sessions. This year there were only forty-three papers spread over eight sessions running consecutively. An outstanding feature of the Conference was a demonstration of physical and chemical properties of rubber on June 23 arranged by Mr. E. F. Powell and certain members of his staff from the Dunlop Rubber Co., Ltd. The Conference closed with a dinner at the Connaught Rooms, London, on the evening of June 25; Mr. F. D. Ascoli, president of the Institution of the Rubber Industry, presided. During the evening, the Colwyn Medal of the Institution was presented to Dr. R. P. Dinsmore of the Goodyear Tyre and Rubber Co. of the United States. This is the sixteenth award of the Medal and the first time that it has gone to an American.

### Earthquakes during May

DURING May ten strong earthquakes were registered at observatories throughout the world, and there were numerous smaller shocks and tremors. The greatest earthquake which was registered at Kew gave ground amplitudes of  $110\mu$  at Kew on May 14 and came from a focus the epicentre of which was south of the Alaska Peninsula (lat.  $54\frac{1}{2}^{\circ}$  N., long.  $161^{\circ}$  W.). A world-shaking aftershock of this came on May 17 from a focus the epicentre of which was perhaps slightly to the north of the original. The second most intense shock of the month was the one which occurred on May 11, starting from a focus with epicentre near lat.  $17^{\circ}$  S., long.  $71^{\circ}$  W. in southern Peru. The focus of this earthquake was a little deeper than normal; the instrumental strength of the shock was almost  $7\frac{1}{2}$ , and casualties and damage were caused at Moquegua in southern Peru and at Arica and Tacua in northern Chile. The third greatest earthquake shock of the month happened on May 25 from a focus having an epicentre near lat.  $30^{\circ}$  N., long.  $99\frac{1}{2}^{\circ}$  E. in Sikang Province in China. A much less intense earthquake on May 28 from a focus with epicentre at lat.  $12^{\circ}$  S., long.  $77^{\circ}$  W. did damage to property and caused the deaths of five people in Peru. The deepest focus earthquake of the month occurred on May 23 from a focus some 200 km. deep with epicentre near lat.  $18^{\circ}$  S., long.  $169^{\circ}$  E. More feeble shocks occurred on May 23, doing damage to property in both islands of New Zealand; on the morning of May 24, throwing people out of bed at Palermo in Sicily; and on May 25, off the west coast of Oregon. Data for the month have been received from the U.S. Coast and Geodetic Survey, the International Seismological Bureau at Strasbourg, and observatories at Beograd, De Bilt, Durham, Kew, Stuttgart, Toledo and Uccle.

### Cleveland Seismological Observatory

IN 1946 gifts from the Louis D. Beaumont Trust and the Cleveland Foundation financed the purchase of three electromagnetic seismographs of the Sprengnether type for the Cleveland Seismological Observatory, which is situated at lat.  $41^{\circ} 29' 27.90''$  N., long.  $81^{\circ} 31' 52.22''$  W. (geographic co-ordinates) at an altitude of 1,070 ft. on University Heights, Cleveland, Ohio. The geocentric latitude is  $41^{\circ} 18' N$ . The staff at present consists of the Rev. Henry F. Birkenhauer, S.J. (director), Rev. Joseph S. Joliat, S.J. (associate director), Dr. Edward J. Walter (assistant director), Mr. Richard Becka and Miss Jeanne Carrabine. The publication of monthly teleseismic bulletins and monthly microseismic reports has already begun.