The New School of Biochemistry at Oxford.

THOUGH the study of chemical physiology in Oxford began some three hundred years ago, it is only within the last few years that this subject has been recognised as a separate school of science. It then became clear that the importance of the study of the chemistry of living things together with the rapid extension of knowledge in this field made it imperative that recognition should be given to biochemistry by the foundation of a readership or chair. The University was fortunate in the generosity of Mr. Whitley, of Trinity College, who made possible the foundation of a chair, thenceforward known as the Whitley Chair of Biochemistry. To this chair was elected, in 1920, Dr. Benjamin Moore, who may be regarded not only as the first to hold the chair of biochemistry at Oxford, but also as among the pioneers of biochemistry in Great Britain. Unfortunately for Oxford, Moore did not live long to enjoy his new position. The present holder of the chair, Dr. Rudolph A. Peters, was elected towards the beginning of 1923. Shortly after he came to Oxford, he University received from the Rockefeller Foundation an offer of £75,000 towards the erection of a new Department of Biochemistry. £55,000 of this was to be devoted to the building and its equipment, and the remaining £20,000 towards maintenance. This offer was accompanied by the condition that the University should guarantee to contribute the sum of £25,000 or its equivalent in annual income towards the general maintenance of the new Department. This munificent gift was gratefully accepted by the University. Not only did it provide for a proper development of biochemistry, but also it solved the acute problem of providing additional accommodation for the Department of Physiology, a need that had been long delayed.

By the possession of these new buildings, which were opened by the Rt. Hon. Viscount Cave, Chancellor of the University, on Oct. 21, biochemistry ceases to be taught in the premises of the Department of Physiology, and this Department therefore gains valuable extra accommodation. It has, however, been an important feature of the development to keep the Departments of Physiology and Biochemistry in intimate connexion with one another. In order to accomplish this, the new building is L shaped and forms with the old Department of Physiology part of a quadrangle. There has also been incorporated in the scheme of development a conjoint library and a conjoint large lecture room. The buildings are further connected by passages upon two floors, a great convenience for students.

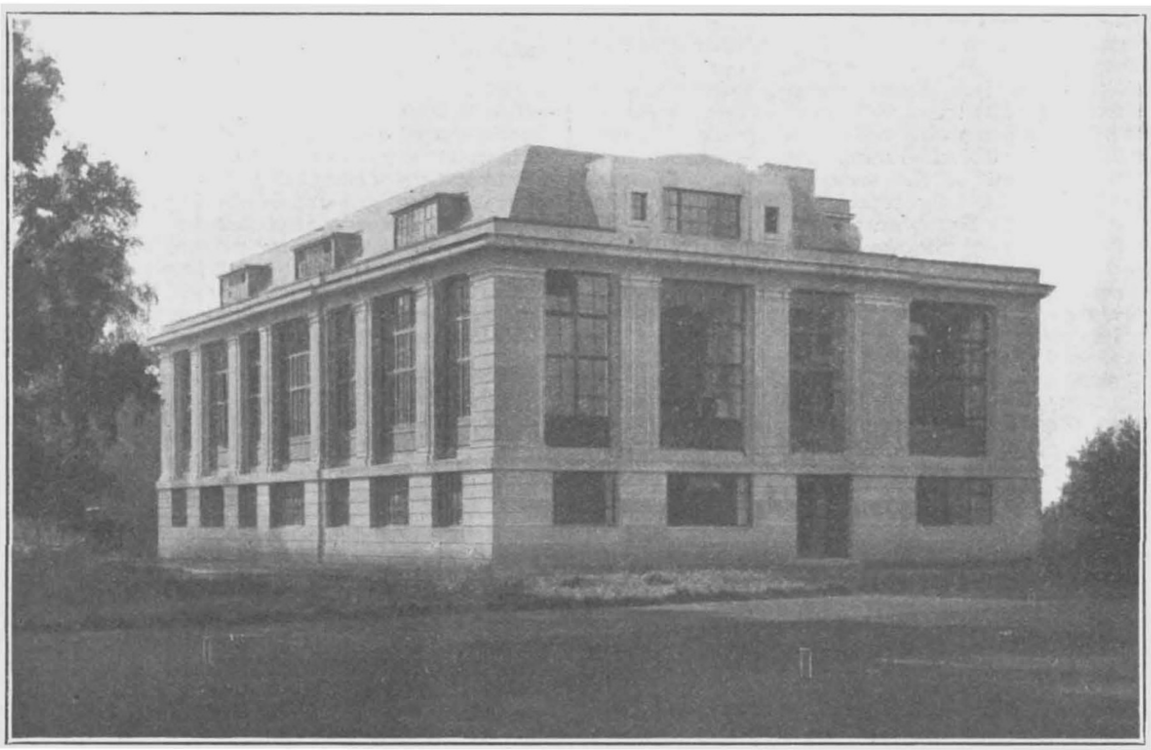

FIG. 1.—School of Biochemistry, University of Oxford.

The building has been designed by Mr. H. Redfern and is built in a classical order, which was made necessary by the need for large windows and therefore narrow wall spaces between them. It consists of three floors and a mezzanine floor. Upon the ground floor are found, besides the usual offices, the conjoint lecture theatre capable of holding some two hundred persons, cold storage, a dark room for photographic work, and one for physical work. There are also a workshop and preparation room, and a small room for nutrition work upon rats. The first floor, which may be styled the teaching floor, is connected by through passage with the Department of Physiology. It consists of two large class rooms built side by side and capable of accommodating about one hundred students at a time. They can be used either as one room or two. In addition to the class rooms there are students' balance room, a polarimeter room, and a demonstration lecture theatre. The upper or second floor is reached through a mezzanine floor made possible by the height of the class rooms. Upon this floor is to be found a rest room, a room for constant

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temperature work, a research room with roof lighting, and the entrance to the indoor animal house. The second floor is entirely devoted to investigation. Besides a professor's research suite and other research rooms, there is also a sterilising room, a small bath room, an operating suite, an outdoor laboratory, and an aquarium room. This floor opens direct to a flat roof.

With regard to the fittings, gas, water, and electric power have been brought into all rooms, and a trough system has been adopted for the drainage of water. Using this in conjunction with movable tables and cupboards designed upon a unit system, it will be possible for each research worker to arrange the benches to suit the particular investigation upon which he is engaged.

Subject to any unforeseen development, the present building should satisfy in the main the needs of biochemistry in the University for the present. Smaller wants are not yet, however, adequately met. There is, for example, the question of the research library, for which separate endowment is required. The modest sum of £2000–£3000 would go far to provide what is required in this direction. The most serious want of all, however, is believed to be that of providing studentships to enable the better men to stay behind for a period of one to two years to obtain training in research work, and so obtain the fullest possible use of the scientific opportunities of the University. This is a need which the Department of Biochemistry shares with other scientific departments, and until it is properly met there is no doubt that Great Britain will not make the best possible use of the brains of the younger generation at the University.

The University of Birmingham.

New Biological Buildings.

With the progress of the biological sciences, both methods and needs have changed. The laboratories and apparatus of a generation ago are no longer adequate even for teaching purposes, still less for research. At Birmingham the three cognate Departments of Botany, Zoology, Brewing and Biochemistry of Fermentation have long been inadequately housed in the older part of the University in Edmund Street. This session, however, they have moved to their new quarters at Edgbaston. The new biological block was formally opened on Oct. 20 by the Prime Minister, Mr. Stanley Baldwin.

The buildings, the site and general character of which form part of the original design of Sir Aston Webb, face University Road, being situated between the Chemical Department and the Harding Library. The total cost of buildings and equipment is upwards of £120,000, towards which Sir William Waters Butler, Bart., has generously contributed £40,000, and an anonymous donor £5000.

Zoology occupies the ground floor of the new block, brewing and biochemistry of fermentation the greater part of the first floor, and botany the second floor, with certain rooms also on the first floor. A large lecture theatre, shared by all three departments, each of which also has its own lecture room, forms a third floor.

One important development is the recognition of the principle of departmental libraries. Each of the three departments in the new block has its own separate library, in which will be housed nearly all the periodicals and books dealing with the three subjects respectively. These departmental libraries will be under the general supervision of the University Librarian and the Library Committee.

The three departments have already started work in the new buildings, although the internal equipment and furnishing is not yet complete. The following accounts deal with the new departments.

Zoology.

The new Zoological Department, which forms the ground floor of the biological block, has been constructed on a spacious scale. There are three teaching laboratories, for elementary, for advanced, and for post-graduate honours students respectively. The laboratories have ample accommodation, good lighting, both daylight and artificial illumination, and modern fittings. The Department possesses a small lecture theatre for advanced teaching, while the zoologists, botanists and biochemists between them share a large theatre. This lecture theatre accommodates the large elementary class, the greater proportion of whom are medical students.

Original research is as much the *raison d'être* of a university scientific department as is teaching. For the purposes of research the new department is admirably equipped. The apparatus includes not only the microscopes and microtomes of the classical zoological laboratory, but also the numerous and often elaborate apparatus used in the newer experimental developments of the science. The members of the staff have each a private room fitted out as a laboratory. There is a research laboratory for other original investigators working in the department, with a special room for entomologists, dark rooms, an animal room, a tank room, etc.

The Department has a distinguished past record. Prof. T. W. Bridge, one of the original professors at Mason College, Birmingham, carried out much valuable research work on fishes. His successor, the late Prof. F. W. Gamble, is known to zoologists all over the world for his researches on the colour changes in crustaceans and for his study of the remarkable composite organism Convoluta, a planarian worm with symbiotic algæ. The late Prof. Leonard Doncaster was a member of the staff when he did his epoch-making work on sex-inheritance in the moth *Abraxas grossulariata*. Mr. H. G. Newth, the present senior lecturer, is an embryologist who has made a number of important original investigations. Incidentally, a large share in the design of the laboratories and fittings falls to his credit. The present head of the Department is Prof. H. Munro Fox.

Brewing and Biochemistry.

The British School of Malting and Brewing and Department of Biochemistry of Fermentation was founded at an earlier date than the incorporation of the University of Birmingham. Accordingly, at first, it was a department of Mason University College. The School was formally declared open by Mr. H. Cosmo O. Bonsor, on Jan. 18, 1900. The late Prof. Adrian Brown had been appointed, and held the position until his death in 1919, the School being maintained during that interval by contributions from the brewing industry. After the death of Prof. Brown, a further appeal was made to the brewing industry, with the result that a full endowment was provided for the chair, to which the name of Adrian Brown is attached.

The Department consists of a series of sixteen rooms running from east to west. There is a spacious general laboratory, a well-appointed microscope room,

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