that the preparations for the service were approaching completion, and that Capt. Cyril Diver had been appointed to take charge of it and had taken up his duties that day. The London office of the service is at Thorney House, Smith Square, S.W.1. Capt. Diver brings to his new post extensive administrative experience as clerk of the Financial Committee of the House of Commons, and in addition has long been keenly interested in natural history, and in particular the study of ecology. While on active service in the First World War he made a study of snails in the trenches. He has been an active member of the British Ecological Society, of which he has been president. He served on the Nature Reserves Investigation Committee and assisted in drafting its report, and also on the Wild Life Conservation Special Committee, which in its report recommended the formation of a Biological Service in Great Britain.

Social Studies at Sheffield: Miss Ellinor I. Black

THE University of Sheffield has recently decided to create a new School of Social Studies, which will provide a postgraduate course leading to a diploma in social studies, and other courses leading to lower qualifications. The School will be governed by a board, on which the Science as well as the Arts Faculty will be represented. As a first step to establishing the school, the University has appointed Miss Ellinor I. Black as its director. Miss Black has been associated with the Social Science Department of the University of Liverpool, which she joined in 1924 at the most critical period of its development. Since 1941 she has been a senior lecturer, and for five years during the period of the War she acted as head of the Department. In addition to the reputation she has established in Great Britain, she has also created for herself a somewhat unique position in the international field; she has since 1936 been closely connected with the Social Welfare Committee of the League of Nations, and the International Committee of Schools of Social Work. In recent months she has renewed her personal contacts with schools of social work in the United States and in Germany. Miss Black is particularly interested in the welfare of the aged. She was a member of the Old Age Survey Committee of the Nuffield Foundation, and she has carried out detailed investigations of the problem in the Merseyside area. Miss Black has made a very deep impression on the education of the professional social worker in Great Britain; as a teacher she has been able to win both the intellectual and the more personal loyalties of her students, as so many that have passed through the Liverpool School can testify. Sheffield will gain in her one who will devote herself wholeheartedly to the creation of the new institution, which will thus possess a very special human quality.

Cooled-Anode Radio Valves

THE new chairman of the Radio Section of the Institution of Electrical Engineers, Mr. F. Smith, delivered his inaugural address on October 13, under the title of "The Development and Design of Cooled-Anode Valves". The term 'cooled-anode valve' is applied to all valves having anodes which form part of the envelope, without discrimination between the different methods of cooling. Probably the earliest valve using air-cooling was the Catkin receiving valve produced in 1933, as a miniature of the then existing large water-cooled transmitting valve. When similar methods of construction were used for valves of about 60-watts dissipation, it was necessary to add a radiator with fins to the anode. The approach of the Second World War, with its demands for special short-wave transmitting valves for pulse operation, led to the development of several series of valves with external anodes cooled by a forced air draught.

Mr. Smith's address was a survey of the development during the past ten years of the various types of cooled-anode transmitting valves. The special problems associated with the use of thoriated-tungsten filaments and oxide-coated cathodes, with the glass-to-metal joints, and the construction and cooling of the electrode seals were described. As the operating-frequency was increased, special design problems were encountered in dealing with the reduced dimensions and electrode spacings. At the highest frequencies, the valve has necessarily to be regarded as an integral part of the oscillatory circuit, and this may take the form of a coaxial transmission line or resonant-cavity in some cases. Recent developments, over the whole range of valves, have continued to be chiefly in the direction of obtaining more power at higher frequencies, and of maintaining this output over a greater band of operating frequencies. The successful development of such valves with water-cooling has been a major factor in many modern radio applications.

Radio Components Exhibition in Stockholm

A PRIVATE exhibition of radio and electronic components held in Stockholm during October 18–22 was arranged by the Radio Component Manufacturers' Federation, which is a constituent association of the Radio Industry Council in Great Britain. Some thirty-seven British firms participated and showed a wide range of products, including transformers, resistors, condensers, plugs and sockets of the many different types now in use, together with chassis, cables and terminals which contribute to the assembly of modern electronic equipment. Certain classes of measuring apparatus for the testing of such equipment were also displayed.

The exhibition was opened by Mr. J. Thyne Henderson, chargé d'affaires at the British Embassy in Stockholm, and a large number of people took advantage of the invitations to attend. It was stated that many of the components and instruments had not previously been demonstrated outside Great Britain, and that it would assist British exports to Sweden to arrange this display. In conjunction with the Federation's exhibition, and at the invitation of the British Council, Dr. R. L. Smith-Rose, director of radio research in the Department of Scientific and Industrial Research, gave two lectures at the Royal Institute of Technology, Stockholm. In the first of these lectures, he described the principles of radar and the various types of radio navigational aids, while in the second he surveyed the progress made in the development of some radio and electronic techniques during the past few years.

Science Teaching at the City of London School

IN 1839 the Rev. W. Cook was appointed to the City of London School to deliver ten to twelve lectures a year on chemistry and natural philosophy, and this was considered sufficient until 1845, when the programme was increased to four lectures per week. In 1847 Thomas Hall, who was already on the staff, was appointed as lecturer, and the teaching of