Kenyon in 1910 in the minutes of the long defunct Gibraltar Scientific Society. The skull was presented to the Society by the finder, Lieut. Flint, its secretary; but its remarkable and peculiar character was not appreciated until long after, when in 1862 it was sent to England by Capt. F. Brome, governor of the military prison, with a quantity of palæontological material which he had obtained from the Genista cave, where he carried on investigations for some years. It was then examined by Mr. George Busk and Dr. G. H. Falconer, who immediately recognized its importance as a new and distinct type of *Homo*, the latter wishing to give it, as already mentioned, specific rank in classification. The skull has since been the subject of study by almost every anthropologist of note from Huxley to Keith; and although it differs from the type in certain respects, and its age is not precisely determinable, all are agreed that it is a pleistocene skull belonging to the Neanderthal group. While some would regard the differences from the type as due to its sex (female) others hold that they are marks of an early and primitive character, such as have since been found in the Neanderthaloid skulls from Palestine. A similar skull, but of a child of five years of age, was found in 1926 by Miss D. Garrod in a recently discovered cave; and in the same stratum were flint implements of late Mousterian type. The original Gibraltar skull was presented by Mr. G. Busk to the museum of the Royal College of Surgeons of England, where it is now exhibited.

Prof. P. M. S. Blackett, F.R.S.

PROF. P. M. S. BLACKETT, of Birkbeck College, University of London, who succeeds Prof. W. L. Bragg in the Langworthy chair of physics at Manchester, is engaged mainly in work on cosmic rays, and it is fair to say that nearly all the cosmic ray research in Great Britain has been done with his advice or under his direction. Blackett's first important scientific work was the development of the Wilson cloud chamber into an automatic instrument for the study of rare events such as close nuclear collisions and nuclear disintegrations. He investigated the energy and momentum relations in these processes in the Cavendish Laboratory between 1922 and 1932. Following the discovery, by Skobelzyn, of tracks ascribed to cosmic ray particles, Blackett devised the counter-controlled cloud chamber in which the expansion is initiated by the passage of the cosmic particle and the track is formed and photographed before the ions are diffused. The counter controlled chamber placed in a magnetic field allows the measurement of the energy of the particles, and Prof. Blackett has been occupied with this method of investigating the cosmic rays since 1933, using latterly the large magnet erected for the purpose for the Royal Society. He had established a school of cosmic ray research at Birkbeck College, and several of his collaborators will continue their work at Manchester. In addition to this main interest, Prof. Blackett has worked on the production and properties of positive electrons and on the specific heats of gases.

Improvements in Television Equipment

IT is natural to expect that the continuous operation of a public television broadcasting service in Great Britain will be accompanied by steady improvement in technique and equipment. An outstanding advance in the latter has recently been achieved by the production of the Super-Emitron camera in the laboratories of the Marconi-E.M.I. Television Co., Ltd. This new camera has already reached the stage of practical application, since it was used recently by the B.B.C. in television broadcasts of the Lord Mayor's Show, and of the Cenotaph ceremony on November 11. A brief technical description of the new camera, published in the *Wireless World* of November 18, shows that the major improvement depends upon the separation of the photo-electric screen and the mosaic screen which is scanned by the cathode ray beam. As a result of this separation, the photo-electric surface, upon which the visual image of the scene being transmitted is focused, may be made transparent. In this way, certain limitations placed upon the optical projection system of the present Emitron cameras have been removed; lenses of shorter focal length and wider angle may be used, and even telephoto lenses when required. Further, the separate mosaic screen may be made from substances having high secondary emission, and consequently considerable electron multiplication may be obtained in the tube itself, thus giving additional overall sensitivity. With the new camera, therefore, less illumination of the subject is necessary for the attainment of a good picture if the normal aperture lens system is retained. This is a valuable feature in outdoor broadcasts on dull days, or when using a telephoto lens for the reproduction of distant scenes. If the normal illumination is retained, however, as in studio work, the aperture of the lens can be reduced with a consequent gain in depth of focus.

ALTHOUGH in the United States of America regular television broadcasts have not yet commenced, a considerable amount of research is in progress in the development of television technique and equipment. An additional stage towards the inauguration of a commercial service has been achieved recently by the installation of a high-frequency coaxial cable between New York and Philadelphia, a distance of ninety miles, by the American Telephone and Telegraph Coy. A note from Science Service dated November 10 describes a demonstration in which 240-line television images were transmitted over this cable, which is designed for operation at 1,000 kilocycles per second. Starting in New York, the signals pass through amplifiers about every ten miles. The power for these amplifiers is transmitted through the cable along with the signals, thus making the system independent of any local power source. Special equipment has been designed to prevent the distortion that would otherwise result from the varying velocity of the different signal frequencies along the cable. In the demonstration described, the image reproduced on the cathode ray tube receiver was about eight inches square, and news reels and animated scenes were transmitted over the cable with no important loss of detail.