The Wellcome Historical Medical Museum.

BY invitation of Mr. Henry S. Wellcome, a conversazione and meeting of the Royal Anthropological Institute was held at the Wellcome Historical Medical Museum on the evening of May 24. A number of members of the Prehistoric Society of East Anglia, which had held a London meeting at the Royal Anthropological Institute that afternoon, was also present. A cordial message of greeting had been cabled by Mr. Wellcome, who is at present in America, and at his request the guests were received on his behalf by Mr. H. J. E. Peake, president of the Institute, and Mrs. Peake.

A short address on the character and contents of the museum in its anthropological aspect was delivered by Prof. Elliot Smith. Prof. Elliot Smith said that the great museum that Mr. Henry S. Wellcome has created is unique. It affords a concrete demonstration of the history of man's attempts to cope with the fundamental problems of life and death. If such a collection is of interest to physicians and surgeons, it is of vital importance to anthropologists, because it deals with that particular aspect of the study of mankind which is now for the first time coming to be recognised as the central aim of all humanistic inquiry. It illuminates the motives for customs and beliefs, and provides the material for interpreting what is involved in the idea of progress; but it also suggests the explanation of superstition and intolerance.

The fundamental attribute of all living creatures is the fact that they are alive; and their essential reactions serve the purpose of preserving the life that is their distinctive property. In man these instinctive processes receive articulate expression, and to the unconscious reactions for self-preservation are added innumerable devices that are deliberately invented as rational means of preserving and adding to the vital substance. In the Wellcome Museum is displayed a vast collection of charms, amulets, and elixirs of life that have been used by people of every race and clime, and of every time from the upper palæolithic to twentieth-century London, for the purpose of self-protection. As the originally rational excuse for the efficacy of most of these givers of life was shown to be unfounded, many of them still survived in popular estimation, but being stripped of any justification for their reputation, they fall into the category of magic.

Another aspect of essentially the same process is displayed in the practice of mummy-making, the use of relics and magic bundles, and the initiation of medicine-men. Ancient literatures contain accurate reports of the real beliefs of the people of antiquity —that the processes of mummifying the body or making an image of a king conferred upon him a new existence and a new and divine personality, which enhances his powers of conferring safety and prosperity upon every individual among his subjects. The pretence of mummification is the essence of the initiation of a medicine-man, giving him a new name and new powers of life and death; and the symbol of his powers is the magic bundle, which is either the actual mummy or the pretended relic of his predecessor. In the Wellcome Museum are the mummies, the mummified heads, the magic bundles, the graven images, the standards, and the dress of the medicine-men, the amulets, the elixirs of life, the equipment of the astrologers and alchemists, that afford concrete demonstrations of the reality of these things.

The wonderful reproductions in the museum of a chronological series of pharmacies provide a dramatic demonstration of the historical links between the magic of the past and the science of to-day.

Important as the collections of the Wellcome Historical Medical Museum are as an objective record of the history of medicine and the associated sciences, its great value lies in the fact that it affords a demonstration of (and an instrument of research into) the universal problems of human aspirations, and that Mr. Wellcome had this wider vision of its meaning is shown by the fact that he has placed an anthropologist in charge of the Museum.

A vote of thanks to Mr. Wellcome was moved by Lord Onslow and seconded by Dr. Spencer, president of the History of Medicine Section of the Royal Society of Medicine. In putting the vote to the meeting, Mr. Peake emphasised Mr. Wellcome's services to humanity, of which the Museum represented part only. He referred to his work for tropical medicine, especially at Khartoum, and his support of archæological exploration. Starting as a history of medicine, the Museum is becoming more and more anthropological in outlook. He referred also to Mr. Wellcome's judgment, in view of this aspect of the Museum, in selecting Mr. Malcolm, a trained anthropologist, as the conservator of the Museum. In replying on behalf of Mr. Wellcome, Mr. Malcolm emphasised the desire of its founder that it should develop as a Museum devoted to research.

The Production of Pure Chromium, Manganese, and Silicon.

IN connexion with the researches on the alloys of iron at present being carried on at the National Physical Laboratory, accounts are given by F. Adcock, Dr. M. L. V. Gayler, and N. P. Tucker in a paper read recently before the Iron and Steel Institute, of the successful attempt to produce three steel-making elements in a state of high purity. It is of interest that each element is prepared by an entirely different type of process. Chromium is made electrolytically, manganese is produced by distillation, and silicon by purely chemical purification.

The chromium was prepared by the electrolysis of an aqueous solution containing 30 per cent. of pure chromic acid and 1 per cent. of sulphuric acid. Lead anodes were used with tin or steel cathodes. Three types of apparatus are described, for one of which, with a steel cathode rotating at a rate of 30 revolutions per minute, the following data are given: The temperature of the bath was 20° C., the voltage 5·2, with an amperage of 140. The current densities at the cathode and anode were 28 amp. and 7·2 amp. per sq. dm., and the yield of chromium in 30 hours was 500 grams, with a current consumption of 8·3 ampere-hours per gram.

All the samples as deposited contained hydrogen and oxygen, the former being liberated during remelting *in vacuo*. The oxygen, which in the cathode chromium is in a form which leaves no residue on solution in acid, is converted on vacuum heating into insoluble chromium oxide (Cr_2O_3). This can be removed, however, by heating the solid metal in pure, dry hydrogen to 1500°-1600° C. (The melting point of chromium is considerably above that of iron, but has not yet been accurately determined.) After these treatments, spectroscopic examination failed to reveal any impurities.

The great hardness of electrolytically deposited chromium, 600-650 Brinell, is apparently caused by