

Electrode Potentials

The Electrode Potential Behaviour of Corroding Metals in Aqueous Solutions

By O. Gatty and Dr. E. C. R. Spooner. Pp. xi + 504. (Oxford: Clarendon Press; London: Oxford University Press, 1938.) 25s. net.

MUCH in electrochemistry is controversial, and fresh outlooks and ideas are exceedingly stimulating. This book is justified by the ingenuity of speculation advanced, quite apart from the very considerable amount of data, largely original, presented upon the electrode potential characteristics of a large number of the more important metals.

The arrangement is certainly unorthodox for a work which may well be considered standard, but the context falls easily into the collection of papers presented, and is quite easy for reference even if it does suffer from the lack of a subject index.

A large introductory paper deals with theory: it is well arranged, comprehensive, often original in outlook, and rich in references. There follows, in a number of papers, a treatment of the specific behaviour of many metals; very clear descriptions of the experimental technique adopted are given,

and the analysis and discussion of phenomena presented are critical.

In particular, the paper on iron should receive mention, from the importance of the metal, and from the comparative length of the treatment given. It outlines work published upon behaviour, stresses the importance of the time factor in potential measurement interpretation, and elucidates much concerning the nature of the corrosion of iron, passivity, the effects of solute nature, pH, temperature, grinding, oxygen diffusion, etc. It is exceedingly clear upon the mechanism whereby the inhibition of corrosion is effected by chromates.

There are a number of appendixes of some length, forming a not unimportant part of the whole. One treats with very recent work in over-voltage, some of which has not otherwise been published. Another deals with developments in the theory of tarnishing, applications of which to the treatment of silver, copper, and aluminium bronze, have much promise.

This book is of very definite utility to electrochemists and corrosion chemists, and should be of considerable interest to many others. A. J. G.

Fingerprints

Fingerprints:

History, Law and Romance. By George Wilton Wilton. Pp. xix + 317 + 10 plates. (London, Edinburgh and Glasgow: William Hodge and Co., Ltd., 1938.) 12s. 6d. net.

THE central topic of Mr. Wilton's book on fingerprints is the claim of Henry Faulds (1843-1930) to have been the originator of the use of fingerprints in criminal identification and detection. In 1880 a letter appeared in NATURE, (22, 605; Oct. 28) from Faulds, a medical missionary in Japan, stating that his study of fingerprints, initiated by his observation of impressions on Japanese prehistoric pottery, had led him to the conclusion that bloody impressions on clay, glass, etc., might lead to the scientific identification of criminals. In a later issue of NATURE of the same year (23, 76; Nov. 25), Sir W. J. Herschel wrote to point out that he had used fingerprints in India for more than twenty years.

Mr. Wilton traces the subsequent history of the study of fingerprints in relation to criminal identification and the introduction of the fingerprint system of identification of habitual criminals

in English police work. The part played by Sir Francis Galton in the matter is consistently and sometimes violently attacked. While Mr. Wilton's use of the documentary evidence is not unfair, his championship of Faulds leads him to take an unduly harsh view of Galton's undoubted neglect of Faulds's work. On the other hand, there can be no doubt that it was through Galton's work and influence alone that the police authorities adopted the system, which was introduced by Sir E. Henry at Scotland Yard in 1901.

Had Mr. Wilton a closer acquaintance with conditions at the time, he could scarcely have maintained that Faulds's work affected the issue in the slightest. Priority of publication undoubtedly belongs to Faulds; but it was Herschel's practical experience in India that influenced Galton; and it was Galton's work, especially in the classification of fingerprints, and his prestige as a man of science that was responsible for the substitution of the fingerprint for the anthropometric system which had been adopted by the police on the model of the Bertillon system in the latter half of the nineties of the last century.