Metallurgy

(1) The Journal of the Institute of Metals
Vol. 58. Edited by G. Shaw Scott. Pp. 325+30 plates.

(2) Metallurgical Abstracts (General and Non-Ferrous)
Vol. 2 (New Series). Edited by G. Shaw Scott. Pp. vii+889.

(London: Institute of Metals, 1936.)

(1) "METALLIC WEAR" formed the subject of a general discussion at the last annual meeting of the Institute of Metals. The opening paper by Dr. H. W. Brownsdon is given in this volume, together with a record of the discussion, in which no fewer than twenty-one experts expressed their views on this important subject. Following the presidential address of Mr. W. R. Barclay, in which he dealt with organized development in the non-ferrous metal industries, are fourteen papers and related discussions, including "Effect of Molten Solder on Some Stressed Materials", "Test for Zinc Coating on Wire", "A Deep Drawing Test for Aluminium", "Magnesium Copper Alloys", "The Physical Properties of Nickel Silver Alloys" and "Experiments on the Electrical Resistance of Copper Wires". The volume concludes with an account of Mr. C. C. Paterson's May Lecture on "The Escape of Electricity from Metals: Its Practical Consequences". The author traces the effect which the liberation of the electron from metals has had on the trend of electrical engineering during the past twenty years.

(2) The second volume of "Metallurgical Abstracts" is larger than its bulky predecessor by ninety pages—a fact indicative of the ever-increasing volume of metallurgical work that is being published all over the world. The field covered includes properties of metals and alloys, corrosion and protection, electrodeposition, refining, analysis, apparatus and instruments, testing, temperature measurement and control, foundry practice, scrap metals, furnaces and fuels, refractories, heat-treatment, working, joining and the cleaning and finishing of metals. The present volume contains upwards of 10,000 abstracts, the index to which alone occupies 146 pages. It is indispensable to everyone concerned in any way with the use or application of metals and alloys. One omission which is still noticeable is a list of publications from which abstracts are regularly prepared.

Corrosion Resistance of Metals and Alloys
By Robert J. McKay and Robert Worthington. (American Chemical Society Monograph Series, No. 71.) Pp. 492. (New York: Reinhold Publishing Corporation; London: Chapman and Hall, Ltd., 1936.) 35*s*. net.

THE remedy for corrosion in many cases is the use of the right alloy in the right place. The authors have taken this as a text in writing their book, which summarizes up-to-date information on the corrosion resistance of all the ferrous and non-ferrous alloys of any importance at all.

The first part of the book sets out to classify and explain the important points of the theory or mechanism of corrosion. The second and longer portion consists of detailed data on the corrosion of individual materials in given conditions. Chapters are devoted to: magnesium and its alloys, aluminium and its alloys, zinc and zinc coatings, cadmium plate, tin and tinplate, lead, iron and steel, molybdenum alloys, chromium alloys, chromium plate, nickel-iron alloys, nickel, nickel-copper alloys, copper, and high copper alloys. Each chapter gives a general discussion of the behaviour of the material, followed by a documented survey of knowledge of its resistance to a wide range of corrosive conditions, and an extensive bibliography.

In employing this method of presentation, metal by metal, the authors realize that it has the shortcoming that the answer to the question "What metal is best to use?" or "Is copper better than lead for sulphuric acid?" may not readily be apparent. But a uniform system of presentation enables a rapid comparison to be made once a preliminary selection of likely materials has been effected. The latter process is facilitated by a form of master-chart giving a cross-section of corrosion rates for each metal group in each of seven typical corrosive conditions. If the data given are then interpreted on the basis of the fundamental considerations set out earlier the reader will be able to obtain a clear idea of the material best suited to his purpose. It will thus prove invaluable to all metallurgists, chemical engineers and others who are faced with the problem of selecting materials to withstand particular conditions.

Miscellany

Changing Man:
the Education System of the U.S.S.R. By Beatrice King. Pp. 319. (London: Victor Gollancz, Ltd., 1936.) 10*s*. 6*d*. net.

NOT even political prejudice can conceal the fact that the communist Russia to-day represents an immense social experiment of far greater interest and significance in political and social thought than the reversion to autocracies represented by modern Fascism. The success or failure of Communism under the conditions of to-day, whether in the execution of its successive five-year plans, or in the vastly enhanced extent to which the scientific worker has been placed in control, or again in the attempt to make the service motive a driving force comparable with that of the profit motive elsewhere, depends as much on education as on any one factor. In this book we are given a survey of the education system of the U.S.S.R., which should at least assist in judging as to the chances of success.

The survey is admirably done and apart from the larger question, the scientific worker will find much to interest him in the account of technical and professional education, of educational research, of higher education, discipline and examinations, etc. On many points of detail it is clear that the practice of Soviet Russia might well be adopted to some extent in our own educational system, as for example,