Book Section

New Publications :

Van Nostrand Reinhold Co., New York, 1971 : (1) Chemistry : An Interdisciplinary Approach, by R. W. Medeiros, $ 10.95; [2] Chemistry : A Conceptual Approach, by C. E. Mortimer, $ 12.50.

Proceedings—International Conference on Copper and its Alloys, Amsterdam, September 1970, published by the Institute of Metals, London, 1970, 370 pages, £ 10.

Lehrbuch der Metalkorrosion, by K. Muller, published by Eugen G. Leuze Verlag, Saulgau/ Wurtt, Germany, 1970. 130 pages, DM 16-75.

Chemical Materials Catalog, published by Reinhold Publishing Corpn., Stamford, Conn., U. S. A., 1971, 22nd volume.

Analysis of Electroplating and Related Solutions, by Langford and Parker, published by Robert Draper Ltd., Teddington, Middx., England, 4th Ed., 1971, £ 12.

Fourth International Symposium on Chemical Reaction Engineering, by R Jottrand [Ed.], published by Pergamon Press, 480 pages, £ 15.

Electrochemistry, by G. J. Hills [Reporter], published by the Chemical Society, Letchworth, Herts, England, Volume 1, 274 pages £7.

Plasma Pysics, by B. J. Rye and J. C. Taylor [Ed.], published by Oliver and Boyd, Edinburgh, 1970, 455 pages, £ 8.

Molecular Reactivity—Quantum Mechanics of Molecular Rate Processes, by R. D. Levine, published by Clarendon Press, Oxford, 1969, 335 pages, £ 4.50.

Industrial Catalysts—Catalysts Handbook, complied by ICI Agricultural Division, published by Wolfe Scientific Books, London. 1970, 231 pages, £ 3.15.

Scientific Biography—Dictionary of Scientific Biography, by C.C. Gillispie] [Ed.-in-Chief], published by Charles Scribner's Sons. New York, 1970, Volume 1—624 pages, and Volume 2—627 pages, £ 16.80 each Volume.

Analytical Chemistry—Review of Fundamentals, published by "Analytical Chemistry", 1970 Annual Reviews, Volume 42, No. 5, 451 pages 1970.

1970 Annull Book of ASTM Standards. Part 31. Metals—Physical, Mechanical, Nondestructive and Corrosion Tests, Metallography, Fatigue, Effect of Temperature, published by American Society for Testing and Materials, Philadelphia, 1022 pages.

A Handbook of Unit Operations, by D. A, Blackadder and R. M. Nedderman, published by Academic Press, London-New York, 1971, 284 pages £ 5.

Elements of Classical and Statistical Thermodynamics, by L. K. Nash, published by Addisson-Wesley, Reading Mass, U.S.A , 1970, 128 panes, 75 sh.

Science and Technology : An Introduction to the Literature, by D. Grogan, published by Bingley, London, 1970, 231 pages, 45 sh.

Nancy Loves Gin, by R. Pinner, published by Robert Draper Ltd., Teddington, Middx., England, 1970, 101 pages $ 6.

Appearance of Metallic Surfaces-STP 478, published by American Society for Testing and Materials, Philadelphia, 1970, 58 pages, $ 7.

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Current Corrosion Research In Scandinavia : Lectures delivered at the IVth Scandinavian Corrosion Congress, Helsinki, 1964 ; by J. Larinakri (Ed.-in-Chief), published by Kemian Keskusliitto, Helsinki, Finland, 1965, 363 pages, £ 6 sh. 10.

CSIR News, Vol. 21, No. 4-9, 1971, New Delhi.

Family Planning Quarterly, Report for Quarter ending June 1970, Govt. of India, New Delhi.

Corrosion Prevention and control, Vol. 19, No. 6, 1970 ; Vol. 18, No. 1, 1971. Scientific Surveys Ltd., London.

United Nations Weekly Newsletter, Vol. 19, No. 11-21, 1971 UN Information Centre, New Delhi.

Current Titles in Electrochemistry Vol. 3, No. 3-4, 1917 SAEST Karaikudi.

Lectrodip Process-Technical Information, 8 pages and press Release. 2 and 4 pages, published by Carrs Paints Ltd, Birmingham.

The American Reporter. Vol. 21, No. 5-9, 1971, US Information Service, New Delhi.

Galvanotechnik, Vol. 61, No. 12, 1970; Vol. 62, No. 1, 2, 1971, Eugen G. Leuze Verlag, Soulgau/Wurtt, Germany.

Edelmetall-Galvanotechnik: Dekorative und technische Anwendungen, by A. Von Krusenstjern, published by Eugen G. Leuze Verlag, Saulgau/Wurtt, 1970, 367 pages, DM 40.

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Instruments News, Vol. 5, No. 4, 1970, CSIO, Chandigarh.

OSU Research Review, Vol. 7, No. 3—6, 1970, Research Foundation, Ohio State University, Columbus,

World Mining, Vol. 23, No. 13, 1970; Vol. 24, No. 1, 2, 3, 1971 Miller Freeman Publications, San Fransisco.

Metal Coating of Plastics, by F. A. Lowenheim, published by Noyes Data Corporation, Park Ridge. N. J., U. S. A. 1970, 254 pages, $ 35.

Lead Abstracts, Vol. 10, No. 11, 12. 1971; LDA, London through Indian Lead Zinc Information Centre, New Delhi.

Science and Engineering, Vol. 24, No. 2—4, 1971, ISE, Calcutta.

Accumlator, Vol. 6, No. 1, 1971, Standard Batteries, Bombay.

Annual Bulletin of Electric Energy Statistics for Europe, Vol.15, 1969, published by United Nations, New York. 1970, 104 pages, $2.

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Compass, Vol. 5, No. 3, 1971, Madras.

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Rare-Earth Metals in Steels, by N. Kippenhan and K. A. Gschneidner, published by Molybdenum Corporation of America, New York, 1970, 61 pages.

Anti-Corrosion Methods and Materials, Vol. 17, No. 12, 1970; Vol. 18, No. 1-3, 1971, Sawell Publications Ltd, London.

Australasian Corrosion Engineering, Vol. 14, No. 10-12. 1970, North Sydney, N. S. W.

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Metal Finishing, Vol. 69, No. 1-3, 1971, Metals and Plastics Publications Inc., Westwood, N. J., U. S. A.

Corrosion Map of India, by K. N. P. Rao and A. K. Lahiri (Ed.), published by Corrosion Advisory Bureau, CSIR, Jamshedpur, 48 page.

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The New Cosmetic, by H. Bennett, published by Chemical Publishing Co. Inc., New York 1670, 149 pages, $ 12. 75.

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Endeavour, Vol. 30, No. 109, 1971, ICI Ltd, London.

Metal Finishing J., Vol. 17, No. 193, 1971, Fuel and Metallurgical Journals Ltd., London.

Zinc-Silver Oxide Batteries, by A. Fleischer and J. J. Lander (Ed.). published by John Wiley & Sons, Inc., New York, 1971, 544 pages, $27 .95.

Quarterly Bulletin of Steel Statistics for Europe, Vol. 21, No. 3, 1970, UN, New York.

Development of Production Technology and New Properties of Steel Products publised by United Nations, New York. 1970, 49 pages, $1.

Stattistics of World Trade in Steel 1969, published by UN, New York, 1970, 59 pages, $1.00,

BOOK REVIEWS

Electrochemistry, by J Koyta, J. Dvorak and V Bohackova, published by Methuen & Co. Ltd., London, English Translation, 1970 350 pages, £5. 25.

This book is based on the lectures delivered by the authors, and is intended to present the principles of modern Electrochemistry. The Czech edition was published in 1966. and the present English edition in 1970.

There are 4 main sections: (1)Equilibria in Electrolyte Solutions, (2) Transport Phenomena in Electrolyte Solutions, (3) Equilibria in Heterogeneous Electrochemical Systems and (4) Processes in Heterogeneous Electrochemical Systems. The treatment of the matter is excellent, keeping in view the modern theoretical approach to the study of electrochemistry. There are references at the end of each section, together with the author and subject index in the end. Of the four appendices, C on historical development of electrochemistry to 1950 will be of special interest. The price of the book is moderate. This publication is strongly recommended as a "must" in the library on electrochemistry.

T.L.R.

Zinc-Silver Oxide Batteries, edited by Arthur Fleischer and John L. Lander, A Volume in the Electrochemical Society Series, Published by John Wiley and Sons New York, 1971 544 + vlii pages $27.95

This book contains the 36 papers presented at the 1968 ECS Symposium held in Montreal. The book brings together the recent advances and the scattered information on the zinc – silver battery in a most thorough form ably edited by the authors. The contributors discuss the science and technology of the zinc–silver battery from fundamental thermomechanical, chemical and electrokinetic theory through plate – making, element assembly, cell and battery construction processes, failure modes and mechanisms.

There are eight parts in the book. Part I essentially traces the historical development of zinc-silver batteries. Parts II and III deal with the electrochemistry of zinc electrode, and the silver electrode respectively, while Part IV gives details of the manufacture of these electrodes. In any battery assembly the science and technology of the separators are of immense importance, and a full chapter (Part V) has been devoted for this purpose. Some of the design features are discussed in Part VI, while the applications are given in part VIII. In the latter chapter, peculiar features of zinc – silver oxide batteries as applied to aircrafts, torpedoes, missils and spacecrafts are all discussed. The final chapter is mainly devoted to quality control and reliability programmes. The usefulness of the book is considerably increased by including all the major references (about 660) in this field, followed by an extensive index.

On the whole, the book is useful, up - to - date and a comprehensive source – book of information for battery manufacturers, users and suppliers. All those involved in electrochemical power source research will find this book an excellent guide in all its aspects. In spite of the fact that this is the proceedings of a symposium, the editors have threaded the papers together in such a fine way that the continuity is never lost in reading the book. In electrochemistry, people use different units, and authors and the editors have tried to give the equivalents of other units as well. As with all the John Wiley publications, the book is excellently printed, and the cost does not seem to be high in view of the usefulness of the book and the trouble taken by the ECS., the authors and the editors.

K.I.V.

The Indian and Eastern Engineer, 112 Anniversary Number, published by The Indian and Eastern Engineer, Bombay, 1971, 178 pages, Rs. 15.

This special volume has been issued on the occasion of the completion of 112 years, a long period indeed from 1858 to 1970, by this well established journal in engineering. There are 47 contributions covering a wide field: space missions, industrial development, power, corrosion, netallurgy and materials, transport, building, town planning, recent trends, role of the engineer and engineering education. The publishers are to be congratulated for bringing out this number containing information of value to the scientist, technologist and engineer.

T. L. R.

Copper Abstracts, by R. Cross and S. Mainzer (Ed.), published by the Coper Development Association, London, Volume I, Abs-

tracts 1 – 609, 1970, 185 pages; through Indian Copper Information Centre, Calcutta.

This Compilation of abstracts covering the technical literature on copper and its alloys wiil be of greta helf to all those who wish to keep in touch with rccent information pertaining to this metal. The CDA has rendered a valuable service in publishing the abstracts.

L.T.R.

Development of Production Technology and New Properties of Steel Products, United Nations Publication, ST/ECE/STEEL/35, Sales No. E. 70. II. E. 7, published by United Nations, New York, 1970, 49 + v pages, $ 1.00.

The growing competition between irons and steels on the one hand and the non-ferrous metals and non-metallic materials on the other hand, has encouraged the steel technologists to evolve new techniques of steel production and to develop new types of steels to meet the specialised applications. The report under review attempts to analyse the progress made by the iron and steel industry in increasing the efficiency of production technology, in reducing the cost of production, in improving the quality of finished products, in providing the consumers with finished products which best fit their requirements and in developing specialised steels.

The introductory chapter traces the history of steels through the BOF, LD, LD-BOF, KALDO and IRSID processes and finally ending with the vacuum melting and casting processes. This section is very well illustrated. Chapter I gives a good account of the structural sections while Chapters II and III deal with wire and flat products respectively. Chapter V is an excellent resume of coated steel products, dealing with barrier-type and sacrificial type coatings commonly used for minimising steel corrosion. The topics covered include development of coating techniques, creation of new categories of coated steel products, modifications, economic aspects and trends in coated products. Chapter V deals with steel tubes and cast iron pipes, while chapter VI gives an idea of high quality and special steels. The statistics of steel production parameters are given in several places in the report. On the whole, the report is educative and informative, and would be useful to educational institutions and governmental organizations, even though there is nothing inspiring in the whole report, better than in many recent books on making, shaping and treating of steels.

K. I. V.

The New Cosmetic Formulary, by H. Bennett, published by Chemical Publishing Co., Inc., New York, 1970, 149 pages, $ 12.75

The cosmetic industry is growing so rapidly that it is in close competition with the food and textile industries in the volume of business done. Like all important industries, it is continually changing as well as growing. A product that was popular a year ago may soon be passed by another and eventually forgotten entirely. Educational institutions, which in the past have paid little heed to this industry, are now aware of its importance. Even many research institutions show tremendous interest in this field. Hence there is a voluminous literature available on the manufacture of cosmetics.

This book on cosmetics correlates the most practical and up-to-date formulae in the cosmetic and allied fields. It is written in non - technical language, so that anyone, regardless of technical education or experience, can start making simple products without any complicated or expensive machinery. The publication gives practically all the data needed to prepare the cosmetics that this modern age can think of.

All the manufacture of cosmetics in genral is often an elaborate procedure, the technique is more manual than creative. All we need is the formula and a bit of common sense. Given a satisfactory formula, anyone can successfully produce a batch of cold creams or shampoos, lotions or lip - sticks. If one follows the given method of procedure meticulously and uses the proper quality and quantities of the ingredients, he can easily compete with a commercial manufacturer.

This volume is very useful for an average person in India, since most of the cosmetics are exhorbitant in cost and hence cannot

be afforded by a middle - class woman. Yet she can make an attempt at domestic preparation following the procedure given here.

(Miss) T. S. V.

Makor Biocbemlcal., Organometallics and Organic Componds for Researeo, publihed by Makor Chemicals Lte. Jerusalem January 1971, pages 16.

This booklet contains information including the price on Makor's Compounds: toxins, biochemicals, enzymes, fungal spores organometallic compounds, and organic compounds.

Corrosion Map of India, by K.N.P. Rao and A.K. Lahiri (Ed). published by Corrosion Advisory Bureau, CSSIR, Jamshedpur, 48 pages.

This volume is based on atmospheric corrosion studies carried out by the sites Panel Committe of the CSIR in different parts of India. The data relate to the period 1963–1968. The map is covered in 15 figures, and is supplemented with 3 tables on corrosion rates. This is followed by Appendix A – meteorological and pollution data collected at different stations; Appendix B atmospheric corrosion rates of mild steel and zinc at various stations; Appendix C - Indian Standards of importance for corrosion protection schemes. This is a very useful publication while dealing with problems of corrosion of metals and its preventions. The CSIR deserve to be congratulated for this venture.

Soviet Space Research, 1971, 64 pages; through Information Department of the of the U.S.S.R. Embassy in India, New Delhi.

This illustrated brochure gives an account of the achievments of of the Soviet Union in Space Research: pioneers in space exploration. Man in space, monitors on lunar paths Venus and Mars probes construction in space and new horizons. It is worth qouting from the introduction of this very intersting and useful publication on space: 'Our path in speace exploration is that of solving basic, fundamental takes of science and technology. In the Soviet Union space investigations serve the great task of cognizing and utilizing elemental forces and laws of nature for the benefit of man labour, for universal peace."

T.L.R.