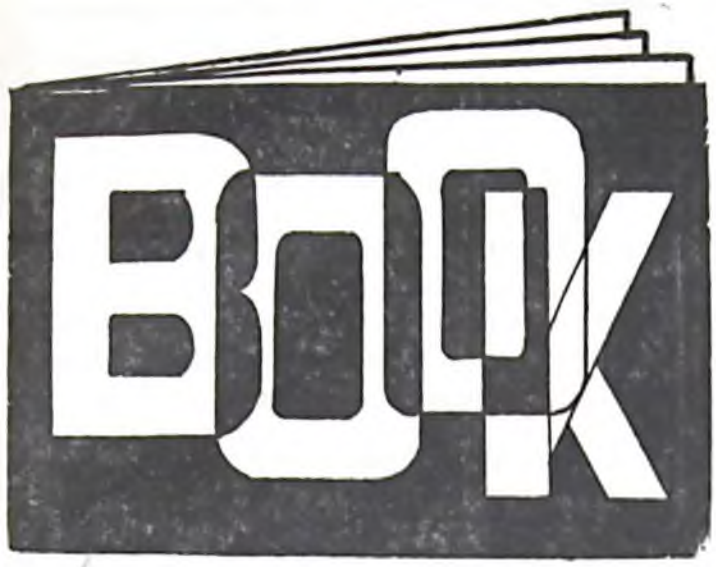


SECTION

BOOK REVIEWS

1. Internal Friction and Ultrasonic Attenuation in Crystalline Solids. Vol. I and II: Proceedings of the Fifth International Conference, Edited by D. Lenz and K. Lucke, published in 1975 by Springer Verlag, Berlin, total 94 papers, 982 pages, U.S. $60.70, DM 148.

The two volumes contain the proceedings of the 5th International Conference on Internal Friction and Ultrasonic Attenuation in Crystalline Solids (ICIFUA) held from August 27 to 30, 1973 at Aachen, West Germany. The referred papers are edited by well known experts in the field of internal friction: Drs. Lenz and Lucke.

In the first volume are included the papers on internal friction due to electrons, phonons, magnetic effects, phase transformations, point defects, grain boundaries and irradiation, while the second volume consists of papers on internal friction due to dislocations and their interacation in cold worked and irradiated materials. Each volume has papers invited from experts in the field as well as contributed papers. The invited papers in the first volume are by (a) J.K. Wigmore (Lancaster) on "Very High frequency phonons" (b) J. A. Rayna (Pittsburgh) on "Ultrasonic attenuation in Normal Metals", (c) B. R. Tittamann (Thousand Oaks) on "Ultrasonic Attenuation in Superconductors", (d) C. Elbaum (Providence) on "Ultrasonic Studies in Antiferromagnetic Resonance', and (e) A. S. Nowick (New York) on "principles of point Defect Relaxations". In the second volume, there are five invited papers; (a) Theory of the Interaction of Dislocations with Electrons and Phonons by A.D Brailsford (Harwell), (b) Effects of Dislocation Interactions with Electrons and Phonons by A. V. Granato (Urbana), (c) Dislocation Resonance Damping and the Nature of Pinning by D. Lenz and K. Lucke (Aachen), (d) Defect Dragging by Dislocations; Theory and Experiment in the Amplitude Independent and Dependent Regions, by A. Sosin (Salt Lake City) and (e) Plastic Deformation and Internal Friction by D. N. Beshers, R.J. Bottschall (New York).

The invited papers have not only brought the subject up-to-date but also indicated the areas of future study. Most of the contributed papers have also been presented in full with several illustrations and data graphs.

Both the volumes are photooffset printed and soft cover bound. These will be very valuable to researchers working in this field and will be a useful possession for all the technical libraries.

—**Dr. Y. V. R. K. Prasad**
Asst. Professor, I.I.Sc.

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2. Westermann Tables for the Metal Trade (Materials, Numerical Quantities, Forms) – Revised to Indian Standards, edited by Hermann Jutz and Eduard Scharkus, 1976, published by Wiley Eastern Limited, AB8, Safdarjung Enclave, New Delhi-110016, 152 pages, Rs. 13.50.

This book is a compilation of various numerical quantities required for the metal trade. Materials, general properties, designation, Indian standards for structural materials, standard dimensions for gears, screws, rivets, holes, knurling etc. are tabulated in an orderly manner. Machining properties of synthetic materials are also included. In addition, the book contains standard mathematical and trignometric tables.

The book is divided into six sections: Materials, Numbers, Mechanics, Engineering Components, Metal cutting operation and Engineering drawing. Much painstaking effort has gone into compiling and arranging

the tables. The apprentice in the metal trade as well as the specialized workers will find it extremely useful.

— **Dr. D. H. Sastry**
Asst. Professor, I.I.Sc.

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3. **Electroanalytical Chemistry (a series of advances)**, Vol. 9. 1976, edited by Allen J. Bard, published by Marcel Dekkar Inc., 270, Madison Avenue, N. Y. 10016, 280 pages, $36.50.

With the explosive growth of the developments in modern electroanalytical techniques, it becomes necessary to have authoritative reviews on the subject in order to provide an easy background and a starting point for undertaking researches in these areas. The present series of Advances in Electroanalytical Chemistry fulfils this need, and all the previous volumes have received enthusiastic welcome from the workers in the field The volume under review is an excellent continuation of the tradition built up in the standard and coverage of the topics.

Vol. 9 contains a chapter on Chemisorption at Electrodes. Chemisorption at electrodes is so vast a field that none can cover it in a small chapter of 162 pages, and the author, Ronald Woods, has therefore confined the discussions to the chemisorption of hydrogen and oxygen on noble metals and their alloys. The reviewer hopes to see future volumes dealing with chemisorption of other species on these as well as other electrodes.

The second chapter, by Arnim Henglein, is on Pulse Radiolysis and Polarography, giving the electrode reactions of shortlived free radicals. Both the chapters are well presented with exhaustive illustrations and references.

It is indeed an excellent book for all research workers the beginners, the specialists and the non-specialists, and every technical library should feel proud in possessing this series.

—Prof. **K. I. Vasu**, I.I.Sc.

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4. **Refractory Materials**, by G. B. Rothenberg, Chemical Technology Review No. 76, published by Noyes Data Corporation, Mill Road at Grand Ave, Park Ridge, N. J. 07656, 1976, 260 pages, price cloth $39.

This publication is one in the series published by Noyes Data Corporation on various subjects. As per the usual format adopted by the publishers, the book is based on the detailed descriptive information contained in the U.S. Patents issued since early 1973.

This book supplies the workers in the field of refractory research and development, a comprehensive collection of all the technical information published in the U. S. Patent Literature. It contains practical, commercial and timely process information which can be profitably used as a background for further developmental work in the field. This will obviate work in areas that have already been covered in the patents.

One section each has been devoted to silica refractories; aluminium, zirconium and chromium refractories; basic refractories; refractory fibres; carbides, borides and nitrides Further information has been included in sections dealing with metal casting refractories, furnace linings, refractory cements and other general refractories like urania-filled beryllia compacts, aluminium phosphate-bonded refractory, and syntactic carbon foam with resin starch binder

Company inventor and U. S. Patent number indexes have been added to the text for ready reference.

The book is a valuable addition to scientific libraries of educational institutions and research organizations and technical libraries of industries, manufacturing refractories.

— **J Balachandra**, I.I.Sc.

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5. **Jawaharlal Nehru**: The architect of modern India, 1977, published by Communication Centre-India, 15, Tilak Marg, New Delhi.

The growth of science and technology in India owes much to the vision of the first Prime Minister of India, and from this point of view, this book is welcomed by the ECSI readers. His inaugural lecture at the Bhakra-Nangal Dam, describing it as the Temple of the New Age is indeed a key to know the man and his mind, and how much he is concerned with the growth of technology in India.

— **Editor**

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6. **The Chemical Formulary**, Vol. XIX, editor-in-chief: H. Bennett, 1976, published by Chemical Publishing Co. Inc, 155 W. 19 St, N.Y.C. 10011, 418 pages. $ 15.00

This series of books forms the first stage in the transfer of technology from the laboratory to the produc-

tion stage. There are many manufacturers who rely on these books for starting on new ventures or for improving the existing ones, and there is hardly any technical library in which the volumes of the Chemical Formulary would not occupy a prominent place.

Vol. XIX under review, compiled by a staff of experts, does not duplicate any of the formulas included in the previous volumes, but list a wide array of modern and salable products from every branch of the chemical industries: adhesives, coatings, cosmetics, detergents, drugs, emulsions, foods and beverages, metals and their treatment, polishes, rubbers, resins, waxes, textiles and their treatment, and many miscellaneous items There is no doubt that these formulations will be a boon to many young entrepreneurs and all libraries, technical as well as general, should have copies of this readily available to the interested entrepreneurs. This is more so in the libraries of the developing countries.

— Dr. G. Prem Kumar
Cominco-Binani Zinc Ltd.

Inorganic Chemistry : Heslop, Jones, published by Elsevier Scientific Publishing Co , $17.95

Inorganic Chemistry — A guide to advanced study by R. B. Heslop and K. Jones has been written keeping as basis the material and the method of presentation of the earlier book 'Inorganic Chemistry' by Heslop and Robinson, which has gone into three editions with in a short period of seven years indicating its wide popularity among students and teachers.

The present book has several additional and welcome innovations. In addition to giving a brief introduction to S.I. units, these units have been incorporated through out the text with appropriate changes in several formulae, wherever these are necessary. Concepts of molecular and orbital symmetry have been adequately dealt with and incorporated in the material presented in the book. Special attention has been paid to explain the principles of several physical methods that are useful in understanding the nature of chemical bonding and structure of chemical compounds. Keeping in line with modern trends greater emphasis has been given to bonding and structural aspects without however compromising too much on descriptive aspect of chemistry, which is adequately dealt with in the groupwise discussion of chemical elements. Chapter on solid state, oxidation - reduction, and acids and bases are very appropriate and well written.

Another important welcome feature of the book is the introduction of more than 300 problems covering the entire material of the text. These have been very well thought out and are quite instructive. The student can check his answers with those given at the end of the text.

The printing and general get-up of the book is exceedingly nice. This book is a worthy successor to Inorganic chemistry by Heslop and Robinson. It can easily be recommended to the post-graduate students of the Indian Universities as well as the final year students of the B.Sc. Honours courses. It would be of particular value to the students of M.Sc. previous level. It is needless to say that the book would be a good addition to any library.

— Prof G. K. Narayana Reddy
Bangalore University

Statement about ownership and other particulars about newspaper Journal of the Electrochemical Society of India to be published in the first issue every year after last day of February.

FORM IV
(See Rule 8)

1.	Place of Publication	—	Bangalore
2.	Periodicity of its Publication	—	Quarterly
3.	Printer's Name	—	B. S. Pai
	Nationality	—	Indian
	Address	—	77, 8th Cross, Malleswaram, Bangalore-3
4.	Publisher's Name	—	Prof. K. I. Vasu
	Nationality	—	Indian
	Address	—	Secretary—Editor The Electrochemical Society of India Indian Institute of Science Bangalore-12.
5.	Editor's Name	—	Pro. K. I. Vasu
	Nationality	—	Indian
	Address	—	Indian Institute of Science, Bangalore-12
6.	Name and addresses of individuals who own the newspaper and partners or/shareholders holding more than one percent of the capital.		—

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(*Sd.*) K. I. Vasu,
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