subject of this book. Authors of chapters are not identified in this collectively authored book and, strangely, the Russian authors (B. P. Strogonov, V. V. Kabanov, N. I. Shevyakova, L. P. Lapina, E. I. Komizerko, B. A. Popov, R. Kh. Dostanova, L. S. Prikhod'ko) and editors (A. L. Kursanov and P. A. Genkel') are not even named in the English translation.

The book describes in detail many experiments on the effects of salinity on plants. By comparing the effects of isosmotic solutions of sodium chloride, sodium sulfate, and the inert osmoticum dextran, the authors conclude that toxic, rather than osmotic, effects are responsible for growth inhibition by salinity. Salt damage leading to necrotic lesions and even death is attributed to disturbances of plant metabolism, including proteolysis, the accumulation of some toxic amino acids and diamines, and the oxidation of sulfhydryl groups. Phosphorus and nucleic acid metabolism appear to be affected by salinity only at the final stage of translation of genetic information into protein as evidenced by the reduced numbers of polysomes. Electron micrographs indicate mitochondria to be relatively resistant to salinity, whereas nuclei are affected somewhat and chloroplasts are severely affected. Cell cultures of the halophyte glasswort were found to be no more salt tolerant than those of salt-sensitive species. Salt tolerance in this case seemed to be a property of the intact organism rather than of the isolated cells. Yet the authors retain the hope that salt-tolerant plants may be produced by selecting salt-tolerant cells.

The authors emphasize their own findings and do not attempt a balanced evaluation of all facts and theories regarding salt tolerance. One should, therefore, contrast their conclusions with those of others, that osmotic rather than toxic effects of salinity predominate and that protein contents and photosynthetic rates may be normal in salt-stunted plants, among others. Possible reasons for the acute toxicity observed by Strogonov *et al.* include the high salinity levels employed in most experiments (7 atmospheres and higher) and the high phosphate level of the Knop solution used (1.5 mM), which recently has been shown to cause phosphate toxicity when salinity checks growth. Despite these questions, readers will appreciate this volume, which brings together coherently the Russian views on the biochemical, cytological, and physiological bases of salt tolerance. References to 333 Russian papers (plus 371 non-Russian) are particularly helpful. The quality of reproduction is excellent.

LEON BERNSTEIN
U.S. Salinity Laboratory, Riverside, California

Spin Polarization

Chemically Induced Magnetic Polarization. ARTHUR R. LEPLEY and G. L. CLOSS, Eds. Wiley-Interscience, New York, 1973. x, 416 pp., illus. $19.95.

There are few review articles on chemically induced magnetic polarization. This is the first book that is fully dedicated to this subject.

Seven of the eight chapters are confined to chemically induced dynamic nuclear polarization (CIDNP). One deals with electron spin polarization.

For those of us who followed the development of CIDNP, the book is of extreme interest. For those who want a quick reference on the subject, it can save a lot of literature search. Newcomers to the field, however, are strongly advised to regard it as a pioneering effort rather than a complete, up-to-date survey of the field.

The book is highly uneven with respect to the representation of the various topics. Most of the authors relied on S. H. Glarum, the author of the first chapter, for a detailed, balanced presentation of the theoretical background behind the polarization phenomena. Unfortunately, he presents his own theory in terms that are difficult to understand for those who lack the essential mathematical background. To this reviewer's knowledge, this is the first publication of Glarum's theory, although it was first presented about four years ago at the Houston meeting of the American Chemical Society. Regardless of the validity of his approach, it certainly cannot serve as a sole basis for understanding the other chapters, which base their interpretation on different approaches.

As far as CIDNP is concerned, the book does not provide any information about the experimental setups that are required. Very little space is given to the use of CIDNP in photochemistry.

Most of the book is slanted toward the organic chemist. Four out of the eight chapters are essentially detailed collections of organic reactions in the various categories of compounds that show CIDNP spectra. The short chapter by H. Fischer, "Aroyl peroxide decompositions," is brilliant because, rather than presenting his numerous contributions to this field, he concentrates on a highly relevant, specific debatable point, and demonstrates in detail an experimental approach to solve it. It is unfortunate that the book does not provide the necessary theoretical background for a full appreciation of this chapter.

MICHA TOMKIEWICZ
IBM Thomas J. Watson Research Center, Yorktown Heights, New York

Books Received

Adsorption and Adsorbents. No. 1. D. N. Strazhesko, Ed. Translated from the Russian edition (Kiev, 1972) by A. Barouch. Halsted (Wiley), New York, and Israel Program for Scientific Translations, Jerusalem, 1974. viii, 237 pp., illus. $24.50.

Atmospheric Electricity. Vol. 2, Fields, Charges, Currents. H. Israël. Translated from the German edition (Leipzig, 1961) by D. Ben Yaakov and Baruch Benny. Israel Program for Scientific Translations, Jerusalem, 1973 (available as TT 67-51394/1 from National Technical Information Service, Springfield, Va.). xvi + pp. 318–796, illus. + maps. Paper, $6. Problems of Cosmic Physics, vol. 29.

Biological Nomenclature. Charles Jeffrey. Edward Arnold, London, and Crane, Russak, New York, 1973. x, 70 pp. $6.75. Special Topics in Biology Series.

Control of Air Pollution in the U.S.S.R. N. F. Izmerov. World Health Organization, Geneva, Switzerland, 1973 (U.S. distributor, Q Corporation, Albany, N.Y.). 158 pp., illus. Paper, $3.15. Public Health Papers, No. 54.

Craft and Consciousness. Occupational Technique and the Development of World Images. Joseph Bensman and Robert Lilienfeld. Wiley-Interscience, New York, 1973. x, 370 pp. $13.95.

Drug-Protein Binding. Papers from a conference, New York, Jan. 1973. Aaron H. Anton and Harvey M. Solomon, Eds. New York Academy of Sciences, New York, 1973. 362 pp., illus. Paper, $30. *Annals of the New York Academy of Sciences*, vol. 226.

Earthwatching. A Collection of Scripts from the First Year of Earthwatch/Radio. University of Wisconsin Sea Grant College Program, Madison, 1974. x, 224 pp. Paper, $1. Public Information Report 16. Institute for Environmental Studies, University of Wisconsin-Madison, Special Report, No. 1.

Electron Spin Resonance in Chemistry. L. A. Blumenfeld, V. V. Voevodski, and A. G. Semenov. Translated from the German edition (Leipzig, 1973) by H. M. Assenheim. Halsted (Wiley), New York, 1974. xii, 322 pp., illus. $32.50. Monographs on Electron Spin Resonance.

(Continued on page 1099)