titles contain large amounts of elementary descriptive material. There are also discussions of immunology, of allosterism, and of mechanochemical processes (for example, muscle and mitosis).

It is interesting that molecular biology seen through Russian eyes looks much the same as it does in the West, except for some pointed mentions of Russian priority ("In 1892, the Russian botanist, Ivanovskii, observed that the juice of a tobacco plant that was diseased with the mosaic disease . . . could infect healthy plants even after this juice had been passed through the finest filters"), and for some lingering echoes of the Lysenko controversy.

Covering such a vast range, the discussion is necessarily compressed, and the author seldom allows himself the leisure to explore points of interest in detail, even in those areas in which he himself has contributed greatly. Oppressed by such discipline, much of the "life" in the title seems to have escaped from the text. One can only hope that next time Vol'kenshtein will devote his admirable talents to a deeper-going, even if narrower, treatment.

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Polymer Formation

Principles of Polymerization. GEORGE ODIAN. McGraw-Hill, New York, 1970. xviii, 652 pp., illus. $18.50.

Principles of Polymerization is a comprehensive treatise on the kinetics and mechanisms of polymer-forming reactions. It begins with the classical kinetic and statistical treatment of step polymerization and continues with a similar discussion of radical chain polymerization. The presentation of subsequent topics follows the regular pattern of polymer chemistry texts—anionic, cationic, and ring-opening polymerization, and so on.

The uniqueness of Odian's approach —that which gives this volume a distinct "personality"—is in its emphasis on the use of different polymerization techniques to reach specific end-product objectives. Included in the discussion of each polymerization method is a concise description of the advantages and flexibility it offers the chemist. This is of particular value for students because it makes clear the latitude afforded by intelligent use of polymerization variables. The numerous alternatives for synthesizing macromolecules become valuable means for meeting one's objectives rather than a morass of facts that must be mastered.

The problems at the conclusion of each section warrant special comment. They were thoughtfully written and cover key points raised in the text. The reader's mastery of the subject matter will be not only tested but increased by diligent attention to these exercises. As is stated in the preface to the book, a solutions manual for the problems is available from the author.

Odian has presented each subject in its proper perspective. Books on polymerization often overemphasize given aspects of the subject (usually the authors' own research interests); this text presents a balanced description of the different branches of polymerization chemistry—a treatment that is consistent with the degree of importance of and state of knowledge in each area. Fact and theory also are presented in a well-ordered, complementary fashion.

The one exception to the generalization made above is the discussion of stereo-specific polymerizations, which jumps from broad speculation to simple presentation of empirical facts with little in between. This, however, is a reflection of the state of knowledge in this area.

In summary, to the expert the text will serve as a clear, orderly review of polymerization chemistry; to the student it will be of value as a good introductory text—assuming that supplementary material (or a complementary course) in polymer physics and characterization is available.

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The Magnetization Process

Magnetic Domains. R. S. TEBBLE. Methuen, London, 1969 (U.S. distributor, Barnes and Noble, New York). xii, 100 pp. + plates. $4. Methuen's Monographs on Physical Subjects.

Magnetic Domains is a descriptive primer for people who are not students of solid state physics but who may, for one reason or another, have a need to understand the basic phenomena of the formation and changes of magnetic domains and the corresponding impact on magnetization curves. A brief chapter on techniques for domain observation is included which is admirably simplified for an audience that will not need to produce domain photographs but may wish to interpret them. Chapter 1 attempts, in 13 pages, to ascribe the magnetic moment to spins, and the cooperative phenomena are explained in terms of a Weiss internal field. At most a sophomore-level course in electromagnetism and a corresponding laboratory familiarity are assumed in the presentation.

Chapters 3 through 6 of the book contain the heart of the matter, discussing the energetics of domains, their resulting shapes and configurations, and how they change in applied magnetic fields to yield the observed magnetization curves. It may be fair to say that these chapters are an attempt to cover at a lower level the excellent work of Kittel and Galt in the Seitz-Turnbull series (which is of course intended for physicists). Although one can always suggest minor changes in the topics covered and the order of presentation, the book as a whole accomplishes this objective. Many excellent figures and micrographs complement the presentation.

The book will certainly prove valuable to nonphysicists in need of a framework of understanding of magnetic domain phenomena.

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Nuclear Events

Excitation Mechanisms of the Nucleus. Electromagnetic and Weak Interactions. JUDAH M. EISENBERG and WALTER GREINER. North-Holland, Amsterdam, and Elsevier, New York, 1970. xii, 372 pp., illus. $19.25. Nuclear Theory, vol. 2.

This book is volume 2 of a series of three books, Nuclear Theory, by the authors. It covers a fairly wide range of topics, some of which are not adequately discussed in other currently available books. As the authors write in their preface (with slight changes added by the reviewer): "The job of finding out how the basic theoretical concepts of nuclear structure physics were welded into detailed quantitative predictions about nuclear properties is becoming increasingly difficult. This is so because the vast and indigestible literature of nuclear physics is being