havioral patterns. By using an election in this fashion he intends it to validate his "inside" view of a people's perception of the content and structure of their own society.

This book is impressive. The methodological and theoretical constructs are hard to argue with. And yet, when one has finished with this social history of an Indonesian town, when one has thought over the results of the local election, one misses the human actor in this picture of social change. One might perhaps feel that rather than taking part in the life in a Javanese town, one is presented primarily with a series of theoretical constructs.

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Psychology

The Prediction of Academic Performance: A Theoretical Analysis and Review of Research. David E. Lavin. Russell Sage Foundation, New York, 1965. 182 pp. Illus. $4.

This volume appears to be one of several planned by the Russell Sage Foundation on the broad topic of the use and effects of standardized psychological tests in our society. Its seven chapters discuss the general problems, in academic performance, of criterion choice and measurement; the choice of predictors; the results of prediction studies using intellective factors, personality measures, and sociological variables; and, finally, a set of proposals for future research that will combine both psychological and sociological variables in a predictive matrix.

The research literature cited appeared primarily during the period 1953 to 1961. Wherever possible, prediction studies from all levels of education are reviewed for each set of independent variables. The book's expected audience, in addition to sociologists and psychologists, includes high school counselors, college admissions officers, and educational administrators.

After pointing out that grades are at best intermediate, not ultimate, criterion measures of the outcomes of education (chap. 1), Lavin discusses their sources of unreliability and some of the methodological problems in their prediction (chap. 2). In a companion chapter he discusses a few of the complex problems associated with choice of predictor or independent variables. These first three chapters are, unfortunately, unsophisticated and elliptical discussions of quite complicated psychometric problems; the extensive theoretical literature on validity, reliability, cross-validation, selection ratios, significance tests, types of validity, and factor analytic methods is not adequately utilized.

Chapter 4 devotes 12 pages to prediction of achievement by intellective measures; chapter 5 devotes 47 pages to annotations of studies using a wide range of personality variables as predictors; chapter 6 covers demographic, ecological, and role-relation variables as predictors, in 28 pages. In these three chapters, so much literature coverage is attempted that adequate overview is lost in excessively brief summary comments on specific studies.

The concluding chapter, which touches on research designs that include a strategy of interaction analysis of sociological and psychological variables, is the best chapter, although its message has been presented more extensively and more effectively in the psychological literature.

In summary, Lavin has undertaken to do too much in this slender volume; he obviously knows the literature and the theoretical issues, but he fails to display them adequately for his intended audiences, and he oversimplifies problems of crucial social importance.

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Silicon Organic Compounds

Organosilicon Compounds. vols. 1 and 2. vol. 1, *Chemistry of Organosilicon Compounds* (516 pp.); vol. 2, parts 1 and 2, *Register of Organosilicon Compounds* (pt. 1, 699 pp.; pt. 2, 544 pp.). Vladimír Bažant, Václav Chvalovsky, and Jiří Rathouský. Translated from the Czechoslovakian by Arnost Kotyk and Jiří Salák. Czechoslovak Academy of Sciences, Prague; Academic Press, New York, 1965. Illus. $25 each; $70 set.

When *Organosilicon Compounds* was begun in 1952, about 2000 publications made up the literature of this branch of chemistry. In the next ten years more than 4000 additional papers were published. Bažant states in his preface that "as the avalanche-like accretion of material continued we had to decide whether to publish an imperfect monograph or none at all." Fortunately for those of us who work in this area, Bažant decided to continue, and this three-volume English translation, published jointly by the Czechoslovak Academy of Science and Academic Press, is a monument to his efforts.

Bažant began 1 year after the publication of Rochow's *Introduction to the Chemistry of the Silicones* (ed. 2, 1951), and since that time several related volumes have been published—Andrianov's *Organosilicon Compounds* (1958), which was translated by the Air Force; Eaborn's *Organosilicon Compounds* (1960); *Synthesis of Organosilicon Monomers* (1961) by Petrov and others, which was translated by Consultant's Bureau in 1963; Ebsworth's *Volatile Silicon Compounds* (1963); and most recently Sommer's *Stereochemistry, Mechanism, and Silicon* (1965). The work reviewed here manages, however, to be unique—Bažant and his coauthors at the Institute for Chemical Process Fundamentals (Prague) have compiled an encyclopedia.

Volume 1 begins with a 350-page discussion of silicon and its organometallic chemistry. This survey is duplicated in some ways by all of the previously published books, but Bažant writes from the vantage point of multilingual *Mitteleuropa* where research from Russian, English, and German laboratories is equally well known, a balance not found elsewhere. Bažant's own investigations on the Rochow reaction are summarized here for the first time in English. The volume ends with the references to the register of compounds in the next volumes. The references are listed by journal in chronological order, an open-ended system that allows for future expansion of the series.

It is difficult to determine just what compromise with quality and thoroughness of coverage was made. More than 250 journals were read, and the list includes conference reports, patents, and even dissertations. In addition, certain leading chemists in several countries communicated their unpublished results, and their compounds appear in the registry. Russian names are repeated in the cryllic alphabet, and not only the reference, but its citation in *Chemical Abstracts, Chemische Zentrallblatt,* and *Referativnyi Zhurnal Khimiya* is also given.

Although the literature is claimed to have been scanned only to 1 September 1961, many references to 1962 journals are in the list.

The register is published as volume 2, parts 1 and 2, from SiS_2 (silicon disulphide) to $Si_{26}C_{68}H_{170}O_{31}$ [α, w-Bis-(*o*-hydroxybenzoxymethyl)dopentacontamethylhexacosasiloxane]. Each compound is listed with not only the information that the reader might expect, but also the structural formula (with an illustration where appropriate), all available physical data, a key to method of synthesis and reactions (including negative experimental results), and salts, derivatives, isotopomers, and the like. In this country the cost of the typesetting would be fearsome. The Prague group also recalculated the microanalytical data for each compound, finding in the course of their project that, of the calculated values in the literature, approximately 10 percent are in error. The anguish suffered by chemists who labored to achieve a state of purity in their compounds such that the analytical data would fit a miscalculated theoretical value could well serve as the subject of a short story on the model of de Maupassant's "The Necklace."

Chemists who are interested in organosilicon compounds will soon find these volumes necessary.

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AAAS Air Conservation Commission Report

Air Conservation. Report of the Air Conservation Commission of the AAAS. James P. Dixon, Chairman. Richard Landau, Ed. AAAS, Washington, D.C., 1965. xii + 385 pp. Illus. Cash price to members, $7; others, $8.

The outburst of public interest in air pollution and its control is a recent phenomenon, and even more recent is the consequent spurt of popular and semipopular literature. The problem is so complex, involving so many aspects of modern living, that it is very difficult for any individual to be an overall expert. As a result, many of the books and articles that treat the topic have been incomplete or inaccurate, or they have stressed some aspects more than others. In their efforts to create awareness they have sometimes aroused undue fears. The proceedings of national conferences, while more technical and meant as broad surveys, have not been particularly even in their coverage.

This report of the AAAS Air Conservation Commission demonstrates what a team of experts who make their plans carefully can do to bring solid information to the public, and it also sets a model for future texts on this subject. It is all lucidly written, and it is intelligible to any interested reader, although only the first two parts, less than one-sixth of the book, are addressed to the general public. The authors state that to make the book manageable they had to leave out much material—for example, consideration of pollution from airborne biota—yet their report is quite comprehensive. It includes, for instance, a concise discussion of fallout and its global implications, a topic from which most authorities on air pollution steer clear.

Many parts of the book are factual and technical—the description of control devices and the discussion of legislation at various levels of government. Other parts are thought provoking—the chapter on socioeconomic factors which shows the intricate relationships between air pollution control programs and other policies that regulate the web of human institutions. The report is studded with startling truths—". . . it is . . . presumptuous for nonpolluters to extend their domain over the common air by prohibiting almost all pollution without balancing their gains against the costs to others."

The authors' treatment of motor vehicles, which are the major source of air pollution in many metropolitan areas, may not entirely satisfy the reader. They seem overoptimistic about the possibility, in the near future, of reducing substantially emissions from existing types of vehicles. Some assertions would need much more qualification, and in the light of recent experience, the faith in crankcase and tail-end control devices does not appear to be fully justified.

No general bibliography is offered, but the references at the end of each chapter are adequate and in some cases quite ample.

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New Books

Biological and Medical Sciences

Advances in Pest Control Research. vol. 6. R. L. Metcalf, Ed. Interscience (Wiley), New York, 1965. 297 pp. Illus. $11. Six papers: "Behavior and fate of chlorinated aliphatic acids in soils" by P. C. Kearney, C. I. Harris, D. D. Kaufman, and T. J. Sheets; "Penetration and translocation of Rogor applied to plants" by P. de Pietri-Tonelli; "Correlation between biological activity and molecular structure of the cyclodiene insecticides" by S. B. Soloway; "Natural models for plant chemotherapy" by A. E. Dimond; "Genetic studies on insecticide resistance" by G. P. Georghiou; and "Nicotinoids as insecticides" by Izuru Yamamoto.

The Alkaloids. vol. 7, pt. 2. K. W. Bentley. Interscience (Wiley), New York, 1965. 268 pp. Illus. $6.75. Chemistry of Natural Products Series, edited by K. W. Bentley.

Anticoagulant Prophylaxis and Treatment. The new emphasis in management. G. I. C. Ingram and Sir John Richardson. Thomas, Springfield, Ill., 1965. 269 pp. $8.75. A volume in the American Lectures in Living Chemistry Series, edited by I. Newton Kugelmass.

Aspects of Anxiety. Collated by Roche Laboratories with a preface by C. H. Hardin Branch. Lippincott, Philadelphia, 1965. 80 pp. Illus. $3.50.

Authors of Plant Genera. Sydney W. Gould and Dorothy C. Noyce. New York Botanical Garden, New York; Connecticut Agricultural Experiment Station, New Haven, 1965. 336 pp. Paper, $6. International Plant Index, vol. 2.

Biochemical Energetics and Kinetics. A. R. Patton. Saunders, Philadelphia, 1965. 122 pp. Illus. Paper, $3.75.

Biospeleology: The Biology of Cavernicolous Animals. A. Vandel. Translated from the French edition (Paris, 1964) by B. E. Freeman. Pergamon, New York, 1965. 548 pp. Illus. $22.50. Thomas C. Barr reviewed the French edition in *Science* [**144**, 1956 (1964)].

British Veterinary Codex, 1965. Prepared by the Department of Pharmaceutical Sciences, Pharmaceutical Society of Great Britain. Pharmaceutical Press, London, ed. 2, 1965. 879 pp. Illus. 105s.

The Coccidian Parasites (Protozoa, Sporozoa) of Rodents. Norman D. Levine and Virginia Ivens. Univ. of Illinois Press, Urbana, 1965. 371 pp. Illus. Paper, $7.50; cloth, $8.50. Illinois Biological Monographs, No. 33.

Dosimetrie zur Betatrontherapie. Wolfgang Pohlit, J. Kretschko, K. H. Manegold, H. Manegold, M. Teich, and B. Rajewsky. Thieme, Stuttgart, Germany, 1965. 88 pp. Illus. Paper, $6.25.

Dynamics of Response. Joseph M. Notterman and Donald E. Mintz. Wiley, New York, 1965. 285 pp. Illus. $8.95.

An Evolutionary Survey of the Plant Kingdom. Robert F. Scagel, Glenn E. Rouse, Janet R. Stein, Robert J. Bandoni, W. B. Schofield, and T. M. C. Taylor. Wadsworth, Belmont, Calif., 1965. 670 pp. Illus. $12.95. A volume in the Wadsworth Botany Series, edited by William A. Jensen and Leroy G. Kavaljian.

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