siderable attention has been paid to stating difficulties and to giving accounts of partially solved problems.

Dobson's book is recommended enthusiastically to "generalists" who are curious about atmospheric processes and to specialists who feel a nostalgic yearning for an era when their knowledge might have encompassed more of the wealth of natural phenomena. Books like this suggest that the dilemma of the specialist is not hopeless, that we may not be foredoomed to individual explorations of ever-narrowing crevasses of understanding.

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Russian-English Dictionary

Russian-English Chemical and Polytechnical Dictionary. Ludmilla Ignatiev Callaham. Wiley, New York, ed. 2, 1962. $19.50.

A new edition of Callaham's valuable dictionary is good news. It is enlarged, presumably in its coverage of polytechnical terms since that word is now a part of the title. Frankly, I do not consider this title more enlightening than that of the previous edition, . . . *Technical and Chemical.* Neither does justice to the content of this excellent dictionary, which includes botanical and biological terms but is rather weak in purely technical—that is, industrial—nomenclature. The latter is difficult to dig up, since the Russians seem reluctant to admit that factory and mine "jargon" has a place in official terminology and that it usually has equivalents in the languages of the other industrialized countries. Here also we must draw a line between what is considered "technical" and what is preferably left to the general bilingual dictionaries. Thus, should we consider some terms that are scattered throughout Callaham's dictionary part of a "chemical and polytechnical" dictionary? For example, мужик *m.* (peasant, countryman), мундир, картофель в —е *v.* (potato cooked in jacket), комбатант *m.* (combatant), полк (regiment), полиция *f.* (police), кокард/а *f.* (cockade, badge), ресторан *m.* (restaurant), статуя *f.* (statue), онколь *m.* (on call), омлет *m.* (omelet), and thousands of others like these. It also seems redundant in such a compilation to note "(elec.) ohmic," "(med.) onkologist," and the like, though it is perfectly correct to specify "(text.) steep" since to steep tea probably has a different term in Russian.

I have one other quarrel with this work, and this is about its arrangement. The preface states that the dictionary is "intended chiefly for English-speaking scientists and engineers with a *fair* knowledge of Russian." But it requires a grammatical knowledge far from fair. Thus, a root word forms the entry and by means of slashes and dashes followed by suffixes in the text (in grammatical but not alphabetical order) other meanings are given. For example, under this entry "помех/а *f.* interference, disturbance; hindrance, impediment, obstacle; difficulty, trouble, kink," we find in line 5 "служить —ой *v.* stand in the way, —[then] создавать —и *v.* disturb, perturb; —остойкий, оустойчивый *a.*—noise-proof, staticproof; antijamming, interference-free, —офильтр *m.*—noise filter." In the longer entries this is definitely frustrating and impairs the usefulness of this reference work.

The publisher, John Wiley and Sons, deserves high praise for the excellent physical appearance of the dictionary.

M. HOSEN
U.S. Information Agency, Technical Books Exhibit, Moscow, 1963

General Relativity

Gravitation: An Introduction to Current Research. Louis Witten, Ed. Wiley, New York, 1962. x + 481 pp. Illus. $15.

As suggested by the title, and further explained in the editor's preface, this book is intended to provide a reader who has some technical knowledge of the general theory of relativity with a survey of current research. The book consists of 11 chapters written by different authors or teams of authors. The editor provided certain guidelines concerning the arrangement of the material, cross references, and the like, but he wisely refrained from imposing a unified scientific point of view on the authors. The resulting work differs from the usual collection of review articles, or conference reports, in that the editor assigned the individual topics and each author was then given adequate time to prepare his contribution.

The individual chapters deal with these topics: experimental evidence, exact solutions of the field equations, ponderomotive theory, the Cauchy problem of general relativity, conservation laws, gravitational waves, canonical theory, quantization, Rainich theory, geometrodynamics, and cosmology.

The authors are all well-known relativists, and they write, in the majority, on subjects to which they themselves have contributed significantly. This is not to say that the survey provided by this book is "complete" or that the views presented are "authoritative." In the past decade research in general relativity has mushroomed, and many of the areas reported on are controversial. On balance, I believe that the editor has chosen the better way out of the ensuing dilemma; he has permitted each author to develop his subject according to his own lights. What may have been lost in objectivity has been gained in terms of lucid and persuasive presentations. Most of the authors have also indicated their personal approaches in prefatory remarks. Along with other recent survey articles, this book is a most helpful collection, and it will be found on every active relativist's reference shelf.

I have two mild criticisms. The editor, instead of providing an index and a comprehensive bibliography, permitted the authors to conclude each paper with an individual list of references. At the end of the book there is a detailed outline of each chapter, with sections and subsections. This procedure, in my opinion, detracts from the usefulness of the book, but, in the interests of reasonably prompt publication, it was probably unavoidable. My other criticism is concerned with the poor printing job. In many of the mathematical equations, symbols and indices that denote the same type of mathematical quantity have been taken from different fonts, apparently more at random than capriciously. At one point, for instance, an index *s* (lower case) was replaced by a capital letter *S* in the same expression in which *S* also stood for *surface element.* Whether readers find such defects seriously annoying probably depends on the care with which they are accustomed to looking at the details of computational derivations.

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