rect quotations from original sources are used liberally. This technique is in line with the stated objective of describing atolls, an objective that is admirably attained. Although future studies will add major and minor details of ecology, the book serves a timely need.

Unfortunately, but doubtless because of his objective, Wiens made less use of cross-references between different fields of study than might be desirable; he preferred to treat each as a separate entity. Perhaps for the same reason, there are few new deductions or discoveries resulting from the compilation. The book is essential reading for future workers on atolls, regardless of their fields of inquiry.

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Infeld Festschrift

Recent Developments in General Relativity. A collection of papers dedicated to Leopold Infeld. Państwowe Wydawnictwo Naukowe, Warsaw, Poland; Pergamon, New York, 1962 (order from Macmillan, New York). 472 pp. $8.

This book, a collection of 45 individual contributions, was, during its period of gestation, known as the "Infeld Festschrift," and it is dedicated to Professor Leopold Infeld, former collaborator of Albert Einstein and now professor at the University of Warsaw, on the occasion of his 60th birthday. It consists of seven review articles (part 1) and 38 contributions that represent original research papers (part 2). The list of contributors represents at least half a dozen countries, but only two languages—English and French—are used in the volume (the latter being used for only three papers).

The importance of this otherwise representative collection is marred by the inordinate delay between the solicitation of contributions (as far as I am aware, the announced, and enforced, deadline was December 1959) and the date of publication (1 August 1962, in the United States). Perhaps such delays are to be expected when publishers in different countries collaborate without much previous experience. At any rate, the typography and press work are all that could be desired.

The review articles are concerned with the theory of motion (Bażański), the program of quantization of the gravitational field (Bergmann and Komar), cosmology (Bondi), experimental verification (Ginzburg), various mathematical problems, both local and global (Lichnerowicz and Fourès-Bruhat), theory of gravitational radiation (Pirani), and unified field theory (Tonnelat). The remaining articles may be considered to fall into one, or several, of the categories indicated by the review articles, which indeed represent the major areas of research activity in general relativity during recent years. The average length of the so-called review articles exceeds that of the other articles by only about 50 percent. The editorial committee thus succeeded in presenting several approaches in those areas in which opinions widely differ, rather than selecting "orthodox" views.

The nonspecialist theoretical physicist should be able to derive significant information from this volume, but all contributions are technical and were written with fellow experts in mind. The book will undoubtedly grace the reference shelves of all active relativists.

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Useful Alternate Procedures

The Analysis of Titanium, Zirconium, and Their Alloys. W. T. Elwell and D. F. Wood. Wiley, New York, 1962. xi + 198 pp. Illus. $7.75.

This valuable compendium of practical and generally reliable methods should be helpful to chemists who have a practical interest in analyses of titanium or zirconium, but there are deficiencies in the sections dealing with the analyses for hydrogen and oxygen. The authors do not mention the commercial availability in the United States of superior apparatus for vacuum fusion and hot extraction. At least three competitive manufacturers provide units which are comparable in accuracy but which are also much less complicated and many times faster than the apparatus described in this book. Chemical methods for oxygen, such as the chlorination procedure described by the authors, have been tested and abandoned by many competent laboratories. The apparatus described for determining nitrogen and carbon are also cumbersome and slow, and they offer no advantage in precision or accuracy.

The stated *Reproducibility* (defined as the standard deviation) constitutes an interesting figure of merit for each procedure, as it did in the previous titanium edition. But it is discouraging to note that these values and the methods have not changed significantly since 1959.

The bibliography cites some materials that are either out-of-print or have been replaced by more recent publications. Fourteen of the 58 references involve work by the authors, and more vital publications are not mentioned: for example, recent papers in *Analytical Chemistry* on improvements in the determination of oxygen.

These criticisms, which are mostly concerned with things *not* included in the text, suggest that Elwell and Wood have underestimated the importance of the book to persons outside their own laboratories. In the United States the book will be a useful source of many good alternate procedures, for most of the methods are quite different from those published by the American Society for Testing and Materials. Many methods are presented for determinations that have not been tested by ASTM or other recognized authorities. These will be of particular interest in many laboratories, and they could result in improved performances.

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Applied Mathematics

Fourier Series. Georgi P. Tolstov. Translated from the Russian and edited by Richard A. Silverman. Prentice Hall, Englewood Cliffs, N.J., 1962. x + 336 pp. Illus. Trade ed., $13; text ed., $9.75.

An Introduction to Fourier Analysis. R. D. Stuart. Wiley, New York, 1961. 126 pp. Illus. $3.

The first of these books is, according to the publisher, a translation of the standard introductory work on Fourier series and boundary value problems used in the Soviet Union. Tolstov deals with the subject matter in an up-to-date