

Proceedings of the International Conference of Theoretical Physics, Kyoto and Tokyo, September 1953

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THE 1953 conference on theoretical physics in Japan was remarkable for a number of reasons : the wide range of topics treated by the eighty-four distinguished foreign visitors and the local participants ; the fact that this was the first purely scientific international conference ever held in Japan ; the hospitality bestowed on the fortunate guests ; and the magnificence of this volume recording the proceedings. It all does full justice to the devotion accorded to theoretical physics in Japan, and the high achievement in the subject there.

The conference was concerned principally with the two broad domains of field theory and solid-state physics. In the former (Part 1 of the report), there was much deliberation on the various technical difficulties of non-local theory, intermediate and strong coupling theory, nuclear forces, etc. Part 2 is a shorter section on nuclear physics, mainly the shell model. The remaining, major portion of the volume comprises Part 3 on statistical mechanics, Part 4 on molecules and solids, and Part 5 on liquid helium and superconductivity.

Nearly as much space is devoted to discussions as to the actual papers, giving a picture of a lively and informal conference. Survey talks are an important feature, and altogether the book offers a valuable insight into the state of theoretical physics at the time, and the thoughts occupying the leading workers. However, this amounts largely to journalism, though on the grand scale, and already much water has flowed under the bridges of theoretical physics since the conference.

Yearbook of the United Nations, 1954

Pp. xii + 656. (New York : United Nations ; London : H.M. Stationery Office, 1955.) 10.50 dollars ; 70s.

AS a reference work the value of this "Yearbook" appears to reside in the appendixes—which set forth the structure of the United Nations, the matters considered by the Principal Organs during 1954, the delegations to the General Assembly and the Councils, and the information centres and regional information centres—and in the documentary notes with which the several chapters are provided. These chapters themselves, however, although designed to facilitate the understanding of the work of the United Nations during the past year, appear to have rather a limited value except in official circles.

While the size and price of such an admirably printed and produced book restricts its general use, the chapters dealing with topics of interest to the scientist, such as the economic development of under-developed areas or the work of the United Nations Educational, Scientific and Cultural Organization or other specialized agencies, are not sufficiently detailed to preclude reference to the reports of various committees or other bodies. Something much more condensed might be of great value ; even if there were discarded the material which gives a certain lack of realism to the treatment of questions regarding

non-self-governing territories and the trusteeship system, some doubts may still be entertained as to the practicability of dealing readily in one volume with all the varied activities of the United Nations Organization.

Dictionary of Magic

By Harry E. Wedeck. (Midcentury Reference Library.) Pp. viii + 105. (New York : Philosophical Library, 1956.) 3 dollars.

THIS little book is a convenient compilation of names, terms and expressions used in magic and occultism generally, although it would have been improved had the author made a rather better selection of his material and arranged it somewhat differently. The subject is so vast that all that could be expected in a book of this size is a very brief and condensed list, which, for the general reader, is likely to prove of some use since it is unlikely that he would have by him the larger works by such authors as Collin de Plancy, Spence, Verneuil or even the shorter glossary by Ernest Bosc.

Although the author has managed to include some entries not easily found elsewhere, he has done so at the expense of omitting more important items, and it is sometimes difficult to see on what basis the selection has been made. Moreover, persons are listed under their first names ; and such entries as "Last witch", "New", or "Plato", who is said to have censured sorcerers that were hired to practise incantations, seem of doubtful utility. A little more care would have avoided these faults and also minor errors such as the spelling of "Bavan" for "Bavent" and the confusion between the two Moras, which is more excusable since this confusion was made both by Summers and, following him, by Prof. E. M. Butler in her valuable study of ritual magic.

E. J. DINGWALL

Variational Principles in Dynamics and Quantum Theory

By Dr. Wolfgang Yourgrau and Stanley Mandelstam. Pp. ix + 155. (London : Sir Isaac Pitman and Sons, Ltd., 1955.) 25s. net.

THE central importance of 'action' principles in modern theoretical physics fully justifies the authors in their attempt to provide a historical and critical exposition. Early chapters discuss the contributions of Fermat and Maupertuis ; Dr. Akakia is not mentioned explicitly, but the authors appear to imply that König knew that the famous Leibniz letter was spurious—Is this quite certain ? Then there is a technical section, dealing with the definitive work of Euler, Lagrange and Hamilton, and its applications to electrodynamics and quantum theory. Finally, a chapter on the philosophical aspects of action principles tries to maintain a balanced position, but inclines on the whole to the side of Planck rather than of Mach.

Thus two books have been crammed into a hundred and fifty pages, and on the whole it is the technical side which has suffered ; for example, the extraordinary prescience of Hamilton's views is not adequately emphasized, and some technical ideas are brought in hurriedly and without due preparation, such as the relativistic interpretation of the modified Lagrangian function. Nevertheless, the mingling of historical and technical development is stimulating, and should assist the reader to a thorough realization of the immense value of the concept of action variation.