

minor points. It is a pity that, in discussing the aims of government under the heads of security, justice and conservation, Lord Russell does not explain the meaning of justice as clearly as he does the other two. He had not room for everything; but room should have been found for this, as there is much confusion about it and also about the related notion of equality. Lastly, when explaining that personal morality may call for revolt against authority, he praises Socrates and Peter and Paul because they preferred to obey God rather than man. But he hastens to add that their theological beliefs are not really relevant. That may be, as a matter of strict logic. Yet, if the time comes when Lord Russell is called upon to drink the hemlock, the sole encouragement he will be able to give his friends will be to say, "This is the consequence of defying authority in obedience to private whim". A. D. RITCHIE

9½ LIBRARY SCIENCE

Preface to Library Science

By Dr. S. R. Ranganathan. Pp. 203. (Delhi: University of Delhi; London: G. Blunt and Sons, Ltd., 1948.) 18s

THIS book is in the nature of a mixed grill for two. Based on the inaugural lectures delivered in the Department of Library Science in the University of Delhi in 1947, it consists, in part, of an attempt to establish that there is a library science and, in part, of a practical exposition to students of what Dr. S. R. Ranganathan understands by the expression "Library Science". The latter is essentially a dissertation on the five 'laws' or principles of library science which Dr. Ranganathan enunciated nearly twenty years ago: books are for use; every reader his book; every book his reader; save the time of the reader; the library is a growing organism. Elementary as these principles seem, Dr. Ranganathan shows how they cover the essential functions of any type of library, and how ruthlessly they challenge the formalism and pedantry that sometimes mar the usefulness of a library and the essential co-operation between user and library staff.

Of the other part of the book, flavoured though it is with a touch of philosophy and of autobiography, it must be said that the author scarcely establishes his thesis. Dr. Ranganathan appears to be arguing that there is a library science in the sense in which we can speak of a science of chemistry, or physics, or geology. The evidence is thin. Nowhere does he demonstrate the existence of a discipline approaching that which would justify the establishment of a university faculty or department. There is an apposite passage among the conclusions of the recent Nuffield College Statement on "The Problem Facing British Universities". "If we are to be frank with ourselves we have to recognize that the great majority of occupations involve so restricted a range of theoretical or scientific knowledge that they can be taught just as effectively and much more economically in the occupation than in a University."

Dr. Ranganathan's vision of an expansion of professionally trained library staff in India from less than two hundred to a million in thirty years has rendered him at least liable to overlook the difference between an academic discipline and professional training or qualification. That the librarian needs a

professional training and qualification for many purposes is not in dispute; how they are best to be obtained is another matter, and the answer may well be found, on economic considerations, to lie in courses parallel with those offered in colleges of technology. Whether or not we can rightly speak of a library science, there is a technique of librarianship only to be acquired by training and study, and the real question is whether that training should be given before or after actually taking up work in a library.

While in this book misprints are not excessive, for the quality of production its price is high, and the bibliographic standards are poor. There are some surprising omissions from the bibliography, and even allowing for the fact that it details merely books prescribed for the diploma examination at the University of Delhi, the omission of all dates and publishers is a lapse from standards of scholarly exactitude which is unfortunate in a book designed, in part at least, to justify the use of the term "Library Science". R. BRIGHTMAN

10½ JET PROPULSION AND GAS TURBINES

Principles of Jet Propulsion and Gas Turbines

By Prof. M. J. Zucrow. Pp. xiv+563. (New York: John Wiley and Sons, Inc.; London: Chapman and Hall, Ltd., 1948.) 39s. net.

THE main object of this book is the presentation of the basic theory of jet propulsion and the thermodynamics of the gas-turbine and rocket types of engine. The layout follows a logical sequence, on the whole, although it is somewhat spoilt by two chapters on aircraft and propeller performance being inserted between the two sections of the book dealing with, respectively, basic theory and its application to engine design and performance.

The first section of the book, covering four chapters, presents the basic theory starting from fundamental principles and leading to the thermodynamics of gas flow. The subject is well covered, and the treatment is sufficiently lucid for the serious reader to be able to appreciate thoroughly the application to engine design and performance. This first section of the book also contains useful and up-to-date data on the thermodynamic properties of air.

After dealing with the basic theory, one would have expected the author to pass on to the application to engine design and performance, instead of which the reader is confronted with the two chapters on aircraft and propeller performance. Most of the subject-matter of these two chapters can be found in text-books on applied aerodynamics, and for its proper appreciation, especially the section on jet-aircraft performance, it should have followed the final section of the book dealing with the purely engine side of the subject.

In this final section, the basic theory of the first four chapters is applied to engine design and performance. As an introduction, the reader is treated to the now well-known thermodynamic analysis of the power-producing gas turbine cycle, which seems rather misplaced in a book dealing with jet propulsion. In his treatment of the gas-turbine jet engine, the author can be taken to task over many things. The historical survey is not as up to date as it could have