mals or patients treated, the dosage, route of therapy, number of treatments, the authors' conclusions regarding a beneficial effect, the percentage of complete regressions if obtained and the reference.

It would be appreciated if all available reprints of published work in this field or any unpublished results which may be used are sent to the undersigned.

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THE NAPLES ZOOLOGICAL STATION

A RECENT letter which I have received from Dr. Reinhard Dohrn, director of the Stazione Zoologica at Naples, contains some items in addition to those given in Dr. Harrison's communication in SCIENCE of March 31. Dr. Dohrn reports that the station is in limited working order, and that the library, which had been taken to a place of security in the country, has now been returned, with the loss of a very few volumes. Since the libraries of the various university institutes have suffered great damage, the value of the station library is greater than ever before. It is being used considerably by scientific workers from the laboratories of biochemistry in the American military hospital. Unfortunately, some of the important instruments such as the spectrograph, the stufenphotometer and galvanometers have been seriously damaged. Dr. Dohrn indicates that the reestablishment of contacts with former workers at the station would be greatly appreciated and that expressions of interest by friends of the station would constitute valuable spiritual help at this particular time.

A. R. MOORE

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SCIENTIFIC BOOKS

THE RESEARCH LIBRARY

The Scholar and the Future of the Research Library. By FREMONT RIDER. xiii + 236 pp. New York: Hadham Press. 1944. $4.00.

IT is now ten years since microfilm copying was begun in an American research library as a means for the convenient, economical and efficient distribution of the periodical literature of science to those engaged in research. This application is still largely ignored by librarians who see only in micro copying technics a means for augmenting their collections.

In the present book, the author, who is librarian of Wesleyan University, goes very much further in this direction by proposing the micro-card republication of as much of the accumulated and current cultural and scientific literature as may be possible. The need for this is postulated on the evidence that representative college and university libraries in this country have doubled in size every sixteen years. At this rate, the library of Yale University, which in 1938 had 2,748,000 volumes, one hundred years hence will have approximately 200,000,000 volumes which will occupy over six thousand miles of shelves and require a staff of over six thousand persons.

A solution of this growth problem has been sought by such expedients as weeding out, use of storage warehouses, operational economics and cooperation among groups of libraries. None of these means has been found to more than scratch the surface of the problem. The solution proposed by the author consists in reducing the size of books to that of a library catalogue card. These micro-cards would have printed on the face, in addition to the name of the author, title, format, publisher and cataloguing indications, a résumé of the subject-matter of the publication. On the reverse of the card, there would be a micro-print reproduction of the complete book. In the case of periodicals there would be a separate card for each article published in them.

By this method, reference libraries would gradually be converted from bound volumes on shelves to catalogue cards in filing cases. The many advantages which would result are described in the most convincing manner. Impressive estimates are given of the economies which would result. In general, this is one of the most thought-provoking books about libraries which has appeared in recent years.

Due to the vast numbers of micro-cards which would have to be made under this plan, it is proposed to subdivide the work among libraries. The republication of existing and future cultural and scientific literature would thus become a library enterprise conducted as a special sort of publishing business. This is quite a departure from the generally accepted notion that both public and research libraries are public institutions, no activity of which is ever conducted on a commercial basis.

The technic by which micro-cards are made requires that two copies of each book be first trimmed of the margins surrounding the text. The separate leaves thus prepared are pasted with rubber cement in regular aligned sequence on a large 3×5 foot piece of binder's board. This composite sheet is then photographically reduced in size to the standard $7\frac{1}{2} \times 12\frac{1}{2}$ centimeter catalogue card. It is assumed that in editions of probably never less than five hundred copies the selling price will be five cents each.

The reader entering a library composed of micro-cards in filing cases would not have to wait, as at present, until the numerous charging and transporting steps, from call slip to final delivery, are completed. He would go directly to the filing cases in which the micro-cards are arranged in accordance with the most highly perfected cataloguing system, and when he has found the title he desires, the micro-card "book" would be withdrawn and a call slip inserted in its place. A duplicate call slip would be left with the attendant and the reader would go to read his "book" to any one of the numerous micro-card reading machines which "will be sprinkled freely, not only all over the library, but everywhere else around the university."

The question of copyright infringement is not considered a serious hindrance, since there are such vast ranges of material which were never under copyright at all and others on which copyright has long since expired. In the case of all others, satisfactory arrangements with authors and publishers would have to be made. These might possibly be on the basis of some guarantee that libraries will continue to purchase the originals in the usual number or provide a system of honoraria to recompense the holder of the copyright.

The author points out that it is the far less used source material of science which is in greatest need of being transferred to micro-cards. It is this, however, of which the original cost of publication is on the most precarious basis. Practically all scientific periodicals require the aid of subsidies of one kind or another. Any additional expenditure for their dissemination to the relatively few who use them can hardly be justified on the basis of solving the problem of library growth. Micro-cards are not substitutes for original publications, but supplements to them which are produced only at a cost which augments the total cost of publishing this class of literature. Just how great this may prove to be can not be estimated at present, but it is conceivable that it may well approach that required for providing the additional library buildings and paying the costs of caring for the innumerable books produced on an ever expanding scale. The net gain may, therefore, be very much less than the micro-card plan may at first appear to offer.

One other thought which the author's plan arouses is the tendency of librarians to regard their principal duty as that of improving the service they render to readers in the library. This is based on the assumption that the library itself is the place for scholars and scientists to go to do their best work. As a matter of fact, however, the conditions there are usually not as conducive to concentration, study and reflection as the privacy of one's own surroundings.

The purpose behind the micro-card plan is to improve library service. By means of these micro-cards, there will be set up the most perfect and convenient catalogues of research literature ever made. This of course is fine for those who can come to the library, but what about the far greater number who can not or who prefer to work in their homes or laboratories? For these, their index and catalogue requirements are at present served fairly well by printed, widely circulating publications, and their principal need is to obtain from the library with the least possible effort the source publications which they desire to study at their convenience. The plan of microfilm copying referred to at the beginning of this review is designed for this purpose and will permit librarians to render far greater service to far larger numbers of workers than is possible in any other manner.

The author mentions that "Collecting and holding, however important, are merely static functions of libraries: publishing and dissemination are dynamic functions." If the publishing is confined to single microfilm copies in numbers sufficient to meet the needs of individual workers, a far more efficient and economically justifiable dissemination of the source literature will be accomplished than by any plan of micro-card republication.

ATHERTON SEIDELL

ORGANIC CHEMISTRY

Organic Chemistry Simplified. By RUDOLPH MACY. $6\frac{1}{4} \times 9\frac{1}{4}$ in. viii + 431 pages. Bound in red cloth. Brooklyn: Chemical Publishing Company, Inc., 1943. $3.75.

THE author, in his preface, states that this book was written to provide a simpler and more gradual introduction to the subject of organic chemistry, for the benefit of first-year students, or those who, like doctors, dentists and others, require only a general elementary knowledge of this branch of chemistry. And it is his hope that it will prove useful for home study, particularly by those who wish to familiarize themselves with the more recent concepts of valence, the octet and duet in chemistry, north poles and south poles, dipole moments, resonance, dielectric constants, hydrogen bonding, parachors, Raman spectra, etc.

The first part of the book, therefore, is devoted to a general elementary study of atomic structure, interpreted in the light of modern up-to-date physical chemistry. The rest of the text deals with molecular structures and the organic chemist as the architect thereof. The various reactions encountered in studying the chemistry of these carbon compounds are explained largely by the application of the physical-chemical theories discussed in the antecedent pages.

In its unorthodox composition, the classification of compounds, sequence of topics, simplicity and origi-