methods and devices for the analysis, storage, and retrieval of information. This chapter comes closest to what one would imagine to have been the goal of the conference. It summarizes the present status of the various conventional and *avant-garde* systems for organizing bodies of scholarly and technical information in ways that will make them most useful. It does this in a way to interest the reader in possibly looking into the available systems and maybe even making some use of them.

Like the sixth chapter, the seventh brings us more or less up to date in an important and basic area of documentation: studies of the mechanisms by which people who need information go about getting it and using it. This chapter would have been better if the authors had resisted the temptation to inject value judgments. Nevertheless, it serves as a challenge by focusing attention on the fact that the documentalist and librarian really know very little about the people for whom they are trying to make information readily available.

With the exception of four later chapters, nothing in particular would have been lost, and probably a good deal would have been gained, if *Documentation in Action* had ended with chapter seven.

The first of the four exceptions is a chapter entitled, "Men, information, and now automation in the decision-making process." It is a clearly speculative look at the future role of computers and computerlike machines in operations-research and in library reference work. It helps to underline the economic and other practical advantages of using such machines and the role of interorganization cooperation as an economic expedient in their use.

The second of these notable chapters is entitled, "Information theory and the retrieval of information." It attempts, with considerable success, to set forth the problems and possibilities of applying information theory to bibliographic organization. We are given a look at some of the problems which may be involved in the utilization of digital computers for storing and searching information and for preparing bibliographies.

The next chapter is in the same vein, with the important addition that it gives some indication of the inner workings of these machines. In so doing, it helps the librarian and documentalist to formulate his requirements and aspirations for mechanized searching in terms which take into account the things that machines can and cannot do and the limited means by which they do the things they do. One of the factors that has slowed progress in the development of mechanical searching devices is the fact that librarians and documentalists have not known how to speak to the machine-designers, and vice versa.

The last of these four chapters is one which deals with the bibliographic problems of law. It is rather unfortunate that most of the activities in documentation, to date, have concerned themselves only with natural science and technology. The law represents an area of activity which is uniquely dependent on the literature for its substance. It has a rich and mature literature whose organization for practical use has given rise to many important and basic innovations in publishing, librarianship, and documentation. The organizers of the Western Reserve conference showed foresight in including problems of legal bibliography in their deliberations.

In organizing the conference on which this volume is based, the members of the Western Reserve University School of Library Science managed to bring together some of the best available minds in the field of documentation and librarianship. It seems a pity that better use was not made of this unusual array of talent. *Documentation in Action* belabors certain subjects—cooperative information processing, for example—but leaves many important questions unanswered. Perhaps this reflects the present state of documentation and librarianship.

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Portraits from Memory. Recollections of a zoologist. Richard B. Goldschmidt. University of Washington Press, Seattle, 1956. 181 pp. + plates. $3.50.

When I finished reading *Portraits from Memory* I decided that a note of appreciation to the author was in order. After I was asked to review the volume it became evident that a review could take no more fitting form than a public note of appreciation. I should like to take this opportunity to thank Richard Goldschmidt for perpetuating his precious memories. The portraits which he has sketched with such skill and deftness will be invaluable to generations of biologists. Many of the German founders of zoology are made to live again as human personalities within a framework of their scientific achievements and efforts. Few biologists remain who are familiar with the inception of so many fields of biology. Only Goldschmidt could link these beginnings with the personalities who were intimately associated with them.

Two other things are made clear in this small volume. Goldschmidt's description of German university life of the early 1900's, with its emphasis on research and devotion to high standards, re-creates the atmosphere in which so many important developments took place. Over and above this, the book serves as a self-portrait of the author. In the descriptions of his many friends and teachers we cannot fail to observe the awareness, the sensitivity, and the many vital interests of Goldschmidt himself. At times he is sharp and critical, with little patience for the self-satisfied and dull. Yet, throughout, one notes a feeling of affection—and nostalgia—for his former acquaintances.

This book is recommended reading for all graduate students of biology who are interested in the background of their science—and for their teachers too.

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Rheology, Theory and Applications. vol. 1. Frederick R. Eirich, Ed. Academic Press, New York, 1956. 761 pp. Illus. $20.

In this book, 23 authors have written 17 chapters dealing with the fundamentals of rheology. It is to be followed by two companion volumes, continuing the fundamental considerations and extending over into the applied fields.

If a condensed phase be thought of as a giant molecule, then any change in the relative position of the component molecules is an isomerization, and the relaxation processes involved can be treated like any other chemical reaction. It follows that shear stresses, like other types, simply act to lower the free energy of the activated, and of subsequent, states with respect to the initial state of the system. From this point of view, non-Newtonian viscosity is the general case, Newtonian viscosity being the limiting process approached at low rates of shears. Bondi develops this relaxation-theory approach at some length. Other chapters consider other aspects of relaxation theory.

Another approach to viscosity is to calculate the molecular distributions of the molecules in liquids in the resting state and then calculate the forces associated with the distorted distributions accompanying flow. This method is accurate, in principle, and leads to some interesting results. However, to make the calculations manageable, one usually has to introduce various approximations. Riseman and Kirkwood, in a chapter entitled "The statistical mechanical theory of irreversible processes in solutions of macromolecules," have discussed this procedure.

In other chapters, Reiner discusses