

tative scholarship but with occasional pauses to enlarge upon the features of the language of science that are of interest to the nonspecialist.

The essence of the book is summed up in its final paragraph: "This book has tried to demonstrate the existence of a real language of science and to detect something of its strength and its weakness. Its strength will be enhanced, its weakness will be concealed, and its power for good will become greater as scientists turn their abilities to using it more effectively."

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The Hand-Produced Book. David Diringer. Philosophical Library, New York, 1953. 603 pp. Illus. \$15.

David Diringer, author of a previous book entitled *The Alphabet: A Key to the History of Mankind*, has produced a sequel to that work in which he traces the evolution of the written document from the earliest beginnings down to the invention of printing. His title may need further explanation. He is not concerned with the making of books as we know them. Although he himself (p. 24) asks the question, "What is a book?" he does not provide a definition but confines himself to a discussion of the various etymologies. What *The Hand-Produced Book* is really concerned with is the history of written communication.

Dr. Diringer starts with primitive modes of communication, beginning with the first crude drawing that man made in the sand. He then discusses the gradual improvement in communication from the cave drawings and stone carvings to the relatively sophisticated clay tablet books and finally to papyrus books.

It was the discovery of the utility of papyrus that made written communication easy and convenient and made possible the writing of books roughly as we know them. It also gave to European languages their words for paper. Papyrus was a technologic development of the ancient Egyptians who first discovered that the stems of the reedy plants growing in their Nile marshes could be flattened out, glued together in sheets, and used for writing. Papyrus remained an Egyptian monopoly, "but for a thousand years," says the author, "it was the chief writing material for the Graeco-Roman world . . . and was used both for literary and for ordinary purposes such as legal documents, receipts, petitions, notices of birth, and official and private letters (p. 125)."

Parchment and vellum developed naturally from the use of tanned leather as writing materials—how early, no one knows with certainty. But by the second century B.C., parchment, prepared by scraping skins on both the hair and flesh sides and rubbing with pumice stone, had come into fairly common use in Egypt and Asia Minor. The finest grade of parchment vellum, made from calfskin, was used for valued documents. The early craftsmen learned to prepare a particularly fine-grained white vellum from the skin of aborted calves, a type known technically today as uterine vellum. With papyrus, parchment, and vellum as satisfactory writing materials, the ancient world could produce written documents in quantity. During the Middle Ages in western Europe, parch-

ment was widely used for the multiplication of books and other documents.

Diringer's volume provides encyclopedic information about an infinite variety of matters that impinge on writing: the kinds of writing materials used in different countries and regions, the instruments used for writing, including a discussion of inks, pigments, and pencils, and methods of multiplying manuscripts. He ranges over the pre-Columbian Mayas and Aztecs in America, a mysterious riddle that, like the ancient Etruscan writing, remains unsolved.

Many points in the book are controversial, and scholars will not of course agree with all of the author's conclusions, but he provides a stimulating body of information and bibliographical clues for further investigation. Although one of his theses, that the book follows religion, has much to commend it, this is an oversimplification of the complex problem of the reasons for the development of the book. The dust jacket announces that the volume was written primarily "for the cultured layman" and not for specialists. It is not a work however, that one can read easily, for even within chapters it is a succession of sometimes disjointed paragraphs on a wide variety of loosely connected topics. A tendency to repetition and many parenthetical cross references and allusions further retard the reader. But with all of its faults, *The Hand-Produced Book* is both an interesting and useful encyclopedia of information on the written document before the beginning of printing in Europe. The profuse illustrations also add to its value.

LOUIS B. WRIGHT

The Folger Shakespeare Library
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Ideologie und Forschung in der Sowjetischen Naturwissenschaft. Schriftenreihe Osteuropa, No. 1. Arnold Buchholz. Deutsche Verlags, Stuttgart, 1953. 126 pp.

Propaganda and counterpropaganda have aroused passions to the point where calm and rational consideration of anything pertaining to the USSR has become a rarity. The book under review belongs to this rare class. The author describes the present situation of science in the USSR and, to some extent, its historical background, with calm and detachment as well as with knowledge and understanding. The book is obviously too short for a thorough coverage of fields as diverse as mathematics, physics, astronomy, chemistry, biology, and agriculture. It is, however, hard to imagine how one could pack more information in every paragraph than the author succeeds in doing. The documentation and references are extensive and, in every instance where the reviewer is competent to judge, accurate.

The evaluations made by the author will assuredly be attacked from the left as well as from the right, since they will appear too severe to some and too lenient to others. In any case, the author did not succumb to the facile generalizations that are so tempting to amateur and to professional propagandists.