author shows then, that though differing from technological documentation in speed, in essence the process is the same in humanistic research. He succeeds, it appears, in convincing the reader that "Documentation is . . . at best hard necessity . . . and that all documentation has the same objective: economy in intellectual production."

Three final papers are concerned with photographic reproduction and microphotography. Erich Mehne discusses microphotography from the archivist's angle and suggests that filming is the best method for quick preservation of materials and that permanent preservation is best insured by reproduction on glass plates, supplemented by multiple storage in air conditioned rooms, with diapositives for control. For most efficient use of a photographically reproduced collection he advocates, in preference to film rolls and film strips, arrangement of film sections with individual documents on 9 x 12 cm. cards, which are labeled and may be systematically organized (= Plan-oder Blattfilmverfahren).

Of reading machines Mehne demands these qualities: simple handling, possibility of reenlargement, cheapness of construction for mass-consumption.

Walther Rahts goes into detail about the methods of copying records and books by filming, contact-printing, and reflex photography. He too advocates the use of the Blattfilm method for convenient collecting and arrangement of film materials, standardized to 2 x 9 pages on 9 x 12 cm. cards. He reports on an interesting departure in copying construction elements from a draw-

ing, scale 1:6, into a drawing, scale 1:4, which resulted in a saving of time of over 500 per cent.

Hermann Joachim reports on a number of cameras used in photographic reproduction as well as on novel reading devices. Among the latter is a reading machine which is equipped with a film holder in front and below the reading surface, and which has a light source outside of the machine to keep it from heating the apparatus. Joachim's article is illustrated by four plates, and the reading machine mentioned can be seen on one of them.

If the reviewer were asked to point out a few outstanding qualities in the work, he might mention these two: first the emphasis on international cooperation on the part of a number of the contributors, notably the agriculturalist von Frauendorfer and the forester Richard Immel; second, the insistence of finding effective means of conditioning the various types of users of the products of documentation through various means of formal and informal training, at length discussed by von Frauendorfer and also by the engineer, Walther Parey.

A cursory analysis such as this review can at best attempt to interest potential readers. Perhaps the book should be translated if only to incorporate it more securely in the apparatus of the Western documentalist and to make possible a more generally fair and sympathetic appraisal. For, "Here ye strike but splintered hearts together—there, ye shall strike unsplinterable glasses!" (H. Melville.)—Icko Iben, University of Illinois.

Bookbinding

Bookbinding, Its Background and Technique. By Edith Diehl, New York and Toronto, Rinehart and Co., Inc., 1946. 2v.

Miss Diehl has made a useful contribution in Volume I (The Background), wherein she traces the broad outlines of developments in the practice of bookbinding since its inception, and analyzes the principal characteristics of the major styles in bookbinding decoration. Considering the necessary restrictions on space, no work of such scope can hope to be encyclopedic, and Miss Diehl makes no claim that her essay represents the exception.

Nevertheless, she has performed a valuable service, for which students and connoisseurs will be grateful, by presenting a selective bibliography of bookbinding literature that will take the serious investigator more deeply into special phases of the subject. Although the bibliography itself makes no attempt to evaluate the works listed, in many instances Miss Diehl's textual comment provides the careful reader with the necessary critical clues.

Earlier investigators into bookbinding decoration habitually sought to strengthen their arguments by arbitrarily linking the major

styles with individual craftsmen, many of whom are without any proven connection with the designs they are supposed to represent, and some of whom indeed are ghosts in the purest bibliographical sense. Even Miss Diehl, it is to be feared, lingers a little too regretfully over such time-endeared totally irrelevant names as Le Gascon, Canevari, and Mearne. This is especially surprising in view of the fact that one must assume from her essay that she is acquainted with the literature which shows, for example, that Demetrio Canevari was not yet born when the bindings formerly ascribed to his library were produced; that the whole magnificent edifice of Le Gascon's reputation has been erected on a few early references to his name (or nickname), without a single specimen now extant that can be attributed to his hand on contemporary evidence; and that Samuel Mearne was a man of affairs, altogether unlikely to have soiled his hands at the glue pot and beating stone, that, in fact, the bindings usually attributed to him can be shown to have emanated from various shops, and represent several distinct styles and sets of tools. To speak, then, of the "Le Gascon style" when a particular school of French pointillé work of the mid-seventeenth century is meant, of "Canevari bindings" when reference is to certain early sixteenth century cameo stamps thought to have been executed for Pier Luigi Farnese, and of "Mearne bindings" in referring to practically all significant English Restoration work, is, to say the least, to employ a loose and untrustworthy terminology.

As a handbook (the avowed purpose) summarizing the results of recent researches into a cohesive and general account, Miss Diehl's treatise is quite provocative. By presenting the entire subject in broad perspective, it may suggest to thoughtful students new directions for further particularized investigations. It may occur to someone, for example, to examine more closely the regrettably widespread tendency among writers on the subject to consider the various historic styles of bookbinding decoration in vacuo, without reference to the general tastes that brought those styles into being. Prior to Roger Payne's work in the late eighteenth century, nearly all major styles in book-cover ornamentation reflected contemporary tastes in interior and exterior decoration. In her bibliography Miss Diehl lists Speltz's standard work on historic styles of ornament, and it will be in such treatises that the student will get his first bearings. That will be but the starting point, however, for he must examine original works in the whole broad field of architectural decoration, of tapestry and metal grillwork, of picture frames and the progressive forms that household furniture has taken-to mention only a few of the more obvious resources for investigation. he finds there he must compare with bindings that can be definitely located as to time and place of origin, and, if possible, but not necessarily, as to the original owners or designers. In the end he will almost certainly conclude that-except for a surprising hiatus during the nineteenth century when nearly everything pertaining to books and book-collecting became self-conscious and not a little precious (which may, indeed, be no exception at all) bookbinding decoration in any given period fits comfortably into the general background of taste.

The reader will at once think of any number of objections to so sweeping a generality, which should be qualified immediately. There is nothing to prevent a craftsman from rising above mere compulsion and bringing to his work a genius for creativeness, where obedience to fashion would suffice. Roger Payne had that genius, and he was one of the first binders to create an independent and successful motif that is not easily explained in terms of contemporary fashions in decoration. He worked in the last half of the eighteenth century, a period that in English architecture is bounded at the beginning by the Hellenists, Revett, and Stewart, and at the end by the classicist, Papworth. Yet there is nothing Greek or Roman in Payne's approach. As, a hundred years later, did Cobden-Sanderson, Payne broke completely with the current mode, and he preached and practiced (and perhaps invented) the thesis that binding decoration is a problem in relationship between text and book-cover, rather than between cover design and external surroundings.

This is a difficult theory to apply, as Payne's lesser imitators quickly demonstrated. Only a man with his deep sensitivity and corresponding perfection in craftsmanship could hope to make it work, and such men are rare

by the very nature of things. Pavne's quaintly-phrased bills show both that he thought long and carefully before he ever set tool to leather, and that he knew he risked the possibility that even his client might not understand his subtle treatment. His principal reward lies in the fact that his name is honored wherever bookbindings are cherished, and that his masterpieces fit as gracefully into present surroundings as they did in those of his own day. They do so not because they imitate those surroundings, not because they are "artistic" in the loose sense which that word has come to have, but because Payne's approach was intellectual and was governed by a different set of rules than those which apply to shifting fashions of decoration.

Miss Diehl's treatise is laid out according to a well-conceived plan. It occupies in all something less than 200 pages, excluding preliminaries and appendixes. Considerable discussion is devoted to primitive records and ancient book forms; the book of the Middle Ages, of the Renaissance, and of modern times; early methods of production and distribution; and bookbinding practices. Princiattention, however, is centered "National Styles of Book Decoration," in which the contribution of each major European country and of North America is carefully analyzed. A chapter devoted to "Miscellanea" treats such subjects as format, signatures, book-edge decoration, book oddities, forgeries, materials, and the deterioration and care of books. There is a glossary of technical terms, and a bibliography of 15 pages lists selected studies in various broad subject fields of bookbinding history and related matters. At the back of the volume are 91 admirable plates, in which, however, some discrepancies have been noted. plates are without full descriptions, which appear only in the "List of Illustrations," necessitating an exorbitant amount of backreference on the part of the user. Some bindunfortunately, are listed without ings. identifying references to the books they protect (e.g., plates 12, 32, 50, 61, 62, etc.). Sometimes, too, the descriptions are incomplete (e.g., plate 13—what date?). Plate 55 probably should have followed plate 58, in the order of strict chronology; and plate 60 represents as the work of Roger Payne a binding that was certainly not produced by

him. The doublure reproduced in the facing plate 61 (of a different binding, although that fact is nowhere made clear) is veritable Payne work.

The essay suffers from numerous annoying misspellings of proper names, of which this reviewer has observed two dozen instances. Most of them are obvious slips that would doubtless have been caught if the production had not been undertaken during a critical period. At least one is serious enough for special notice here: "Grauzat" for "Crauzat" (p. 210) throws the entry for a valuable work far out of its proper alphabetical place in the bibliography.

While on the subject of the bibliography, the question inevitably occurs as to why Herbst's invaluable continuation of Mejer's Bibliographie der Buchbinderei-Literatur is not listed, inasmuch as the original work is There are other surprising lacuna, even in the light of the fact that Miss Diehl's list is "selected": Beraldi's Reliure du XIXe siecle, 1895-7; Bollert's Lederschnittbände des XIV. Jahrhunderts, 1925 (Schmidt's discussion of similar work of the next century is noted); Thomas' Early Spanish Bindings, 1939 (cited in the text but not listed); Bouland's Marques de Livres, 1925 (the chapter challenging certain so-called Marguerite de Valois bindings contains material not available elsewhere); Hobson's catalog of the J. R. Abbey collection, 1940; Husung's catalog of the collection in the Preussischen Staatsbibliothek, 1925; Schmidt's catalog of the Darmstadt collection, 1921; Boinet's catalog of the Mme. Whitney-Hoff collection, 1938; and De Ricci's catalog of the Schiff collection, 1935. All of these works contain matter indispensable to the serious student of bookbinding history.

Volume II is devoted to the practical side of bookbinding, in dealing with which Miss Diehl demonstrates her thorough knowledge of the techniques that have brought her a solid reputation as a binder for collectors. Librarians, however, will look in vain for suggestions pointing some way out of their growing dilemma of rising binding costs and static budgets.

Miss Diehl's approach is that of providing a handbook to guide beginners in handbinding. Realizing that beginners would have difficulty in following the instructions, she emphasizes at the outset of her disquisition that real skill can be acquired only by actual practice, and not by reading about the operations involved. The text is accompanied by copious line illustrations drawn by Mrs. Edna W. Kaula. They are tastefully prepared, and are far more suitable in a book of this kind than photographs would be.

Miss Diehl is primarily concerned with methods for putting a book into an appropriate and durable binding, but she also devotes considerable attention to the selection of proper tools and equipment. Her preoccupation with collectors' bindings is revealed in her recommendations for equipment, much of which does not differ from that used by craftsmen in the early periods of bookbinding. There are detailed descriptions of standing and hand presses, cutters, sewing frames, tooling stoves, and apparatus for grinding knives. The author takes note of modern developments by recommending a grindstone powered by a motor over the old-fashioned foot-treadle machine, but on the whole she disregards the large-scale, speedy, and economical apparatus that is indispensable to the needs of librarians.

The author devotes several pages to the consideration of "flexible binding," a term which she uses in a way which differs from the concept held by some binders. While many of her remarks in regard to the operations in binding, collating, and paging, and sharpening of knives are consistent with general practice, there may be a considerable difference of opinion in regard to her procedures for pulling and removing glue, trimming before sewing, and guarding illustrations. One is unavoidably concerned about her inadequate recommendations in connection with the repair of old bindings.

Miss Diehl provides a lengthy analysis of such important aspects of binding as forwarding, sewing, mending, and mounting, folding and gathering, and finishing. As in her earlier discussions she recommends specific procedures for the various steps in each operation. Yet, there is wide variety of

opinion among binders as to proper procedure; and the differences are generally the result of personal experience and prolonged experiment. There is no question that Miss Diehl has set forth in this volume those practices which she believes to be the most effective, but she does not always explain the reasons behind her postulations. For example, in discussing tooling, she notes that "It has been a practice among some French extra binders to glaire, lay the gold, put a glass cover, or 'cloche,' over the book and leave it until the following day before tool-They claim that a little dampness is created in this way that is advantageous for gold tooling. I have tried this method, but prefer to freshen the leather and gold-tool it the same day." There are other similar passages in the volume.

As stated above, for librarians the second volume of this work will have principal value as a reference guide; it will not help them much in their day-to-day problems. It is worth noting that on page 256, Miss Diehl summarizes the problem of "Library Bindings" as follows: "Library binding would best be constructed in the manner just described, but the expense is too prohibitive in this country for most public libraries. Specifications for library bindings will be found in books named in the Selected List of Books at the end of Volume I." But college, university, and many large public libraries contain great numbers of old and rare books which require something more than "library binding," if less than "collectors' binding." A potentially great demand exists, which would be revealed if librarians had before them a comprehensive, realistic, and up-to-date documentation of the progress that has been made in the conservation and protection of source materials. No such documentation has appeared to supersede the works of Lvdenberg and Archer, Cockerell, Leighton, Rogers, and others whose studies are familiar occupants of the shelves in the offices of librarians.-Roland Baughman and Maurice F. Tauber, Columbia University.