

Machines that Think

Giant Brains; or, Machines that Think. By Edmund Callis Berkeley. New York, John Wiley & Sons [c1949], xvi, 270p. \$4.00.

"The libraries are full of books: most of them we can never hope to read in our lifetime. . . . There is a big gap between somebody's knowing something and employment of that knowledge by you or me when we need it." Thus Mr. Berkeley describes one of the problems which our "giant brains" must solve. This account of the development of complex calculating machines is presented in as readable a style as could be devised, considering the difficulty of the subject. Mr. Berkeley has not been completely successful in writing an account to be read, as he intended, by everyone, but he has succeeded in presenting the mechanical brains in a fashion simple enough to be understood by the careful reader with a fair amount of mathematical knowledge. Mr. Berkeley's schematic and verbal descriptions of "Simon," a simple mechanical brain, serve to give the average reader sufficient confidence to go on to the explanations of the calculators at M.I.T., Harvard, and elsewhere. However, those explanations are necessarily too involved for the layman.

Although it may be disheartening in some respects, one of the proposed applications of mechanical brains must be considered by the librarian:

"We can foresee the development of machinery that will make it possible to consult information in a library automatically. Suppose that you go into the library of the future and wish to look up ways for making biscuits. You will be able to dial into the catalogue machine 'making biscuits.' There will be a

flutter of movie film in the machine. Soon it will stop, and, in front of you on the screen, will be projected the part of the catalogue which shows the names of three or four books containing recipes for biscuits. If you are satisfied, you will press a button; a copy of what you saw will be made for you and come out of the machine.

"After further development, all the pages of all books will be available by machine. Then, when you press the right button, you will be able to get from the machine a copy of the exact recipe for biscuits you choose.

"We are not yet at the end of foreseeable development. There will be a third stage. You will then have in your home an automatic cooking machine operated by program tapes. You will stock it with various supplies, and it will put together and cook whatever dishes you desire. Then, what you will need from the library will be a program or routine on magnetic tape to control your automatic cook. And the library, instead of producing a pictorial copy of the recipe for you to read and apply, will produce a routine on magnetic tape for controlling your cooking machine. . . ." (pp. 181-82)

While this conception of the library may at first seem to lead toward technological unemployment (a topic considered in Chapter 12—"Social Control"), the relief from routines resulting could give the librarian time for research and reflection on the major problems confronting him. Any librarian interested in mechanizing repetitive tasks should read at least Chapter 4 ("Counting Holes: Punch-Card Calculating Machines") and review the bibliography on punch-card machines on pages 232-39.—*Ralph Blasingame, Jr., School of Library Service, Columbia University.*

Photography and Librarians

The History of Photography from 1839 to the Present Day. By Beaumont Newhall. New York, the Museum of Modern Art, 1949.

Die Geschichte der Kleinbildkamera (The History of the Miniature Camera). By Erich Stenger. Wetzlar, Ernst Leitz, 1949.

There are several excellent reasons why the librarian, individually and collectively, should

want to concern himself with the history of photography.

1. In his use of the microfilm and the photostat he is not only benefiting from certain specific forms of photography, but he is also developing them and making a contribution of far-reaching importance. The librarian's employment of photographic methods as time-saving devices, as instruments

to record, multiply and organize knowledge, as a research tool and, last but not least, as an instrument of bibliographical analysis, constitutes a distinct and original development of the camera.

2. The use of photographs on the printed page has caused the origin of a new species of books. The historian of the future will find in the hundreds and thousands of books using photographs and very often built around them, a new kind of record. The preservation of this extremely important body of pictorial information, whether the librarian is aware of this or not, is one of the many new functions which society may very well expect him to fulfil. These are similar obligations to those which he has already accepted in his caring for the phonograph record, and, in certain instances, the motion picture film and other new forms of records.

3. Through a bewildering variety of photo-mechanical reproduction processes the camera has not only added new kinds of books to the existing types, but has extended and amplified the use of older, nonphotographic pictures as a vital body of pictorial documentation in the current stream of book production. In other words, the camera has assumed a position of unforeseen, and not totally recognized importance in the transmission of our cultural heritage through the printed page. An understanding of the nature of this role, I believe, will be extremely useful to the librarian of the not too distant future.

Anyone familiar with the perplexities of pictorial reference work will agree with me on this point, I am sure. A high percentage in any group of professional librarians would be able to investigate with the necessary intelligence and skill the authenticity of a given statement or quotation in a book. From 75 to 90 per cent would know how to go about such a task. But if you were to ask that same group a question about the authenticity of a given pictorial statement of fact, for instance, a portrait or an historical event or a manufacturing process, the percentage of persons capable of even starting out intelligently to answer such a question would be very low, perhaps 3 or 5 per cent. The reason for this is, of course, that until relatively recently words have played a very much more important role than pictures.

But that is no longer true today. It would

be easy to prove statistically, or in many other ways, that pictures play a larger role in our lives and in our books and other printed matter, than they ever did before. This is primarily due to the invention of photography.

It is only a question of time, in my opinion, until these facts will be clearly and generally recognized and taken into consideration by those concerned with the professional accomplishments and skills of the well-educated librarian in the research library.

The history of photography has been cultivated, both here and abroad, by a limited number of specialists and some attempts at popularization of the theme have been made. Beaumont Newhall's new *History of Photography* is a particularly intelligent and useful as well as attractive statement. The book is based on two earlier studies by the author, one a catalog of an exhibition held at the Museum of Modern Art in 1937, the other a second, revised edition in 1938. Since that time the author has not only added to his practical experience in the field of photography (he held an important wartime position as photographic expert with the armed services), he has also been fortunate enough to enjoy a Guggenheim Fellowship as a means of pursuing advanced research here and abroad and in contact with experts all over the world.

The method which he pursues, and his organization of material are particularly suitable for a book which a research librarian might wish to study for general orientation and in order to find specific answers to various questions. The technical evolution of photography, though fully explored and documented here, is not the only point of view. The gradual unfolding of the new invention, the assuming of distinct aesthetic and documentary functions, the clarification of what and what not to expect from the photographic image, these matters have been handled both competently and imaginatively. Chapter 10, dealing with "the value of photographs as authentic, persuasive documents" and Chapter 13, on the adaptation of photography to the printed page, will be found of particular interest, I should think, to the man and woman working professionally with books in a research library.

Moreover, the book is in a general way a

fascinating record of the last 100 years as seen through the lens of the photographer. Not only the results, but also the intention behind the pictures are of great significance.

Of more specialized appeal is a volume recently issued by the Leica Works, the firm of Ernst Leitz in Wetzlar, to celebrate the one-hundredth anniversary of the firm. Erich Stenger, formerly professor of scientific photography at the Berlin Technische Hochschule, and one of the leading historians of

photography—and there are not many in existence—is the author. He has presented a fascinating and picturesque account, well illustrated, of the various attempts to create a miniature camera. I do not know if the book will be commercially available. But information about this can undoubtedly be obtained by writing to the Ernst Leitz Works in Wetzlar.—*Hellmut Lehmann-Haupt, School of Library Service, Columbia University.*

The Analysis of Library Problems: Three Surveys

Report of a Survey of the Library of Stanford University for Stanford University, November 1946—March 1947. By Louis R. Wilson and Raynard C. Swank. (On behalf of the American Library Association.) Chicago. American Library Association, 1947. 222p. \$2.50. (Mimeographed)

Report of a Survey of the Libraries of the Alabama Polytechnic Institute, November 1948—March 1949. By Louis R. Wilson and Robert W. Orr. Auburn, Alabama Polytechnic Institute, 1949. 215p.

Report of a Survey of the Library of the University of New Hampshire, January—February, 1949. By Stephen A. McCarthy. [Ithaca, N.Y., 1949] 77p. (Hectographed)

Of surveys there appears to be no end. The three surveys listed above represent new additions to our survey literature, and extend the amount of detailed information that we have about three libraries: Stanford, Alabama Polytechnic Institute, and New Hampshire.

The Stanford survey was released by the American Library Association and Stanford University last year, although the report was made in 1947. Accompanying the report is a mimeographed letter to the Executive Secretary of the American Library Association from Dean Clarence H. Faust, chairman of the Stanford Library Committee. The letter is significant because it indicates that some of the deficiencies that Drs. Wilson and Swank single out in the Stanford survey have already been corrected. "A job analysis has been conducted, a position classification has been developed, and reasonably adequate salary scales have been adopted. A number

of new positions have been created, including an assistant directorship. Staff participation in library planning and administration has been encouraged with excellent results," writes Dean Faust.

Moreover, book funds have been increased, departmental allocations adjusted, relations between faculty and library more firmly established, acquisitional and accounting methods improved, cataloging speeded up, and serials procedures simplified.

For the most part, the Stanford survey follows the pattern of approach to library problems that has been so well established by Dean Wilson. All aspects of the Stanford Library are carefully considered, and specific recommendations made for improvement. The report is distinguished by its frankness and directness. Since Dr. Swank is now director of the Stanford libraries, he has the unusual responsibility of putting into effect the program designed by Dean Wilson and himself.

The contributions of Dean Wilson to American librarianship since his retirement as dean of the Graduate Library School of the University of Chicago have been so significant that one cannot help but take note of them. Surveyor of Stanford, Denver, Cornell, South Carolina and Alabama Polytechnic Institute, among others, he has written books, papers and reviews which have shown his keen insight into the problems of academic librarianship. As editor of the University of North Carolina Sesquicentennial Publications, a series of 18 volumes, he engineered a project of great magnitude. Those librarians who have had a chance to work with him on surveys also know of the contribution