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Special Libraries

OFFICIAL JOURNAL OF THE SPECIAL LIBRARIES ASSOCIATION

VOLUME 44 JANUARY 1953 NUMBER 1

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CONTENTS

The Legal Aspects of Machine Documentation*

ALBERT S. DAVIS, JR.

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MACHINE DOCUMENTATION may mean different things to different people, for the self-evident reason that everyone tends to appraise facts and situations in the light of his own particular training. To most librarians, machine documentation may mean the reduction of written information to a form and size of convenient and useful proportions, its classification and its ready production from storage in accordance with particular transient needs.

To a lawyer, the very acts of classification and ready production in accordance with particular transient needs, either imply or require that there will be a certain selectivity in the process. To a lawyer, matters of form aside, that selectivity is where troubles begin, for we are delegating an inherently human function, judgment, to an inhuman and mechanistic agent. Sooner or later there will be a legal battle over that issue.

A Banana Fable

Let us assume for the sake of argument that we have a Mr. Jones, engaged in the happy task of being head of the technical library of the Middle Atlantic States Institute of Banana Culture. The Institute is a most progressive one; Mr. Jones has a salary of three thousand dollars a year and all the bananas he can eat, and is allowed to to spend ten thousand dollars a year on acquisitions and to subscribe to almost all the publications he desires. Indeed, he has heckled the Board of Trustees into publishing a monthly *Banana Culture Review,* where he doubles in brass as editor, and thus can exchange with *The American Mercury* and *The Saturday Review.*

He has reached the crest of professional, if not personal, affluence—he has begun to worry about stack space. And one of the Board of Trustees, when he hears about this, says that he has heard of something called microfilming. Will he get a headache if he uses a viewing machine or a projector? Is it true that the whole library can be boiled down to a few shelves of reels or cards, except for current periodicals? Couldn't the stacks be eliminated and the space used for raising bananas under glass?

The answer is "Yes"—if it were not for the lawyers or for the people who hire lawyers. Presumably, of course, people hire lawyers only to assert the positions desired by people.

Now how does the trouble start?

Mr. Jones gets his appropriation, and the microfilming is done, and the bananas flourish where once the stacks stood twelve feet high. Jones likes it; he is now allowed to eat bananas between meals. Being tired of them, eventually, he obtains a special "eat-out" pass from the chairman of the board one day, and has lunch with a friend who is librarian for the Amalgamated Tack and Rivet Corporation. He is puzzled to hear that their lawyers have advised the company not to undertake a general policy of microfilming all the records "because they might not be admissible in evidence if the corporation gets into a lawsuit." Why?

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* Paper presented before the Science-Technology Division, at the SLA Convention in New York, May 28, 1952.

And when Jones returns to the Institute he finds two pieces of news: (1) the Institute is going to carry on research in banana utilization in the greenhouse where the stacks used to be, and, as a little detail, Mr. Jones is to be favored with the task of shelving the research workers' notebooks "in microfilm form"; (2) the accounting department wants him to microfilm and store all its records more than one year old, so that it can clear out its files.

Meditatively nibbling on his first postprandial banana, our Mr. Jones wonders (1) whether he ought to worry a little over what his friend said about the lawyers' opinion; and (2) whether it would not be simpler to join the Foreign Legion.

Admissibility of Particular Evidence

Suppose we go back to the why of the lawyers' opinion. I assure you that as a matter of law it has its roots in something other than the inbred conservatism of so many office counsel. They are fighting a skirmish in one of the oldest wars in the law's ceaseless campaigning—the admissibility of particular evidence.

When the courts look at any particular piece of asserted fact offered as proof of a contention, they ask two basic questions: *Is the source of the asserted fact likely to be a credible one, or is it so likely to be biased or unworthy of belief or incapable of being checked that the court, as a matter of law, should not admit it at all or should admit it only subject to doubt.* I do not mean the sort of doubt cast on evidence or testimony by cross-examination, but the sort of doubt which calls for a specific judicial cautioning of the jury when the evidence is in, or which may even forbid the introduction of the testimony. Law being a process of assertion, doubt, acceptance, accretion, application, and rejection or reassertion, the canons of admissibility are sometimes a little abstruse.

For instance, it has been only a little less than a century that the testimony of women has been admissible in many matters; before that it was barred because of women's "levity and audacity."[1]

Not all of those rules have disappeared, however. Suppose that the Banana Institute's research department is a one-man show at the start—Dr. Phineas Quantum. Dr. Quantum is concerned with processing bananas into dryish sticks tasting like smoked fish, which can be used as *hors d'oeuvres.* Day after day he dries them, smokes them, and induces Jones (who seems to have little strength of character) to taste them. Day after day he writes down, at the time, in his notebook, what he has done and how the work tests out. And, once a notebook is filled, Jones microfilms it, shelves the reel, and gratefully tosses away the notebook itself, which smells of bananas and fish. Eventually Dr. Quantum produces a triumphantly fishy banana. The Institute ships two thousand boxes of them, duly set down in its ledgers by the accounting department, to Jobber Jackson. Jones sends the microfilm of the notebook to the Institute's patent attorney. He feels paternal towards it, because he witnessed and dated every page of it as soon as Dr. Quantum had signed. A patent application is filed covering the *Banana-Bite,* and a process for making it. Peace falls upon the Institute; Jones goes on microfilming.

Interference

Then things happen. Jobber Jackson decides not to pay the full price for the two thousand boxes because he has a policy of never paying the full price for anything. The Institute sues him. Dr. Quantum's patent applications become involved in an interference, which means that some one else claims that he made the invention before Dr. Quantum did, and, therefore, is entitled to the patent on *Banana-Bite.*

Suppose we first consider Dr. Quantum and his patent interference, where he will have to prove that he made the invention first and carried out his reduction to practice with diligence. He

testifies to making the invention, and what he did to prove it. He refreshes his recollection from the microfilmed notebook. His notebook is offered in evidence. Mr. Jones testifies that he, in the course of his routine day-to-day duty, read, witnessed and dated the pages of the original, and that he recalls that he did. But this will not satisfy the Patent Office or the Courts as to source.

Interested Witness

"Dr. Quantum," they will say, "is an interested witness. We know that he has assigned his rights to his employer, the Institute, but he is still an interested witness. Therefore, his testimony by itself, is not enough; it must be corroborated." Dr. Quantum is also subject to the general objection that memory, especially on details and dates, is a frail thing. His notebook by itself is not sufficient corroboration, because it is just as much an 'interested witness' as he; what we call a 'self-serving declaration'.

Mr. Jones is not such an interested witness; let us see what he has to offer. Substantially, he says that he recalls the notebook, he recalls reading, witnessing and dating the pages, but he is completely incapable of discussing intelligently exactly what the scientific steps carried on by Dr. Quantum were, because he is not trained as a food chemist. All that he is proving is that a piece of paper existed on a given day and that he then signed it. He can't prove the comments.

"And speaking of pieces of paper," the court goes on, "this *isn't* one. It is secondary evidence. What became of the original notebook, why was it microfilmed, who did it, how do we know that has been no change in it? There is a general principal of law that the original of a document must always be put into evidence if it exists and can be obtained, and that if this is not the case, (a) its absence must be explained; (b) the copy offered must be authenticated step-by-step; (c) the copy offered must be innocently explained as to any change in content or form; and (d) it may be subject to rigorous and minute cross-examination to determine whether it is genuine, complete, and not misleading in its context or presentation."

Admittedly, the Institute and our friend Jones can sustain the burden of doing so, but it costs time, money and worry.

Now let's look at the lawsuit against Jobber Jackson. With written ledgers, the Institute's lawyer would put the bookkeeper on the stand, get him to identify the ledgers and other papers which spell out the deal, and offer them in evidence. Suppose Jobber Jackson's lawyer objected—the meat of his objection would be that no one ought to be allowed to prove a substantial portion of his case by his own books. "No," the judge would say. "Wait a minute. Mr. Bookkeeper, were these ledgers kept by you routinely, in the ordinary day-to-day routine of the Institute's business? You say they were? Then I will admit them, because the statutory rule about this, what we call the 'shopbook' act, has made a change in the law. In effect, it says that things written down in such routine are permissible sources of evidence and not motivated by some evil intention of framing a hypothetical lawsuit at some time in the future." Of course, counsel for Jobber Jackson can cross-examine to bring out anything generally or specifically untruthful or fraudulent in them or their making.

"Now consider the ledgers as reduced to microfilm form. If the film has been made from a bound book, how do we know that it is not partially assembled from the original and partially photographed from a false pair of pages separately filmed and cut into the entire film? Who has had possession of the ledgers and the films and a chance to doctor them? All those things can be proven away, of course, but until the legislature passes another law and says that a microfilm of documents admissible under the shopbook act is not objectionable in form, and is essentially a

correct record, rather than holding to its present status of a substitute record which the offeror must prove, we are not going to change the law."

Judicial Acceptance of Microfilm

Most of these evidentiary problems are finally handled by the legislature in just this manner. It is less than a month since the New York Legislature amended the Civil Practice Act to make microfilmed records proper evidence in and of themselves.[2]

I want to make it perfectly plain that the courts have no prejudice against microfilm, generally or specifically. As a matter of fact, it seems to be far ahead of other machine documentation in judicial acceptance. You can readily see that the chances for attack are multiplied with such things as tape and wire recordings, electric pulse-storage devices, and the like.[3]

This thinking is what led the Amalgamated Tack and Rivet Company's lawyers to advise caution in microfilming its papers as an everyday matter. (We have had much such a situation in the last few years on the preservation of documents on government contracts, until they were for the most part cleared up by a new set of regulations.)

The only moral I can draw from it is this, that there are definitely going to be problems of evidence with information recorded and presented in *any* new way, until the particular method has become fixed and generally accepted enough to warrant either the legislature or a bold court in saying that evidence in such a form is now admissible.

Indexing

Let us take Mr. Jones back to the banana foundry, where the reels and slides are piling up on the shelves. His indexing troubles are as great as ever, but not worse; he has added a reel or slide number to his volume-number-page-date references, but that is a matter of six strokes on the typewriter.

The top periodical article on his desk is a doctoral dissertation on *The Consumption of Bananas in Walpasiesa, Nicaragua, by the Native Population.* Being conscientious, he actually reads it and finds that its content indexes under two main headings:

BANANAS — *Consumption*
BANANAS — *Nutritional*

The author has made a little side study of the vitamin content in bananas, nutritional balance and public health. Jones breaks those down into subheads, sends the publication to the filming clerk and sits back.

During the next three years he gets two or three calls for the article, one from a thesis writer interested in Nicaragua, one from a novelist looking for "authentic background material," and one provoked by an indignant housewife who writes to ask if all the bananas are being kept in Central America to force up the price. To the first of these calls he replies from recent memory; the other two make him mildly happy that he indexed the article carefully. Then the article rests quietly.

But the other articles do not rest quietly, for, as any technical librarian knows, much, if not a majority of the day's work, consists in raking out all the references on a given subject, or worse, "all the important stuff in your records on bananas in Nicaragua; we've had some things come up, and I have to check." You will observe that Mr. Jones has now begun to exercise judgment ("selectivity," if you will) in two ways on all references: deciding what is in them, which really means deciding what in them is so unimportant that it may be relegated to the limbo of unindexed content; and then, later, deciding what references are important in their bearing on a more or less understood situation.

It is here that the machine is under the most important development just now, and here, I believe, that the most crucial legal question relating to machine documentation will arise.

Imagine that you can reduce all the articles that come to your desk to the form of a series of slip-titles, and that

you then have to file them. An analysis of your task might run something like this:

The first step is, into what box or boxes shall I put this slip-title?

The second step is, how shall I mark the boxes?

The third step is, in what order of importance, bearing in mind that the slip-titles will be needed for different kinds of problems from time to time, shall I mark the boxes?

The fourth step is, shall a box bear sub-markings to show its contents' alternative important bearings?

The fifth step is, what should my overall arrangement of these markings be, for purposes of cross-reference and differential recall?

The sixth step is, will recall alone be enough, or should the slip-titles show whether and how they are important, and should there be an entry to the effect that the cross-indexing system is not perfect, and that there may be other pertinent references?[4]

Coding

As long as you deal with the written word alone, you exclude many of these steps from the province of the machine. That, however, can be obviated in many instances, by coding (which, of course, requires the human step) and letting the code symbol guide the fate of the slip-title from that time on. Many types of information, of course, can be coded entirely by machine. To illustrate: the stress characteristics of a girder under load; the traffic on a bridge; and the variety, range, frequency of occurrence and the relative order of appearance of the notes in a bird's song, all can pass into predetermined storage boxes by entirely automatic means. Nor is it entirely clear that human judgment needs decide what the boxes are to be, if we "teach" the machine what the use of the contents of the boxes is to be.

Assuming that we do this, then, we have at hand a tremendous collection of assorted facts. A situation arises which requires decision. We can cull the pertinent facts by mind or machine, and then ourselves make the decision, or we can let the machine both cull the facts and make the decision. (Actually, to say "pertinent" probably begs the question.) Some decisions (granted that we are satisfied with the adequacy of selective storage and of the use of cross-reference in selective recall) will give us no great difficulty. The Chairman of the Board wants to know how many hands of bananas are likely to be removed from the available world supply by consumption in the countries of origin. Mr. Jones punches a button or so, and the machine (from cards or memory circuits or other storage mechanisms) recalls the normal supply; factors it by the experienced loss average which it corrects up or down for current hazard or non-hazard elements; remembers the article on Walpasiesa and similar articles; combines population, wealth and other pertinent figures; factors again; and comes up with a scientifically correct figure.[5]

It is at those words "scientifically correct" that a lawyer begins to worry about human rights. It is, of course, too easy to poke fun at the thinking machine, and arrive at the conclusion drawn by one Lemuel Gulliver, ship's surgeon:

> "I made my humblest Acknowledgments to this illustrious Person for his great Communicativeness; and promised if ever I had the good Fortune to return to my native Country, that I would do him Justice, as the sole Inventor of this wonderful Machine; the Form and Contrivance of which I desired Leave to delineate upon Paper.
>
> "I told him, although it were the Custom of our Learned in Europe to steal Inventions from each other, who had thereby at least this Advantage, that it became a Controversy which was the right Owner; yet I would take such Caution, that he should have the Honour entire without a Rival"[6]

The difficulty is that today we are confronted not with a Laputan word-arranger, but with a machine deliberately contrived to defeat the fortuitous.[7]

Conclusions

The point of departure and course of

my worry, I suppose, is something like this:

(1) Such machines will usually be correct in their answers, if we gloss "correctness" to exclude recognition of exceptions except as an unfavorable factor;

(2) Such machines cannot be any more correct in their answers, however, than is permitted to them by the information we supply or permit them to gather, or the codes and procedures we feed into them or permit them to formulate;

(3) We are very likely to accept the usual or mathematical correctness (or averaging) of the machine as morally justifying an inequitable result, and forget that the exceptions have been recognized only as one of several factors bearing on the result;

(4) If we do feel that a machine result is inequitable, we are very apt to reason backwards, and conclude that it would be seen to be equitable if only the really significant facts, which we assume *were* coded, were properly appreciated by us;

(5) We overemphasize the logical rule and underemphasize the equitable exception.

Such machines are no longer concerned with calculating airfoil designs and guiding machine tools, or scanning random growths of new antibiotics for their kill spectrum. We use them to compute evasive courses for convoys running a submarine blockade and thereby begin to touch the human element. The strategy of the football team at Princeton is calculated by polynomial approximation of behavior patterns, run off on electronic computers.[8] And we at least have contemplated organizing the entire ebb and flow of business materials and labor supply on such a basis.[9]

The human being seems to have a tendency—perhaps even a desire—to take the word of the machine as just, as well as correct.

Passage of any law entails some consideration of the adverse effects on a variety of minorities. If, in the policy considerations attending the drafting of complicated economic statutes, such as social security or unemployment benefit or crop area support payment laws, we utilize machine judgments, to what extent will our sensibility for the adversely-affected minority be blunted without our knowing it?

Unlike Ezekiel the spirit is not necessarily in the wheel.

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[7] —"Operations Research with Special Reference to Nonmilitary Research," *Physics Today*, 4, September 1951, p.12.

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Reference Material

*Relating to the Military and Commercial Fields**

HOWARD COONLEY

Director, Conservation Division

Defense Production Administration, Washington, D. C.

Tool for Conservation

CONSERVATION, in its true sense, is so little appreciated and so sadly ignored in this land of great opportunity, that it is in desperate need of recognition and stimulation. What more helpful implement of publicity could conservation have than pertinent reference material circulated as effectively as would be possible through the members of the Special Libraries Association?

For generations, we Americans have considered our natural resources as limitless. We have been profligate of the stores of raw materials that lay within our easy reach. We have paid little attention to the cultivation of the habits of thrift that made our forebears save their reusable pieces of paper and string and watch carefully each stick of wood that was placed on the hearth stone. Indeed, thrift has not been a characteristic of Americans in the past century, and thrift is the essence of conservation.

With the drain on our once abundant resources made by the requirements of two World Wars and the present mobilization program, this country is fast reaching the unhappy stage of a "have-not" nation. We are facing today the unpleasant fact that the shortage of several hundred tons of cobalt or a few thousand tons of nickel might so seriously throttle production of essential munitions of war, and of those civilian goods necessary to support our military effort, that our whole mobilization program could be endangered. Such a catastrophe must be avoided at all costs.

The success of any important undertaking depends largely on thorough and intelligent planning. Knowledge is indeed power, and the basic information of where to obtain the essential facts from which a sound program can be planned may well hinge on the availability of reference material.

The duties of the Conservation Division of the Defense Production Administration, over which I have the good fortune to preside, involve the responsibility of advising the Industry Divisions of National Production Authority, and in fact of all government agencies (civil and military), on methods of conserving critical materials and facilities and on conservation projects that have broad implications. One of our most effective mediums of conservation promotion is through a Conservation Coordinating Committee composed of policy-level representatives of eighteen government agencies: five military and thirteen civil. The Conservation Division Staff fulfills the function of secretariat for this committee and I, as director, act as its chairman. Before projects are presented, a complete survey must be made and an adequately documented report prepared. This preparation requires a large quantity of reference material. Basic facts must be established, coordinated and weighted. We have no centralized "special library" to which we can turn for pertinent reference material. We have to go on an uncharted voyage of search, often asking specialized assistance from a number of our

* Paper presented before the Science-Technology Division at the SLA Convention in New York, May 26, 1952.

member agencies, despite the fact that we are only a mile from the Library of Congress. On many occasions, the libraries of the National Security Resources Board and the Department of Commerce are in a position to render us excellent service.. For instance, we are now embarked on a study of methods of conservation in the use of nickel that will make it possible to bridge the great chasm between the supply that would be called for under full mobilization. Huge savings are called for through elimination, substitution and redesign. Here we turn for aid to a source of information provided through a contract entered into between the Office of Defense Mobilization and the American Society for Testing Materials, whereby advice will be made available and tests undertaken by the great group of specialists holding membership in that outstanding technical society. As tests are completed, the successful substitutes will be incorporated into *Emergency ASTM Specifications.* Many of the nickel tests are completed and the résumé of the results will appear in an ASTM *Bulletin.* Here will be found outstanding reference material deserving an important place in special libraries.

Importance of Thrift

The American people need to absorb a consciousness of the importance of thrift in our daily lives. What can the Special Libraries Association do to further this philosophy? Librarians are already furthering this movement to a considerable extent by selecting technical articles from current trade and professional papers and circulating them in their organizations. In some cases, monthly or periodic summaries of the latest trade articles and books on conservation are distributed to their organizations. Special attention should be drawn to articles covering new products and processes that have broad economic implications.

Another area needing attention is the matter of indexing. How can an individual who wants to find what has been accomplished in the conservation of a particular material know where to look for information? The standard industrial indexes such as *Industrial Arts Index* and *Readers' Guide* have no conservation classification. Surely this would seem to be an important addition to these lists and one that librarians could promote.

Techniques

Some of the most important fields of conservation are in the area of product design, standardization and its corollaries—specification, simplification and substitution. These techniques are well advanced in both military and civilian fields, and yet there is far too little unification between the military and industry. There are many sources of reference material in these fields. Among the most productive are *Federal Specifications,* originally established by the Federal Specifications Board, now under the supervision of the General Services Administration; *Military Specifications,* issued by the Standards Agency of the Munitions Board; *Standards* established under the auspices of the American Standards Association, of the American Society of Mechanical Engineers, of the American Society for Testing Materials, of the Society of Automotive Engineers, of the National Electrical Manufacturers Association, and many others; also *Commercial Standards* and *Simplified Practice Recommendations* originally promulgated by the National Bureau of Standards but now sponsored by the Office of Industry and Commerce, Department of Commerce. The American Standards Association could be used as a source of information regarding international standards developed by the International Organization for Standardization.

There are two undertakings of outstanding importance which special librarians should know. One is the development of the Federal Catalog by the Catalog Agency of the Munitions Board, in cooperation with the General Services Administration. This work contemplates combining all of the items of procurement required by every agency

of the government, civilian and military, into a single composite record available to every government purchasing officer. It is a huge task which will involve years of intensive work and the investment of millions of dollars. However, a "pot of gold" lies at the end of the trail. Starting with seven million items purchased by the various government agencies, already two million have been eliminated. The goal scheduled for completion by the end of fiscal 1953 is a reduction to three and one-half million. The savings that can be accomplished by the development of an item description and individual number, thereby avoiding countless duplications, is enormous.

A second project of tremendous importance is the standardization of *Drawings and Drafting Room Practice,* not by industry and the military separately, as has been contemplated heretofore, but, through cooperation, into a single all-purpose standard. In World War II, due to the fact that *Drafting Room Practice* was not standardized, all the drawings furnished by Ordnance to industry had to be completely redone.

The *List of Basic Materials and Alternates* issued bi-monthly by the Conservation Division, Defense Production Administration, has become the guide to industry in determining which materials are critical and which are available for substitution. It classifies materials on the basis of their relative criticality. A recent issue (*No. 6*) provides a reference list of articles on conservation of metals and minerals. This list is available on request and 80,000 copies are being distributed currently.

Engineering Design Data

Engineering design data, standards and specifications relating to the military and commercial fields—these are the very heart's blood of the techniques of conservation. Add to these simplification, substitution, reclamation and salvage, and the conservation dictionary is complete. In World War II, these last categories, particularly substitution and simplification, did more to safeguard the stockpile of critical materials than all the others combined. Standardization for interchangeability and clarity; specifications for subcontracting; substitution to bridge the chasm between demand and supply; simplification to reduce variety and eliminate nonessentials; and reclamation to reintroduce into our production stream parts that are still useful—these make up the five fingers of the sinewy right hand of conservation.

ISO

The type of conservation which we are discussing is a science not limited to this nation. It has become a pivotal cog in the cooperative efforts of most of the nations of the world. There was an International Federation of National Standardizing Associations known as ISA in existence before World War II in which the Germans wielded a powerful influence. This was, of course, abandoned when war was declared. A temporary organization known as the United Nations Standards Coordinating Committee, made up of this country and our Allies, carried on through the war. Then in the autumn of 1946, a new organization was brought into being, known as the International Organization for Standardization, but generally referred to as ISO. This international body, with central offices in Geneva, has grown steadily in numbers and strength. Today it has a membership of thirty-three national bodies and seventy-six technical committees at work on important projects. ISO held its triennial assembly in New York in June, when one hundred and fifty or more delegates from countries scattered over the globe met to discuss their common standardization interests.

Among the subjects under review by ISO that have particular international significance are *Documentation ISO/TC/46* and *Terminology ISO/TC/37.* The United Nations Educational, Scientific and Cultural Organization (UNESCO) is collaborating with ISO on Documentation.

Seventeen countries are participating in the work of the ISO Technical Committee on Documentation. The following subjects are now under consideration:

Abbreviations of titles of periodicals
Lay-out of periodicals
Title references of literature
Transliteration of Cyrillic characters
Sizes of photo-copies
Bibliographical strips
Contents lists, indexes, publishers' cards and summaries
Documentary reproduction

When the ISO in 1946 succeeded the former International Standards Association (ISA), one of the ISA Technical Committees taken over was that on terminology. As a result of a review of the need for this committee, the ISO Council concluded that the question of terminology pertained to the individual technical committees dealing with specific subjects of standardization, and on this ground decided to dissolve the committee. Subsequently, on the proposal of the Austrian and Netherlands members of ISO, the matter was reconsidered and a new Technical Committee on Terminology authorized. This committee will deal primarily with the coordination of technical terminology.

The Director-General of the United Nations Educational, Scientific and Cultural Organization (UNESCO) has communicated to the General Secretary of ISO the desire of UNESCO for closer collaboration of the two organizations with respect to documentation. In fact, UNESCO has offered financial support to ISO for this work. The proposal has been placed before the ISO Council for consideration.

As a result of an International Conference on Building Documentation, held under the auspices of the Economic Commission for Europe, an International Center for Building Documentation has been established as an international non-governmental organization. This organization has been granted consultative status by the Economic and Social Council of the United Nations. (It will be recalled that the ISO also has consultative status with ECOSOC.)

There is a broad area of mutual interests between Special Libraries Association and the International Organization for Standardization.

Coming in February

Papers scheduled for publication in the February issue of SPECIAL LIBRARIES include the following:

Evaluation of Modern Maps
RICHARD EDES HARRISON
Cartographer, New York City

Publications, Maps and Charts Sold by U. S. Government Agencies other than the Superintendent of Documents
NELLIE M. BOWMAN
Library Consultant, Division of Public Documents Government Printing Office, Washington, D. C.

New Serial Publications of the U. S. Department of Agriculture and the State Experiment Stations
WINIFRED M. ALLEMAN
Assistant Agriculture Librarian, University of Illinois, Urbana

In-Service Training for Government Librarians
ELAINE WOODRUFF
Assistant Librarian, Civil Service Commission, Washington, D. C.

Improving the Internal Information Services
*in Scientific Research Organizations**

SAUL HERNER

Librarian, The Johns Hopkins University
*Applied Physics Laboratory**, *Silver Spring, Maryland*

DURING THE PAST DECADE, there has been a vast acceleration in scientific and technical research all over the world. For the most part, this acceleration has resulted from an increased awareness in the technological aspects of modern warfare. The United States is now spending in excess of $1.5 billion annually to support research and development in government laboratories, in industry and in colleges and universities. This figure does not include the mammoth sums expended in support of the nation's atomic energy program. Five years ago, it was estimated that of a total annual national research and development budget of $1.2 billion, some $500 million was being expended by military agencies in the government.[1] Military research and development was exhausting almost half of the total monies available in the United States for every type of fundamental and applied research. Considerable more than half of the available research money was given for this purpose in 1952. With the current international situation, there is every reason to believe that this trend in the direction of government-sponsored research will continue to increase.

The Problem of Communication

This increase in scientific activity creates an extremely difficult problem of communication. Part of the problem results from the sheer bulk of the published scientific and technical information that is being produced as an adjunct to this stepped-up research activity. In 1950, it was estimated that a total of 50,000 scientific periodicals was being published regularly, and that these contained some 1,850,000 individual articles.[2] Add to this the 150,000 classified and unclassified reports emanating each year from the military research establishments, and it is evident that the probability of an individual research worker's keeping up with the current developments in his field is becoming extremely remote.[3]

Another part of the overall communication and dissemination problem is created by the tardy publication of original scientific contributions, and the slowness of the standard indexing and abstracting services of science and technology. At the Scientific Information Conference, sponsored by the Royal Society in London in 1948, it was estimated that as many as three years may elapse before interested research workers are able to learn the existence of new and pertinent developments in their immediate fields of activity.[4] Thus, the ostensibly beneficial effects of expanded research and publication—of the increase in the magnitude of new knowledge—are being counteracted and devitalized. The channel of knowledge is becoming glutted and its usefulness retarded. Instead of working as a universal team and benefiting from the existence of a greater fund of knowledge than has ever existed in man's history, the contemporary scientist is being forced more and more to revert to the habits of his early predecessors. Instead of relying upon previously es-

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* Based on a paper presented at the Convention of the Special Libraries Association in St. Paul, Minnesota, June 18-20, 1951.

** Operating under Contract NOrd 7386 with the Bureau of Ordnance, U. S. Navy.

tablished facts and building upon these facts, the present-day scientist must often sacrifice his creative effort to establish his own foundation of fundamental facts because the existence of recent pertinent knowledge in his field is not known and available to him when he needs it.

Ignorance of Bibliographic Techniques

The problem is further complicated by the fact that scientific and technical personnel exhibit an unfortunate lack of familiarity with the bibliographic aids available to them. All of the inadequacy of present-day communication among scientists cannot be blamed on the expanded interest in scientific endeavor throughout the world. A certain percentage of this inadequacy must be attributed to the fact that an amazingly large number of scientists do not know where to obtain the facts needed. The research administrator perpetuates this inadequacy by failing to appreciate fully the significance of retrospective literature research.

Many progressive colleges and universities have recognized this shortcoming and are attempting to remedy it through formal courses or informal lectures and demonstrations on methods of library research. However, many scientific and technical colleges and universities advocating the use of technical literature and technical libraries, do little to teach their students and graduates how to use them. Some encouragement may be derived from the recent establishment by the American Society for Engineering Education of a national committee to stimulate more effective use of libraries in college study and research.[5]

The Problem in Military Research

The scientific and technical staff of The Johns Hopkins University Applied Physics Laboratory is faced with an ever-growing bulk of information from which it must choose the information it needs on the extremely complex problem of creating workable guided missiles to bolster the nation's defense. It must reckon with the slowness with which the standard bibliographic tools of science and technology make the existence of this information known. It must work with an inadequate knowledge of these bibliographic tools, and of the literature in general. In addition, it must work within severe time limits. These four factors constitute a major challenge, and, for the most part, the men who are faced with this challenge look to their library as the agency that can meet it.

The Role of the Library

As a rule, in most research organizations, the library is the focal point of the internal information apparatus. This is so for two reasons. The first is that, as a result of training and organizational set-up, a competent staff of special librarians is able to maintain fairly constant contact with the research worker and to know and meet his current information needs better than any other part of the research organization. The second reason that research workers look to the library to solve their information problems is that the library is a traditional stronghold of knowledge. A recent statement by the chairman of the American Society for Engineering Education's library publicity committee indicates that the research scientist is indeed on the right track in turning to the library for aid in getting the information he needs. In this statement, it is estimated that ten per cent of research time and costs can generally be saved through adequate preliminary work in the library.[6]

The Weekly Bulletin

An extremely useful device for transmitting information is the *Weekly Bulletin*, which is a multilithographed booklet listing all new books, pamphlets and periodicals and citing all pertinent papers and articles which appear in over three hundred scientific and technical periodicals to which the library subscribes. Complete bibliographic citations are listed under subject headings, slanted wherever possible, to conform to the specific activities of the

Applied Physics Laboratory and its staff. These subject headings are undergoing constant expansion and change. In writing about the *Weekly Bulletin* some time ago in SPECIAL LIBRARIES, I mentioned that the number of subject headings used was about seventy.[7] Since that time, the number has grown to 128. This is a most encouraging sign to us, because it indicates that we are analyzing the pertinent literature in much greater detail than we did before, and that we are searching important subject categories that we formerly overlooked.

By circulating the *Weekly Bulletin* to members of the widely scattered technical staff, we are able to perform a significant portion of the perusal of the current literature for them. The members of the technical staff help in this process by letting us know when they wish to see something that is cited in the *Bulletin,* and by calling to our attention all new subjects of interest to them. Occasionally we prod them into keeping us informed of their current needs and interests by distributing questionnaires. The questionnaire is a fairly dependable method of finding out how effective a job the *Weekly Bulletin* and the library are doing.

The *Weekly Bulletin* has another advantage. Over the past decade, science has become increasingly integrated. It is becoming more and more difficult to keep abreast of all of the current developments in a given field merely by seeing a few regularly-received journals. Adequate coverage in the current scientific scene requires careful analysis of various types of publications. The *Weekly Bulletin* does this for the working scientist, and, in so doing, increases his reading efficiency and acquaints him with many important sources of technical information not ordinarily consulted.

Another feature of the *Weekly Bulletin* was discussed in an interesting commentary by John P. Binnington of the Brookhaven National Laboratory.[8] Mr. Binnington stated that the selected reading list bridges the extensive time gap that exists between the publication of an article or paper and the time the standard indexing and abstracting services make its existence known. To a research activity which must save time and avoid duplication of research effort wherever possible, this service is a most basic and vital one. The selected reading list is, then, a means of combing the literature thoroughly, and placing utilizable facts before the men who need them as an aid in solving current problems. In addition, we have found the periodicals analyzed for the *Weekly Bulletin* to be excellent sources of book reviews which guide us in the selection of new acquisitions.

Public Relations Through Interviews

Recently, encouraged by the interesting comments and suggestions about the *Weekly Bulletin* obtained from the technical staff through mailed questionnaires, we decided to carry the idea a step further and to visit and exchange ideas with every member of the senior and associate technical staffs of the Laboratory. Each member of the library staff was assigned a group of persons to interview in their offices away from the library. Each interviewer was guided by a carefully considered list of questions having to do with the way in which technical information is obtained and how the library can assist in procuring information. (The results of this survey were prepared for presentation at the Fall Meeting, 1952, of the American Chemical Society.)

The most obvious benefit derived from this scheme was that it furnished the library staff an opportunity to become better acquainted with the library user and to discuss the problems of the individual scientist in getting information, and the problems of the library in making this information available. A less obvious, but probably more important, benefit derived from the project was that it furnished the library an objective means of measuring the needs of *all* its clients, thus enabling it to reflect exact requirements.

Internal Information Directory

To help acquaint the scientists in The Johns Hopkins University Applied Physics Laboratory with the activities of the various information disseminating departments that exist within the organization, a list of every department in the Applied Physics Laboratory that appeared to be able to distribute technical information of any kind was prepared. We began with our own parent group, the laboratory reports, or technical information group. An analysis of the group which has its administrative base some distance from the library, disclosed a wealth of information sources and services which were uniquely applicable to the technical activities of the Laboratory, but which were not generally known to the staff at large. These included a complete publication service producing nine different series of classified and unclassified reports on various phases of the Laboratory's guided missile research and development activity for internal and external distribution; the maintenance of a file of approximately 29,000 classified and unclassified reports received from outside organizations whose activities are related to those of the Applied Physics Laboratory; and the maintenance and supervision of a unit known as the Solid Propellant Information Agency, which serves as a central information facility for military research organizations working on missiles, rockets, rocket propellants and related problems. Through our investigation, many invaluable information sources were discovered which existed within our own group, but which were not clearly described and defined and therefore were not being used to the best advantage.

Next, we turned to several small groups in the Laboratory which were not established expressly to perform internal information dissemination services, but which, due to the highly specialized nature of their work, were sources of technical information not otherwise available. These peripheral groups consisted of the Public Relations Department, which carries on an extensive information gathering and disseminating activity; the Purchasing Department, which maintains a thoroughly-indexed collection of several thousand industrial catalogs, leaflets and trade directories which would be an important source of information to persons in search of specifications and sources of specialized technical apparatus; the Laboratory's Security Office, which is equipped to interpret, for the technical staff, the security regulations prevailing in the Laboratory; the Photographic and Duplicating Department, which maintains a collection of some 7,000 photographic negatives bearing on most of the technical phases of the Laboratory's activities; and a Classified Chart Collection consisting of original charts and lanterns slides used in past technical conferences.

Having drawn for ourselves a rather cohesive picture of the overall information facilities in the Laboratory, we set out to put this picture into a form useful to all members of the technical staff. Out of this project was born what we call *Sources of Information in the Applied Physics Laboratory,* a ten-page printed pamphlet outlining the information dissemination activities and potentialities of the departments of the Applied Physics Laboratory. In addition to apprising the technical staff of the information facilities available to them, the pamphlet suggests ways of getting the most out of these facilities. For instance, the section about the library stresses the fact that the major indexing and abstracting services of the physical sciences are received and several representative examples are listed. This helps to establish familiarity with the available bibliographic tools. Stressed, also, is the fact that the library maintains interlibrary loan relations with libraries throughout the country, and that we draw upon these libraries to supplement our own, rather narrow, collection. This statement has multiplied our interlibrary loan activities many times, and has prompted us to add sev-

eral often-requested back runs of periodicals to our collection.

The success of our first attempt at an internal information directory has prompted us to consider another, similar project. This will involve printing a directory of special technical knowledge and skills of Laboratory personnel able to answer questions in their areas or in a position to know where these answers might readily be found. This projected directory would help save the time of persons in need of technical data otherwise necessitating lengthy searches of the literature. It is another possible means of accounting for the expedience factor in the information dissemination problem.

Conclusions

To recapitulate, The Johns Hopkins University Applied Physics Laboratory, in common with other military research establishments, and probably in common with research organizations of every type, is faced with the highly complex problem of channeling information to the men who are doing the research. This must be done despite the problems created by the mounting flood of printed matter, tardy publication and even slower indexing and abstracting, and by the unfamiliarity with bibliographic sources that exists among scientific and technical personnel. We hope that by studying these problems in our own organization, and by experimenting with possible ways of solving them, we may make some contribution to scientific bibliography and scientific communication.

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[2] Anon., "Publication Growth," *Chemical and Engineering News*, 29, January 8, 1951, p.134.

[3] Gray, D. E., "An Experiment in Standardization," *Physics Today*, 4, March 1951, p.8-9.

[4] Jurgens, M. A., "Research Publication: A Federal Responsibility?" *Science*, 110, August 26, 1949, p.209-212.

[5] Anon. *Engineering News-Record*, 146, April 5, 1951, p.52.

[6] *Ibid.*

[7] Herner, S., "The Selected Reading List: A Means of Improving the Use of Periodical Literature," SPECIAL LIBRARIES, 41, November 1950, p.324-327.

[8] Binnington, J. P., "Re the Weekly Selected Reading List," SPECIAL LIBRARIES, 42, May-June, 1951, p.197-98.

QUESTIONNAIRE ON LIBRARIES PLANNED

Noted in the November 1952 issue of *Chemical Engineering Progress* is the following interesting item:

"An inquiry into the habits of engineers in using the engineering library is being planned by the Engineering Literature Project of the American Society for Engineering Education to determine what the practicing engineers think of the value of literature searching and whether they consider a library is important. The society plans to send out late in November a number of questionnaires to engineers, asking the opinions of men in the field on (a) what value they place on library or literature know-how; (b) what training they have had in this direction; (c) whether they think such training is desirable or even essential; (d) what ideas they have on the sort of training that should be given.

The project of the ASEE stems from the fact that the educators are convinced that many engineers do not extract full value from engineering literature. Since the engineering library, they reason, is one of the most expensive laboratory units maintained by industrial or educational organizations, some information on the efficiency with which a library is used by engineers seemed to be in order.

Those who wish to answer questions on the subject and who do not receive a questionnaire from the society, may obtain one by addressing Engineering Literature Project, A.S.E.E., c/o Edward A. Chapman, Rensselaer Polytechnic Institute, Troy, New York."

Selling Your Library to Management*

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WEBSTER'S DICTIONARY defines a library as an apartment or a building devoted to a collection of books and manuscripts kept for use but not for sale, also as an institution for the custody, circulation, or administration of such a collection. A librarian is defined as one who has the care or charge of a library. If this constitutes a library, and too many managements think it does, then we have little if anything to sell.

A library, and I use the term library to include technical as well as industrial libraries, is more than a collection of documents, appropriately cataloged and neatly shelved, guarded over by a brooding librarian whose main interest is in seeing that the books are carefully handled and returned to their proper places. A library is instead a composite of a number of items and functions. It is by its very nature a collection of books, manuscripts, films, pamphlets and periodicals properly classified and easily accessible in or adjoining a comfortable, quiet and spacious reading room. When the librarian is an alert college graduate holding a degree in one of the several sciences, the library then becomes a *service* as well as an *intelligence center,* not just a building or a room devoted to a collection of books. This service we can sell to management.

Let us amplify some of these statements. Last year, Mr. H. W. Field, vice-president of the Research and Development Department of the Atlantic Refining Company, in addressing a group of librarians, stated,

> *"The primary function of an industrial library is to pass on to the users important information necessary to their work. For this purpose it serves as a storehouse of scientific literature and the services of the library consist in getting the information quickly, in convenient and usable form, to the person who should use it."*

Howard K. Nason, director of research, Organic Chemicals Division, Monsanto Chemical Company, in addressing the forty-third annual convention of the Special Libraries Association, said,

> *"The technical library has long since outgrown the passive function of providing a collection of source material in which the technologist can locate information if he wants to do so, and has accepted the provocative role of providing data, often before the user knows he needs it."*

In making these statements, Messrs. Field and Nason are not alone. Dr. C. C. Furnas, editor of *Research in Industry* (published by D. Van Nostrand), similarly stresses service as the *primary function* of the library. I agree with this premise. What is more important, service is something tangible that can be sold to management. We cannot expect management to take the time or the effort to investigate the usefulness of

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* Paper given at the National Metals Congress, during the regional meeting of the Metals Section, Science-Technology Division, Special Libraries Association, in Philadelphia, Pennsylvania, October 21, 1952.

** Patricia Nowicki, librarian of the Plaskon Division, Libbey-Owens-Ford Glass Company, Toledo, Ohio, collaborated with Dr. Bigelow in the preparation of this paper.

the technical library. If it were willing to do this, there would be little need for writing this paper. In most instances, management looks only at the monthly cost reports and coldly calculates that the library is costing the company x-number of dollars. When the company's profits are low or dropping, the natural inclination is to consider the library a luxury and to start there to cut operating expenses. Unfortunately, no space exists on the operating cost data sheet which shows the value of the library in terms of dollars saved. This is a regrettable but an obvious fact.

Who Sells the Library?

Who then must sell the library to management? Obviously the man who uses it should know the value of the library and be in a position to justify its existence to management. The research director should also be able to sell the management on library continuance and expansion. In too many cases however, these individuals are not in a position to approach management on the subject. Therefore it falls upon the shoulders of the librarian to take the initiative and I know of no one better able to do this. How can a librarian accomplish this seemingly hopeless task, particularly if management is cost-conscious and has done no research work in the laboratory where contact on an intimate basis with the library has been established?

The librarian must resort to a practice of psychology. He must single out each key man in management and learn his particular idiosyncrasies, and then, using the information available to him in his warehouse of knowledge, propagandize these persons with information which may seemingly 'tickle their fancies'. If for example, the vice-president in charge of production is interested in the rate of growth of competitive products and prefers a graphic rather than a verbal presentation, the librarian should compile the statistics from the U. S. Tariff Commission reports or elsewhere for a period of several months and present him with a concise report adequately illustrated with graphs. The librarian must be careful that the report is at least as accurate as the data available to him and should not hesitate to enlist the aid of one of the several technologists who frequent the library. He need not limit his propaganda to business activities nor should he be afraid to learn of the hobbies of the key men and from time to time send them clippings of articles pertinent to their particular interests.

Participation

What I have said means that the librarian must develop his own personal counter-intelligence service. He must circulate in the right places at the right time and keep alert. He should attend all technical meetings where there is a free exchange of ideas concerning the company's products as well as those of competitors. He should read all technical reports issuing from the research department so that he will always be fully informed of the latest developments relating to his particular company's activities. Maybe you don't attend technical meetings. If that is the case, it is regrettable, since a librarian can function efficiently only if he is fully aware of what is going on. He should make every effort to be included as a member of all pertinent committees and in this, he should solicit the help of the research or technical director.

How else can the librarian sell his library? The library is a collection of documents, each of which contains information written by experts and capable of yielding hundreds of provocative ideas. In other words, the library is a bound collection of thousands of experts, costing a mere fraction of what it would take to have such persons on the payroll even on a part-time basis. The management should have this fact pointed out by the librarian. To do this is difficult, but I am certain that an ingenious librarian can devise ways and means to accomplish it. Every now and then, articles appear in current library and technical periodicals relating to the value of a library in a research organi-

zation. The librarian should be alert to spot those articles and should route them directly to management. He will better accomplish his purpose if instead of routing the magazine by mail, he prepares a digest of the article and delivers it to management personally. The librarian should take every opportunity available to develop personal contact with management as this is also an important factor in focusing management's attention on the service, reliability and importance of the library.

Without being asked, the librarian upon his own initiative, should abstract current periodicals and at regular intervals, send management a digest covering only those items pertinent to the business concerned. He should even look over the personnel columns in the technical magazines and see that the personnel manager receives informative items.

The Librarian Sells

I must emphasize again that it is the librarian himself who must sell the library. I am assuming however, that he has an adequate staff of clerical workers as well as other technically trained personnel so that he can have ample time to concentrate his efforts on more essential activities. If the library is understaffed, then it is equally important that in his selling program he include strong justification for having adequate assistance, for, like any other department in an organization, the library can function efficiently only if the staff is proportionate to its needs and demands.

Conclusions

In review, what I am advocating is that the job of selling management is the librarian's and that he should engage actively in the practice of rendering service to management. Once he has focused its attention on service rather than operating dollars, the battle is won. It hardly seems necessary in this day and age that we should have to sell management on the value of libraries; I know however that it is necessary in many cases. Some managements are woefully ignorant of the functions and value of a library. It is up to the librarian to become the astute teacher and correct this erroneous thinking. The librarian who is willing to subjugate his formal library training as it pertains to housekeeping and other routine duties and is not only a director of literary service but a gracious host to those who use his library, such a librarian will have no difficulty in keeping management sold.

SPECIAL LIBRARIES FEATURED

The new publication, *Library Trends*, published quarterly by the University of Illinois (Urbana), features current trends in special libraries, in its second issue dated October 1952. Guest editor is Herman H. Henkle, head of the John Crerar Library, Chicago.

Mr. Henkle provides an introduction bearing the title, "What is Special?"

Papers listed in the contents include:

Organizational Relations of Special Librarians, by IRENE M. STRIEBY
Special Librarianship and Documentation, by JESSE H. SHERA
Special Library Potential of the Public Library, by ROSE L. VORMELKER
Crisis in Libraries of Science Technology, by HERMAN H. HENKLE
Specificity in Subject Headings and Coordinate Indexing, by MORTIMER TAUBE
International Interest in Special Libraries: UNESCO, by EDWARD CARTER
Recent Developments in Special Libraries in Great Britain, by ROBERT L. COLLISON
The World Health Organization Library Service, by H. A. IZANT
Special Library Education, by EDWARD N. WATERS

A review of these articles will appear in the next issue of SPECIAL LIBRARIES.

Canada's National Library

DR. JEAN LUNN

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A NATIONAL LIBRARY for Canada has been talked of since the nation came into being with Confederation in 1867. Only recently, however, have the times and the people come together. Canada's National Library bill, introduced into Parliament on May 20, 1952, has passed both House of Commons and Senate and awaits only the formality of proclamation to become law.

In 1946, the Canadian Library Association was formed, the first organization of Canadian librarians with a countrywide membership. From its inception, CLA bent its efforts to bring the need for a national library to the attention of the government and the people. Two years later, Dr. W. Kaye Lamb, then librarian of the University of British Columbia, sometime provincial librarian and archivist of British Columbia, was named Dominion Archivist, with the special assignment of preparing the way for a national library. Parliament then appointed a National Library Advisory Committee composed of librarians and of representative citizens and chaired by Dr. Lamb.

The National Library Advisory Committee met in March 1949 and recommended the establishment of a bibliographic centre as a preliminary step to the national library. In November 1949, Parliament voted funds for the establishment of this centre.

In the same year, 1949, the Royal Commission on National Development in the Arts Letters and Sciences was appointed under the chairmanship of the Honourable Vincent Massey (now Governor-General of Canada). Its terms of reference included recommendations as to the eventual character and scope of the national library.

The Commission pursued its investigations for two years, but meanwhile, on May 1, 1950, the Canadian Bibliographic Centre came into being.

The Centre occupies office space in the Public Archives building in Ottawa and now comprises a staff of four professional librarians and a number of clerical workers.

The Centre is, in effect, a library without books. It set out to perform two essential tasks which could be undertaken without a library building and without a large book collection. These were the compiling of a union catalogue for the whole country and the issuing of a monthly list of the current national bibliography.

Union Catalogue

Work on the union catalogue has gone forward rapidly by reason of the technique employed. The Centre sets up its microfilm copying camera in each library in turn and copies either the shelf list or the main entries in the public catalogue. The cards are removed for this process but are refiled immediately so as to cause the minimum disturbance to the functioning of the library. The microfilm is then enlarged and printed on photographic paper five inches wide. Each entry is stamped with a symbol for the library in question and the roll is cut between each item, thus producing, on three-by-five inch slips of photographic paper, a copy of the library's holdings. The last step is to transfer the symbol from this slip to a master card which is filed in the union catalogue, the slip being then discarded or used for some other purpose. As far as possible, Library of Congress printed cards are used for the master file. The final step is, of course, the slowest. Cataloguing practice has varied widely and entries have to be identified, LC cards have to be supplemented with information relating to particular copies

and other editing has to be done. Meanwhile, however, the enlargements, representing the holdings of various libraries, are interfiled, so that in a relatively short time the Centre has compiled a usable, if temporary, union catalogue. At the time of writing, most of the libraries in Ottawa, public and university as well as government, together with nine libraries in other Canadian cities, have been filmed. The Centre has a file of 1,080,000 enlargements which provide a key to 2,500,000 books. It is hoped to complete the filming across the country within the next five years. After a catalogue has been photographed, the library sends to the Centre a record of its subsequent accessions on standard size slips and these slips are interfiled with the enlargements.

Canadiana

To inform libraries in Canada and elsewhere of books published in Canada or about Canada or written by Canadians, the Centre issues a monthly periodical called *Canadiana*. This consists of two parts, the first a subject list of trade and institutional publications, the second a list, by department, of the publications of the government of Canada. It is hoped, in the not too distant future, to add the publications of each of the provincial governments. Canada is a bilingual country, and, in recognition of this fact, English and French publications are catalogued in their respective languages.

Imprints

A third task, now nearly complete, is the collection, on microfilm, of the items listed in *A Bibliography of Canadian Imprints, 1751-1800,* by Marie Tremaine. Of 800 of these items known to exist, some 750 are now on microfilm and the rest will soon be added. In short, the Centre will presently be able to give any scholar access to any book printed in Canada before 1800 and still in existence, although some of them are now to be found only in libraries in distant countries. This project has been made financially possible by a generous and public-spirited publisher.

Finally, the Centre has published, or assisted in the publication of, bibliographies prepared by individuals outside the organization.

National Library Bill Passed

Meanwhile, the Massey Commission completed its investigations and, in 1951, published its report. The report confirmed the immediate need for a national library and made recommendations concerning it. A year later, the National Library bill was passed. While the act awaits proclamation, the implementation of its provision has reached the stage of high-level discussion. The need for a safe and modern building to house what will ultimately be the largest collection of books owned by the nation, has been emphasized by a recent fire in the Library of Parliament. Extensive water damage has resulted in the virtual closing of the building and in the reduction to a minimum of the Library's services.

When the National Library does come into existence, it will take over the functions of the Bibliographic Centre and use the elements of the Centre as a basis for its reference and cataloguing departments.

Present Services

Although Canada has not hitherto had a national library, it has not been entirely devoid of the services which such an institution is expected to provide. For example, the Library of Parliament has a rich collection, acquired over many years and held against the time when a national library should come. This was a service above and beyond the call of its duty as a legislative reference library. The libraries of the National Research Council and of the largest universities have performed reference and interlibrary loan services on a national scale. For almost thirty years, the Toronto Public Library listed the current national bibliography in its annual *Canadian Catalogue of Books* and laid down the burden only when the Bibliographic Centre's monthly *Canadiana* was ready to take it up. In short, the parts have carried the weight which

should be borne by the whole, that is by a national institution.

The planners of the National Library do not anticipate that the new institution will usurp the functions of other Canadian libraries or trespass upon the fields which they occupy. The growth of the Bibliographic Centre has been organic, for it is performing necessary services either not before attempted, or else gladly relinquished by other libraries. It is expected that the National Library will continue in the same vein. Its initial book stock will be the many thousands of books which the Library of Parliament will transfer to it, together with the Canadian material which will be acquired as a result of a deposit clause in the National Library Act. It will then endeavour to build up collections in fields not adequately represented in Canadian libraries, and, by means of a generous lending policy and by the use of photographic reproductions, save these libraries the expense of acquiring this material themselves. The object is to supplement, not duplicate. The union catalogue, as it reveals the location of titles, should serve increasingly to spread the burden of interlibrary loans.

Obviously, in order to carry out its plans, the National Library must have a building as quickly as possible. Meanwhile, however, the Bibliographic Centre can go still farther in its preparatory work. In the office space now at its command, it can make a beginning of the cataloguing of the above mentioned books held in storage for it by the Library of Parliament. These books, when catalogued, will have to be returned to storage, but they will be ready for shelving when stacks are ready to receive them. While the Bibliographic Centre continues to perform the immediate tasks, it looks forward to the time when the National Library will be ready to provide research and reference facilities not only to individuals who can come to Ottawa but also, through other libraries, to all Canadians in all callings everywhere in Canada.

SLA Awards

In accordance with the established awards program of Special Libraries Association, as reported by the Awards Committee in the *Proceedings* (October 1952) issue of SPECIAL LIBRARIES, SLA members are requested to submit names of eligible candidates for consideration by the Committee.

In addition to the annual award for an outstanding contribution to special librarianship, the recently created SLA Hall of Fame will give honorary recognition for outstanding contribution to Special Libraries Association.

Names may be submitted to any of the following members comprising the Awards Committee:

Mrs. Elizabeth M. Owens, *Chairman*
Union Electric Company of Missouri
315 North Twelfth Boulevard
Saint Louis 1, Missouri

Grieg Aspnes
Brown and Bigelow
1300 University Avenue
St. Paul 4, Minnesota

Mrs. Lucile L. Keck
Joint Reference Library
1313 East 60th Street
Chicago 37, Illinois

Chester M. Lewis
The New York Times
229 West 43rd Street
New York 36, New York

Mrs. Angelica Blomshield
New York Life Insurance Company
51 Madison Avenue
New York 10, New York

Hazel K. Levins
Mutual Benefit Life Insurance Co.
300 Broadway
Newark 1, New Jersey

Dr. Mortimer Taube
Documentation, Inc.
1832 Jefferson Place, N.W.
Washington 6, D. C.

Library Efficiency Today

DR. LILLIAN M. GILBRETH*

GENERALLY SPEAKING, librarians are much like teachers in their relations and dealings with other people, and more than any other group, they are in a position to offer noteworthy assistance by providing easy accessibility to the written records of human knowledge.

There is a great need in the present day world for better orientation, which is to say, better understanding and communication between people of different nations. In the case of industrial engineers, people have been chosen from different branches of industry to meet the corresponding needs of other countries. They are sent over, also, to add to their own experience and understanding. One of the greatest barriers between nations is the lack of a common language.

People overseas want technical competence to help increase productivity. At the same time, the European point of view, frequently expressed, that American know-how is purely technical and materialistic, creates another great barrier. The importance of human relations cannot be emphasized too much. The human being is more important than the technical job. Those who supplement their competence with human considerations, profit immeasurably. It is the librarian's job to interpret the human as well as the material wants. Librarians can give much to people because they are people in whom much confidence is placed.

* *Dr. Lillian M. Gilbreth, the noted consulting engineer in management, was the guest speaker at a meeting of the Special Libraries Council of Philadelphia, sponsored by the Science-Technology Group, November 7, 1952, in the auditorium of the Philadelphia Free Library.*

Long known for her work in time and motion study, Hollywood has given Dr. Gilbreth further acclaim as the mother of a family of twelve in the film based on the book, "Cheaper by the Dozen".

No library is too small to profit from work simplification projects. Work simplification is of particular value in the small library because of the diversity of work assigned to a limited staff, where a schedule is difficult to maintain because of the many interruptions.

A job methods training program, such as has been used to increase productivity in industry, would be of benefit to librarians in principle only, because of the present lack of material and examples in this specific field. Here is a need that would yield great results in the future if it were to be taken on by some enterprising librarian. It is always more efficient for an individual within the profession to make such a study providing that he has received proper briefing in this approach. Librarians could utilize such methods as motion study, time study and layouts.

Care must be taken in using time study methods in order to prevent antipathy. People are afraid that the results of time study will be held against them and that a true account is not given. Unstable labor relations will set off a chain reaction.

The library at Massachusetts Institute of Technology is an excellent example of utilizing principles of management. The layout is modern and functional and it operates with a maximum of efficiency.

The use of machines in a library for repetitive and non-creative work is a great asset. However, their effectiveness must be considered in relation to the demands of individual situations.

Conclusion

The contribution of the librarian in helping to solve our current world problems cannot be overestimated. The world has greater need than ever for making the best possible use of its existing stores of knowledge.

Case Library Conference

MARJORIE R. HYSLOP*

RECOGNITION of the important services that librarians and documentalists can render to engineering progress was expressed by Elmer Hutchisson, acting president of Case Institute of Technology, where a conference on *Giving Industrial Research More Effective Library Service* was held October 7, 1952. Management, research personnel and librarians taking part in the program spoke before an audience of colleagues who also contributed to the discussion.

The program, conducted and largely arranged by Mary Frances Pinches, Case's supervising librarian, was directed toward no specific industry, but nearly all of the matters discussed were pertinent to literature problems in all fields of science and industry.

Securing References

Since almost all industrial plants engaged in production and research require some sources of technical information for efficient operation, C. V. Smalheer, director of records, literature and patent research, Lubrizol Corporation, gave general rules covering the types of information that should be on hand in the plant and the kinds that can be just as readily secured from local libraries, both public and institutional. One of the problems faced in the small plant is to secure copies of original articles after a literature search has produced a list of references. Photostating is still preferred to microfilm by most researchers, and Mr. Smalheer suggested to the librarians that a much-needed service would be a list of sources of photostats, giving types of information available prices, and delivery times. A second need is a complete index of "mass" translations (translations already in existence as contrasted to "custom" translations made to order).

Translations

The whole complex problem of utilizing foreign sources of information was covered more thoroughly by Frederica M. Weitlauf, technical librarian at Timken Roller Bearing Company. In *Foreign Language Literature in Translation,* Miss Weitlauf analyzed some twenty sources of translations, whose services vary widely and are completely uncoordinated. Several surveys of the translations problem are currently under way in an effort to provide centralized lists and sources, notably a project by the National Science Foundation and the "Translations Pool" of the Special Libraries Association. The SLA pool so far has a card index of some 10,000 titles indicating sources of the translations. Miss Pinches, the Case librarian, is custodian of the pool.

Selection

The library needs of a manufacturing firm of 1000 employees or less, according to John D. Leitch, chief engineer, Electric Controller and Manufacturing Company, are best taken care of by careful and discriminating selection of the important articles that appear in the periodicals. A company library should not try to compete with the reference library of the community. Its primary purpose is to make available, for ready use, the technical literature of real value to the company.

An important source of information —perhaps, the most important to de-

* *Mrs. Marjorie R. Hyslop is the editor of Metals Review, a publication of the American Society for Metals. She is a prominent member of SLA's Cleveland Chapter, and took an active part in the preparation of the ASM-SLA "Classification of Metallurgical Literature".*

Mrs. Hyslop summarizes the outstanding features of the conference at Case Institute.

velopment engineers—is to be found in company catalogs, especially those that give the properties of commercially available materials.

Mr. Leitch strongly recommends keeping an indexed file of what he calls "industrial know-how" based on the company's own experience in design, manufacture and application of its products. Of special importance in such a file are the reports of the salesmen and service engineers on the performance of the company's products in the field.

Speaking on *Management's Part in Making the Library Effective,* Mr. G. W. Heise, department head, general electrochemistry and primary batteries, and consultant, National Carbon Company, felt that management should look upon the library as an integral and covalent part of the laboratory. Indirectly, he said, the plant library should further the attainment of four goals: (*a*) the acceleration of research progress, (*b*) the stimulation of intellectual growth of the individual, (c) the increase in prestige of the laboratory and its men, and (*d*) the means of attracting top personnel.

Library as Editorial Agency

Incidentally, the librarian can help to improve the status of technical reporting, Mr Heise maintained, by acting as an editorial agency for developing style and clarity. A similar point was made by Mr. R. O. Peterson, manager of the technical department, Osborn Manufacturing Company, in a corridor discussion. Mr. Peterson thought that the librarian might well be made responsible for checking the important outgoing correspondence of all personnel as to phraseology and company policies.

Qualified Personnel

By far the liveliest give-and-take of the day followed the paper by Dr. Iver Igelsrud, librarian at Battelle Memorial Institute. Dr. Igelsrud estimates that roughly twenty per cent of a research man's time is spent in literature searches. If this could be reduced to ten per cent, the result would be equivalent to releasing some 40,000 engineers, in this country alone, for laboratory and development work. One of the gravest faults of the special librarian today, Dr. Igelsrud claimed, is a lack of sound technical knowledge in the field of his employer's specialty. Granted that training in library techniques is much to be desired, Dr. Igelsrud considers a chemical or metallurgical engineer, for example, with actual plant and laboratory experience, as more suitable material for a potential librarian on his staff. Opportunities for such qualified personnel in the field of documentation are unlimited, but a sound training in business methods and a thorough scientific and technical background are imperative. Dr. Igelsrud implied that the library schools are too conservative in following the traditional curricula and do not encourage greater concentration on science studies.

Specialized Training

In defense of the library schools, Helen M. Focke, associate professor of library science at Western Reserve University, replied by blaming management. The advantages and possibilities offered by a career that combines technology and librarianship must be demonstrated to the student at the very beginning of his undergraduate program. The library schools will gladly tailor their curricula to include the handling and use of materials in the specialized sciences, but they can't offer courses for only one or two students, Miss Focke pointed out, nor can they make up for deficiencies in subject background.

Dr. Ralph Shaw, librarian at the U. S. Department of Agriculture, presented some facts bearing out this trend toward more specialized training. Ten to fifteen years ago, he said, eighty per cent of the time spent by his library staff was devoted to acquisition and cataloging. Today they spend eighty per cent of their time on bibliographic services. Dr. Shaw has accomplished this partly by utilizing lesser trained personnel for

such chores as typing catalog cards, and partly by development of such mechanized equipment as the "Rapid Selector" which scans literature references electronically at a rate of two thousand choices per second, and automatically selects desired subject matter and turns out readable copies of the originals reproduced from microfilm.

Library Growth

The most reassuring note of the day was supplied by Dr. Shaw in a second talk given during an evening meeting of the Cleveland Chapter of the Special Libraries Association. Under the title *From Fright to Frenzy*, Dr. Shaw pointed out a fallacy in the parabolic growth curve applied by Fremont Rider to the growth of published scientific information. Research libraries have been doubling in size every sixteen years with significant regularity, according to Mr. Rider in his book *The Scholar and the Future of the Research Library* (Hadham Press, 1944). The straight-line diagonal of such a growth curve does not continue forever, Dr. Shaw pointed out, but is bound to level off eventually. He cited the fact that for a period of twenty years the production of automobiles in the United States doubled every two years. If this growth had continued, there would now be 1000 new automobiles each year for every man, woman and child in the United States! This thought brought a welcome rein to bear on the documentalist's nightmare of some day drowning in a sea of printed words.

Public Relations Clinic

The SLA Public Relations Clinic conducted by Sidney Edlund, management consultant, has met in three of the ten scheduled sessions authorized by the Executive Board. Those attending the meetings held in the Board Room of the Institute of Life Insurance, New York, have included designated representatives of the Association and interested members from New York and out-of-town.

Characteristic in all of these sessions has been the lively participation in the discussion by all those present. Meetings begin promptly at 6:30 P. M., and last exactly two and one-half hours. The first session reviewed the public relations problems of Special Libraries Association and its members. These problems were then arranged in approximate order of their importance as determined by the free expression of opinions from those present.

It was very soon apparent that there was immediate need for promotion of special libraries to management, and unanimous agreement was reached to begin from this point.

Further discussion in later meetings has resulted in preliminary action initiated by assignments to volunteer committees. These committees will explore various fields for the purpose of producing specific examples demonstrating the valuable contributions of the special library to management and to industry.

The eighth session of the Public Relations Clinic will be held March 13, 1953, during the Executive Board and Advisory Council Meeting in New York. This meeting is open to all members and will feature a presentation reviewing discussion and action taken in the Public Relations Clinic up to that time. Further discussion will be welcomed and all members are urged to be present and to participate in this open meeting.

S-T Metals Section Regional Meeting

AT A REGIONAL MEETING of the Metals Section, Science-Technology Division, Special Libraries Association, October 20, 1952, in Philadelphia, a report was presented by the *Interim Committee on Literature Classification* which has been considering the possibilities of developing an internationally standardized classification specifically for metallurgical literature. The idea for such international collaboration was originally proposed by Professor Scortecci of the Italian Association of Metallurgy, who suggested that the ASM-SLA classification would be a good starting point. This system was devised by a joint committee of the American Society for Metals and the Special Libraries Association, and was published in 1950. It was developed for use with a manually operated punched-card file, and has had fairly wide usage in this country as well as in some installations abroad.

The functions of this Metals Section Interim Committee at the time of its establishment last spring were largely exploratory, and two aspects of the problem were considered during the summer. First was the matter of international standardization, and efforts have been made through correspondence with the Italian Association of Metallurgy, UNESCO and with interested individuals and organizations in a number of foreign countries to find out what is being done along this line. No definite conclusions can be drawn as yet, although some interesting reports and suggestions have been received from these sources.

The second problem is based on the fact that the ASM-SLA classification scheme is limited to collections of no more than 10,000 items because of its reliance on hand needling for sorting. A natural step would be to consider mechanized punched card equipment, and so many interesting developments were suggested to the Committee that it was decided to solicit papers on this general subject for presentation at the regional meeting of the Metals Section.

A paper by Alvin T. Maierson and W. W. Howell of Battelle Memorial Institute recounted some experiments, using standard I.B.M. equipment available at the Institute, to store and index a list of references coded according to the main divisions of the ASM-SLA classification. Results indicated that the equipment could readily be used in this manner with minor adjustments in the coding system.

Standard business machines, however, are designed primarily for statistical and computational purposes, and lose in efficiency when adopted for indexing, searching and correlating of technical information. Various organizations are therefore working toward the development of more or less elaborate "memory machines" which recognize patterns of holes punched in cards, patterns of transparent spots on photographic film, or magnetized spots on a tape, each pattern being a significant aspect of a literature reference. Two of these were described—namely, the *electronic scanner* (still very much in the developmental stage) reported by Mr. H. P. Luhn of the engineering laboratory, International Business Machines Corp., and the *Univac* by Herbert F. Mitchell, Jr., director, Univac Applications Department, Remington-Rand, Inc.

Such equipment is too expensive for the small library, yet can probably be operated economically by a large information center which would handle inquiries for bibliographies, copy documents or answer specific questions with

SPECIAL CLASSIFICATIONS

By action of the SLA Executive Board on October 11, 1952, the Metals Section *Interim Committee on Literature Classification* was established on a national basis as an SLA *Committee on Special Classifications.* "Special classifications" for the time being are interpreted to mean classification schemes for use with punched-card systems (manual or automatic) in special fields of technical knowledge. At the present time, the only special classification being studied by the Committee is in the field of metallurgy, but reorganization plans will include addition of qualified personnel in other fields who can keep the Committee informed of classification problems in other subjects.

The Committee's work on metallurgical classication will pursue the following courses: 1. *Continue to investigate possibilities of international collaboration by means of correspondence with UNESCO, the Italian Association of Metals and others.* 2. *Investigate methods of expanding the ASM-SLA metallurgical classification for adaptation to machine techniques or other suitable methods for handling literature collections larger than* 10,000 *items.* 3. *Investigate possibilities of coordinating the metallurgical classification with standard classification systems covering broader fields of knowledge.*

Reorganization of the Committee is in process, and additional personnel will be announced in the near future. Present personnel consists of Frederica M. Weitlauf, technical librarian, Timken Roller Bearing Company; W. W. Howell, technical abstractor, Battelle Memorial Institute; and Marjorie R. Hyslop, editor, *Metals Review,* American Society for Metals, chairman.

efficiency and dispatch. The services that could be provided by such a proposed information center were described by Robert C. McMaster and Dr. Iver Igelsrud, and were vividly illustrated in a motion picture showing operation of such equipment in the Battelle laboratories.

Milton W. Sebring, sales engineering department, Norton Company, in a description of an edge-punched card system for an information file dealing with abrasives, explained and demonstrated one of the fundamental advantages offered by both manual and machine punched cards. The conventional card index, he said, imposes an orderly system of classification and storage; it does not necessarily follow that this is the best means of withdrawing information. It is when the search is directed toward developing new association of ideas, not previously cataloged, that the conventional indexing system fails.

The same thought was further developed for the automatic machine equipment by James W. Perry of the Center for Scientific Aids to Learning, Massachusetts Institute of Technology. Storage of information is only the first step; the machine must be able not only to recall isolated facts, but also to associate related ideas—a function that in conventional classification methods depends upon human intellect and memory.

No machine can bring forth any more information than has been put into it, but with properly thought-out indexing and coding systems, it can call up new relationships among the ideas it stores. Moreover, the searcher need not use the same terminology as the indexer who put the information into the machine, since the intermediate "machine language" or coding system would automatically translate synonyms. Such translation would require a code dictionary, which in turn can readily be compiled by feeding words and phrases into an automatic device for encoding, thus greatly easing the burden of the indexer.

MARJORIE R. HYSLOP.

Have you heard . . .

President to Visit Chapters

SLA's president, Elizabeth Ferguson, will visit chapters in the following cities during January:

Rochester . . . January 17-18, 1953
Cleveland . . . January 19-20, 1953
Cincinnati . . . January 21-22, 1953
Pittsburgh . . . January 23-24, 1953

A visit to the Boston Chapter has been scheduled for March 2, 1953.

MLA Scholarships

The Medical Library Association is offering two scholarships of $150 each for summer school courses in medical library work at Columbia University and Emory University next summer.

Applications for the scholarships and all pertinent entrance requirement data should be submitted to the universities sufficiently early to allow proper review and recommendations to the MLA Standards Committee by May 1, 1953.

The course at Columbia will cover bibliographical and information sources in medical literature. It will be given July 6 to August 14, 1953, and further information may be obtained from the Dean, Columbia University School of Library Service.

The course at Emory will include an introduction to medical library resources and a survey of the literature, library techniques and medical library administration. The course will be given from July 23 through August 29, 1953, and further information may be obtained from the Director, Division of Librarianship, Emory University, Georgia.

Chicago Scholarships

The Graduate Library School of the University of Chicago is offering several fellowships and scholarships for the academic year 1953-1954. Three cash fellowships of $1,100 each, and several full tuition and half tuition scholarships will be awarded. Awards will be made on the basis of the candidates' academic record and general promise of ability to carry on research and to contribute to the profession of librarianship.

Application blanks and additional information may be obtained from the Office of Admissions, Room 203 Administration Building, University of Chicago, Chicago 37, Illinois, or directly from the Graduate Library School. Applications must be received in the Office of Admissions no later than February 15, 1953.

Subject Specialization

The University of Florida Libraries is offering two graduate assistantships in the academic year 1953-54 for study leading to a master or doctoral degree in a subject field other than library science. Graduate assistants work approximately 15 hours per week in the library, assisting in bibliographical research in their field of study.

Stipend is $1,200 for a nine month period and holders of assistanships are exempt from out-of-state tuition fees. The deadline for filing formal application is March 31, 1953.

Inquiries are invited, especially from librarians or students in library schools who are interested in advanced work in subject fields. Applications should be made to: Director of Libraries, University of Florida, Gainesville, Florida.

Available On Request

Copies of "The Company Library—What It Is and Does," by Rose L. Vormelker, are available on request at SLA Headquarters. This twenty-page pamphlet is based on an article which appeared in *The Journal of Industrial Training* and has been in great demand. The author is head of the Business Information Bureau of the Cleveland (Ohio) Public Library.

Workshop on Technical Reports

Plans are under way to hold a "Workshop on Technical Reports" at the Catholic University School, Washington, D. C., during the week of April 13-17, 1953. It will be held under the joint sponsorship of the Science-Technology Division of SLA, the American Documentation Institute and the National Science Foundation. Reports librarians and documentalists will discuss practical methods of reports processing.

SLA Members In Print

A series of articles on the organization and operations of outstanding advertising agencies featured in recent issues of *Advertising Agency and Advertising and Selling,* gives pictorial recognition to the librarian on the agency staff.

An artist's sketch of Edith Becker, librarian of Ted Bates and Company, appears in the company's organizational chart published in the November 1952 issue.

A photograph of Caroline Lee Gilbert, librarian at the Bureau of Advertising, is included in a review of the Bureau's operations published in the October 1952 issue.

A photograph of Mrs. Vera Halloran, librarian of J. M. Mathes, Incorporated, in conference with two company executives, is a feature of the article published in the August 1952 issue.

OBITUARY

Dorothy Ford Ware, librarian in charge of the Business and Municipal Reference Branch, Minneapolis (Minnesota) Public Library, died December 1, 1952, after a long illness.

Miss Ware was extremely active in SLA's Minnesota Chapter and helped prepare the Business Division program for the SLA Convention in St. Paul, 1951. Her paper on "Methods and Materials for the Special Library" was featured in the January 1952 issue of SPECIAL LIBRARIES.

Dorothy Ware — A Tribute

While she lived, Dorothy Ware influenced everyone she met. To the public, she was a faithful, energetic, capable public servant who directed the work of the Business and Municipal Branch of the Minneapolis Public Library.

To the businessmen who leaned heavily on her library for daily help with their problems, she was a miracle of pleasant efficiency who never wearied, and who never failed in her duties to them.

To students who did their practice work with her, she was a model of what the truly professional librarian should be, her perfectly organized library an ideal to inspire them throughout their entire professional lives.

To other librarians in the Twin Cities area, she was a constant source of help in their daily work. For those beginners who were new at their jobs, she offered unstinting aid for every situation, advice and counsel on every problem.

To her fellow members of the Minnesota Chapter and the Business Division, she was an enthusiastic, active participant in all SLA activities, an eager cooperator in any effort that aimed at making SLA stronger, and cooperation among all librarians more universal.

To the editors of the *Minneapolis Star & Tribune, "Dorothy Ware was cordial, cooperative and—above all—businesslike. She was accurate, completely reliable and quick. She loved research and often put in hours or days on a subject. She will be sadly missed."*

To all who knew her personally, Dorothy Ware was a fine person, a kindly and friendly person, honest and capable, diligent and conscientious. To all of us, her early passing means a great loss that can never be replaced. Her presence among us, however, has left us enriched, and her example will always help us make our lives better than they could ever have been without her.

G. A.

Off the Press

THE ARCHITECTURAL HERITAGE OF NEWPORT, RHODE ISLAND, 1640-1915. By *Antoinette F. Downing* and *Vincent J. Scully, Jr.* Cambridge, Mass.: Harvard University Press, 1952. 230p. $18.50.

This extremely handsome large volume surveys Newport's history as reflected in its architecture over the past three hundred years. The social and commercial aspects of life in the community are delineated from early colonial beginnings, the subsequent growth and development into one of the largest cities at the time of the Revolution, the decline of sea trade and the resulting economic collapse, and finally, the emergence of a fabulous summer resort colony presenting a unique structural style of its own.

The book is voluminously illustrated with beautifully printed photographs, maps and plans.

CORPORATION GIVING. By *F. Emerson Andrews.* New York: Russell Sage Foundation, 1952. 361p. $4.50.

The author of this work is a staff member of Russell Sage Foundation and has made numerous studies in the field of philanthropic giving. In this volume he presents information of particular interest to corporation executives and their advisers who want to know ways to save tax money, who want to know the contributions practices of other corporations, tax and legal factors, etc. This study will be of interest also to those who solicit funds including colleges and welfare agencies.

FORMS AND FUNCTIONS OF TWENTIETH CENTURY ARCHITECTURE. Edited by *Talbot Hamlin.* Prepared under the auspices of the School of Architecture, Columbia University. New York: Columbia University Press, 1952. 4v. 3,4666p. $75.

This extraordinary and comprehensive work in four massive volumes has been edited by Talbot Hamlin, professor of architecture at the School of Architecture, Columbia University. The first two volumes dealing with structural and aesthetic aspects have been written almost entirely by Professor Hamlin. Distinguished authorities are contributors to the last two volumes covering building types. Examples are analyzed to show the purpose behind the creation. New materials and techniques are discussed.

Several thousand photographs and drawings have been used to illustrate the text.

A general index and an index of architectural works included in the last volume were planned and prepared by Jessica Hamlin.

This unique and outstanding contribution to the field of architecture is an indispensable guide to architects, students and interested laymen in understanding the architectural achievements of the twentieth century.

CALENDAR

January 17	Western New York Chapter. Rochester.
January 20	Illinois Chapter. Chicago.
January 23	Colorado Chapter. Denver.
February 2-7	American Library Association. Chicago. Midwinter Meeting.
February 3	Illinois Chapter. Chicago.
February 5	New Jersey Chapter. Newark.
February 6	Special Libraries Council. Philadelphia.
February 17	Pittsburgh Chapter.
March 2	Boston Chapter.
March 3	New Jersey Chapter. Newark.
March 6	Special Libraries Council. Philadelphia.
March 7	Southern California Chapter. Port Hueneme.
March 12-14	SLA Executive Board and Advisory Council Meeting. New York. Hotel Statler.
March 13	New York Chapter. New York. Public Relations Clinic, Open Meeting.
June 16-19	Medical Library Association. Salt Lake City, Utah. Annual Meeting.
June 22-52	Special Libraries Association. Toronto, Canada. Annual Convention.
June 21-27	American Library Association. Los Angeles, California. Annual Conference.

YEARBOOK OF THE UNITED NATIONS, 1951. Including an Account of the Proceedings of the Sixth Session of the General Assembly. New York: Columbia University in cooperation with the United Nations, 1952. 1030p. $12.50

This is the fifth volume in the series and provides a comprehensive and authoritative record of UN activities in 1951 as well as an account of the General Assembly's Sixth Session which adjourned February 5, 1952.

The *Yearbook* is a definitive source for information on the origin and evolution of the UN, its organization, the functions of the specialized agencies and an account of their operations. It serves also as a well documented volume on international affairs, offering a record of current trends and a review of the discussions on world problems, the decisions made and the actions taken.

THE EXECUTIVE SECRETARY'S DESK

KATHLEEN B. STEBBINS

Today, with the cost of living on the increase, and with taxes both hidden and actual depleting the salary check, librarians and organizations are interested in comparable salary ranges in special libraries. One of the many services offered to members and employers by SLA Headquarters is a centralized collection of such salary information.

Although Special Libraries Association has not made an association-wide salary survey since 1947, there is considerable information in print which may be borrowed by members. Such material appearing in library journals and other periodicals is collected at Headquarters, thus making it possible to quote salaries for various regions by type of position. In order to supplement this information, the twenty-four chapter employment chairmen have been asked to fill out a questionnaire giving high, low and average salaries, by type of position, both professional and subprofessional. In areas where there is not much placement activity and where the chairman cannot easily supply these figures, the chapter sometimes decides to make a confidential salary survey. Pittsburgh is now conducting such a survey and doubtless other chapters will follow.

Pertinent material available for loan from Headquarters includes the following: the statistics compiled as a result of the SLA Science-Technology Division salary survey in 1951, *Survey on Salary Standards in Libraries of the Medical Sciences* (1952 revision); an article by Hazel B. Timmerman from the November, 1952 *ALA Bulletin* on "Library Salaries, 1952"; also numerous salary schedules from public, college, university and government libraries.

Available also upon request from librarians or employers are figures quoting comparable salaries in similar or related categories. Interested members are requested to write to the Executive Secretary for additional information.

FROM THE UNITED NATIONS

Proceedings of the United Nations Scientific Conference on the Conservation and Utilization of Resources

Here, in seven volumes, are 550 technical papers giving the ideas and experiences of over 700 scientists from 50 countries. Covering every phase of conservation and utilization of resources, these volumes will be a standard source of reference for many years to come.

PLENARY MEETINGS, Volume I

Gives the background and objectives of the Conference and the proceedings of the plenary meetings, which include addresses on the world resources situation, a world review of critical shortages, the interdependence of resources, the development of new resources by applied technology, methods of resource appraisal, the adaptation of resource programs, education for conservation, a symposium on public policy, another on future lines of study and directions for progress, and a review of the Conference. 25 illustrations. $4.50

MINERAL RESOURCES, Volume II

Mineral Supplies and Their Measurement; The Outlook for Future Discovery; Increasing Mineral Resources by Discovery; Conservation in Mining and Milling; in Manufacture; by Corrosion Control; by Substitution; Inorganic Fertilizers in Conservatión. 65 illustrations. $3.00

FUEL & ENERGY RESOURCES Volume III

Techniques of Oil and Gas Discovery and Production; New Techniques for Increasing Production of Oil and Gas; Oil Chemistry; Coal Mining; — Preparation; — Carbonization; Underground Gasification of Coal; Conservation in Utilization of Fuel for Space Heating; the Integrated Power System; New Developments in Production and Utilization of Energy. 86 illustrations. $3.00

WATER RESOURCES, Volume IV

Appraisal of Water Resources; Water Supply and Pollution Problems; Comprehensive River Basin Development—A Symposium; Drainage Basin Management; Water Control Structures; Flood Control and Navigation; Irrigation and Drainage; Hydro Power and Other Water Uses. 96 illustrations. $4.50

FOREST RESOURCES, Volume V

Forest Inventories; Protection of Forests; Forest Management; Protective Functions of the Forest; Administration of Forests; Logging and Sawmill Techniques, Preservation and Chemical Utilization of Wood. 66 illustrations. $3.00

Letters to the Editor

German and French Abbreviations

Can we obtain six reprints of the article on *German and French Abbreviations and Terms*, by J. E. Allerding, published in the November 1952 issue of SPECIAL LIBRARIES? I would like to place a copy of this reprint in each of our foreign language dictionaries. The information in this article will be very useful to our technical personnel.

At the same time I would like to ask permission to reproduce pages 376 and 377, *Publications Received* (suitable for gift giving), in a forthcoming issue of our Research Library *Bulletin*. The selection is extremely good and I feel certain that our readers would appreciate it . . .

Since imitation is the simplest form of flattery, the above requests speak more clearly than any flowery words for my admiration of your improvements inaugurated in SPECIAL LIBRARIES. You have done a grand job . . .

DR. JOLAN M. FERTIG, *Librarian*
Research Laboratories
Westinghouse Electric Corporation
East Pittsburgh, Pennsylvania

I think that SPECIAL LIBRARIES is improving with every issue. The French-German abbreviation list is something that is going to be useful to all of us, and especially so to some of the newcomers in the field.

ELSIE L. GARVIN, *Librarian*
Research Library
Eastman Kodak Company
Rochester, New York

I should like to obtain at least three reprints of the article by Johanna E. Allerding . . . you are doing a fine job with SPECIAL LIBRARIES. The articles are very informative and well selected.

DONALD E. THOMPSON
Director of Libraries
Mississippi State College
State College, Mississippi

LAND RESOURCES, Volume VI

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