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# SPECIAL LIBRARIES

*Official Journal of the Special Libraries Association*

VOLUME 46

SEPTEMBER 1955

NUMBER 7

What's in the Future for Special Librarianship?

*Gould H. Cloud*



Automation

*James E. Myers*



The Challenge of Automation

*Ross Roy*



On Technical Writing

*J. P. Gray, M.D.*

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# What's in the Future for Special Librarianship?

GOULD H. CLOUD

*Librarian, Houston Research Library, Humble Oil & Refining Co., Houston, Texas*

“EVERY MAN A KING” was the very successful slogan of a shrewd politician of a generation ago. On the basis of facilities for creature comfort that are commonplace to us, we actually live much better than did the most fabulous kings of the past. A hundred Nubian slaves with their gorgeous peacock fans could not stir up a breeze as pleasant as that created by a refrigerated window cooling unit! The finest royal coach-and-four that ever existed cannot compare even with a high school boy's jalopy from the standpoint of speed as well as comfort! The fine foods available at the corner delicatessen could not have been made available in an earlier age for a king's ransom!

What has brought about this change? Why are we blessed so bountifully in material things? The answers lie in the fact that we have learned the source of the greatest riches in the world—the use of other men's experiences in the technical realm. Until a few generations ago most technical practices were determined by custom. Any changes made were the result of trial and error in which failures were dropped and the better methods adopted. For the most part, technical knowledge was handed down like manual skills by personal instruction. The experience of others outside a man's circle of associates was used only to a very limited degree. Therefore, the range and variety of knowledge that one could bring to bear on a given subject were limited both by his inherent capacity and by the extent of his personal experience.

The technical progress that we enjoy at the present time began when man learned to store, transmit widely,

and consult the record, when he started making the accomplishments of one generation readily available to the next.



GOULD H. CLOUD

A technical man now has at his command vast stores of knowledge handed down as a free gift from his predecessors which he may use as stepping stones to new discoveries. These vast resources are accessible to anyone possessed of the key to select, combine, and apply as he wishes. They present the golden opportunity of “collective thinking with a collective memory.”<sup>1</sup>

Organized creative technology has flourished amazingly in our country. Scientists, engineers, and manufacturers have teamed together to translate scientific knowledge into myriads of useful methods and devices. They have used the available store of knowledge as a springboard for jumping out into the unknown. As a result of this use of knowledge, we have experienced tremendous developments in many scientific and technical fields. The developments in the automobile, the airplane, the radio, radar, television, and many

other mechanical and electrical wonders are very much in evidence. In the chemical field, developments have been no less startling. Our chemists have synthesized indigo, camphor, rubber, toluene, and many other compounds. They have revolutionized the fabrics industry with the inventions of nylon, rayon, and other synthetic fibers. They and the physicists have solved the secret of the atom in producing atomic energy. The men who have made these tremendous contributions to civilization learned early to utilize other men's experiences. To them the scientific literature was no dusty archive of a dead yesterday but a living, growing taproot which continuously nourished their scientific researches.

Developments in the immediate future are expected to dwarf those of the recent past. According to David Sarnoff:

"The dominant physical fact in the next quarter-century will be unprecedented technological progress. The last hundred years have been no more than a split second in human history; yet they have compassed more technological achievement than all the millennia that preceded. The harnessing of electricity, the demonstration of the germ theory of disease, the development of anesthetics, the evolution of mass production, the development of electronics, the splitting of the atom — these are only highlights.

"Mark the increasing speed at which these things have come. It is not a case of continued increase but of continued 'acceleration' of increase. The fact that electronics and atomics are unfolding simultaneously is a portent of amazing changes ahead. Never before have two such mighty forces been unleashed at once. Together they are certain to dwarf the industrial revolutions brought about by steam and electricity.

"There is no element of material progress we know today that will not seem, from the vantage point of 1980, a fumbling prelude. A recent statement by the General Electric Company, referring especially to electronic and atomic energy, declared: 'All these fields are so promising that we expect to produce more in the next ten years than in all the previous seventy-five years of our existence.' The same pattern of rapid growth holds true for American industry as a whole."<sup>2</sup>

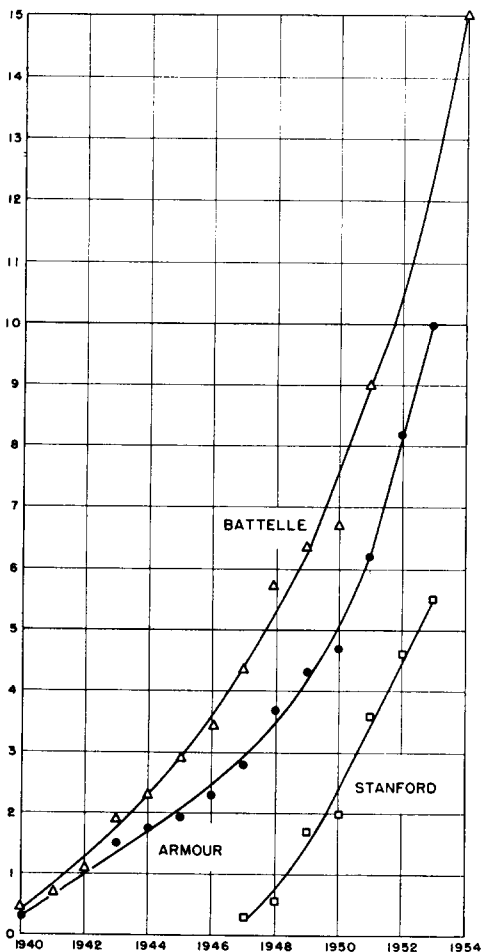
## **Growth of Science and Technology**

As an indication of the growth of science and technology in our country, in 1900 there was one technical man for every 250 men employed in industry. In 1953, the General Electric Company employed one technical man for every twenty nontechnical men.<sup>3</sup> In many research organizations today, the number of technical men employed is greater than the number of nontechnical.

An indication of the startling growth of technology in our country since 1945 is given in the chart on page 305 and shows the money spent on research by three of the leading nonprofit research institutes: Armour, Battelle, and Stanford. In each case the money spent during the last five years has increased at a remarkable rate. The rate of growth shown by these three organizations is typical of the over-all growth of research in the country. Information given by the National Research Council shows that U. S. research is growing at a constant rate of about 12 per cent per year.<sup>4</sup> Expenditures for industrial research in the U.S.A. were \$116 million in 1930.<sup>5</sup> By 1940, expenditures had increased to \$240 million. In 1954 they were overall about \$4 billion,<sup>6</sup> an increase of almost 1700 per cent over 1940. At the present time, business, universities, and the government are spending more on research each year than all the money spent on research in all the years of our history prior to World War II!<sup>7</sup>

## **Growth of Technical Literature**

This prodigious rate of growth in our technology has been accompanied by a mushrooming of our technical literature. Besides the large volume of reports, correspondence and drawings which circulate in every industrial establishment, there is a tremendous amount of published literature in books and periodicals covering the results of scientific investigations throughout the



Trends of Research Expenditures  
in Three Industrial Research Institutes

Southwest Research Institute, gives a good idea of the enormity of the published literature: "It is reported that approximately 60 million pages of technical literature are currently published every year throughout the world. This is equal to 100,000 volumes of 600 pages each which, at the rate of 10 volumes per foot, would require new book shelving of 10,000 feet or just short of two miles."

During the past hundred years, the chemical literature has expanded at least a hundred-fold. At the present time, the rate of growth is better than 10 per cent per year. Prior to World War II the cumulative increase in the number of items abstracted in *Chemical Abstracts* was slightly more than 10 per cent per year. Subsequent to the war, the increase has been about 15 per cent per year. The number of reports published by the National Advisory Committee for Aeronautics increased 350 per cent in the ten-year period from 1944 through 1954.

The following results from Stanolind<sup>11</sup> illustrate the growth of the technical literature in a specific case:

Decade	Abstracts made by Stanolind (cumulative)
up to 1932	25,000
32—42	55,000
42—52	140,000

world. As far back as 1947 there were more than 750,000 technical articles<sup>1</sup> appearing in the literature each year. At the present time there are over 30,000 technical and scientific journals being published.<sup>8</sup> Technical reports covering work sponsored by the federal government number more than 75,000 per year. In addition, more than 60,000 technical and scientific books<sup>9</sup> are published each year.

The following quotation from a speech by Dr. Vagtborg,<sup>10</sup> president of the

### Problem of Handling the Literature

As an indication of the appreciation of the value of the technical literature, numerous manufacturing and research organizations in this country have established private technical libraries. For example, the Dupont Company has twenty-seven libraries containing over 100,000 books. The Humble Company has seven special libraries in the Houston area. As a specific example of the value of technical literature, \$3,000,000

worth of captured German technical documents saved our country \$70,000,000 worth of aviation research.<sup>12</sup>

Although our inheritance of human experience in the form of technical knowledge is extremely valuable, our scientists and technologists are finding themselves in the position of having too much of a good thing. The volume of technical literature is being increased at a much faster rate than it is being digested and used effectively. Searching for needed information has become very tedious and time consuming. It is becoming increasingly difficult for a specialist to keep up with developments even in a narrow field and have enough time left over for necessary laboratory research. And the tremendous growth of the literature that is resulting from the enormous expansion in research since 1945 is only beginning to be felt. Largely because of the lack of adequate information, the cost of incomplete and abandoned research in the U. S. A. is far greater than the cost of successful research.<sup>13</sup>

The problem of handling the literature has reached such proportions in the chemical field that a special symposium entitled "Technical Information in Action" was held by the Division of Industrial and Engineering Chemistry at the ACS meeting in New York in September, 1954. Six men from top management in important industrial organizations told of their problems and discussed possible solutions. One of the highlights of these talks was that made by Stanolind's E. L. d'Ouville entitled "Interpretative Information Specialists in Petroleum Research."

### **Information Research Teams**

Stanolind has attacked the problem of using the vast accumulation of information of organized teams of interpretative information specialists. These groups work together to solve specific

problems by using existing data without experimental work. Men of initiative with a broad experience with literature and the ability to do high caliber technical work are selected for the teams. Occasionally a team may request someone to conduct an experiment when it seems desirable to fill an information gap. The team is regularly assigned to advance projects where experimental, development or design groups are active. The team provides insurance against prolonged repetition of older work. It also hastens progress on new ideas by promptly supplying relevant information and quickly weeding out unfruitful proposals. Several "finds" by the information specialists have clearly saved thousands of dollars of experimentation.

The successes of the Information Research team have increased the respect of the whole research staff for the literature, and the increased information work done by many individuals outside the Information Research team has strengthened the over-all research effort. In the present age, scientists and technologists must have ready information and not sources of information if they are to keep abreast of developments and continue to expand the frontiers of science.

Although the enormous growth of our inheritance of human experience in the form of technical knowledge presents a tremendous problem to our scientists, it offers a golden opportunity to special librarians with technical experience. They can rescue the scientist from the deluge of ever-settling paper that threatens to smother him. By organizing, indexing, cataloging, and channeling the literature for specialized personnel, the special librarian can bring order out of the existing chaos and thereby render a great service to science and humanity.

We are in the rocket age from the standpoint of production and reporting our scientific progress. But we are still

in the horse-and-buggy stage for the most part in the way in which we store and consult our literature. However, there are new methods in the offing for handling the literature which present exciting possibilities for the special librarian. Machine searching and information coding systems are being perfected which will greatly simplify literature searching.<sup>14</sup> In the not too distant future the library user will be able to dial into a catalog machine the specific subject in which he is interested and have a bibliography of references appear before him on a screen. After selecting the pertinent references, he may then push a button and the machine will make a copy of the references desired.<sup>15</sup> Although it will no doubt be several years before machine searching is used extensively in our special libraries, there are punched-card and information-coding systems readily available that can do much to simplify information handling procedures.

Because of the writer's background and experience, the material for this paper has been drawn from the fields of science and technology. However, developments in the literature of other fields such as banking, commerce, and law have also been phenomenal. Accordingly, opportunities for special librarians in these fields are numerous and attractive.

### Conclusions

What's in the future for special librarianship? According to our crystal ball there is "gold in them thar hills" for those who equip themselves and go after it. Industrial management is fast recognizing the importance of the technical and scientific literature and is establishing many special libraries. The super abundance of the literature has its users "on the ropes" crying for help. The special librarian is an important factor in the solution of the literature problem. He is being promoted from "waterboy" to a member of the team.<sup>16</sup>

The possibilities for job variety and responsibilities are excellent. Opportunity is knocking at his door!

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*Dr. Gould H. Cloud is president of the Texas Chapter, Special Libraries Association.*

# AUTOMATION

## *What It Is and What It Is Not*<sup>\*</sup>

JAMES E. MYERS

*Manager, Methods & Procedures Division, Burroughs Corp., Detroit, Michigan*

**I**F WE WERE TO GATHER the current opinions on just what automation is, and eliminate all the minor differences we would have five to ten quite different basic viewpoints. This should not surprise anybody since there is very great disagreement among the experts on the subject.

### **Definition of Automation**

The term "Automation" is usually attributed to the manufacturing vice-president of the Ford Motor Company, Mr. Del. S. Harder. He defined it first as the "automatic handling of parts between progressive production processes." This definition does have the advantage of being clear and confined to something small enough to be understandable. So simple a definition had little chance of surviving in the American climate. It seems that Americans have a secret need to complicate things to the point where only the chosen few can understand what we're talking about. Then to make sure that people recognize that we're talking about something very high brow and difficult, we give the thing or idea a catchy name like Automation, or Cybernetics.

It is now common to hear very complex definitions of Automation. I quote a current one that appeared recently in the Detroit Free Press:

"Automation is more than merely transferring (a part from one manufacturing process to another). Nor is it a push-button factory (a completely automatic plant with materials being

fed it at one end and finished product coming out the other).

"It is a philosophy that may extend back to the design of the product. It is a new method of manufacture, not necessarily a new way of cutting metal, but a way of controlling the various processes. Automation is a philosophy of design, it is a manufacturing method and it is control within a machine."

This one is complicated enough to suit anybody. It tells us three things that automation almost is but is not, and three things that it almost is not but is.

Nobody ever knocks another man's definition without having one of his own to offer. In my opinion, there are three factors which must be present in any system in order to call it Automation. They are power, automatic control, and sequence. Power to use for a productive purpose, automatic control for standardization and economy, and sequence to allow the performance of several related operations one after the other without intermediate handling of any great extent.

Even more realistic might be the statement that Automation is merely the continuation of a process of technical advancement and evolution which has its roots as deep in the past as the invention of the stone axe and which stretches into the future beyond the limits of our imagination. The current flurry of publicity which this process is receiving is not a new thing by any means. Back in the thirties everyone was worried about technological unemployment — back of which lay concern over something which today we call

<sup>\*</sup> Based on a paper presented at the SLA 46th Annual Convention, Detroit, Michigan, June 13, 1955.

Automation. Much further back, people were sinking steamboats, burning factories, all as an expression of their concern over their personal job security. Dutch workers created the word sabotage by throwing their wooden shoes, or sabots, into factory machinery which they feared would put them out of work.

Automation, or technical evolution, then might briefly be called a process whereby human labor is progressively replaced by one sort of automatic equipment or another.

Automatic processing has been highly developed in the past in the continuous flow, or process industries: petroleum, textiles, paper and newspaper printing, refining of ores, tobacco, industrial and pharmaceutical chemicals, and food processing. Here raw materials flow in one end of the pipe line and finished goods flow out the other, and the interior is always filled with material in process.

Just recently there have been steps to move automatic processing into a new class of work. These might be called the areas of fabrication, assembly, and information processing. We are hearing about automotive cylinder blocks which are being automatically handled through long series of machining stations. For example, the Ford Motor Company operates an engine plant in Cleveland in which more than 500 machining operations are done, one after the other on an automated line about a quarter of a mile long. Controlled machines, automatic handling equipment, and electronic inspection devices enable forty men to turn out 150 engine blocks an hour. Prior to automation these men could have produced only fifty blocks per hour, or only one-third of the present output.

The electronic industry is hard at work setting up the fabrication of radios and TV automatically. This is based on the use of small unit circuits

which look like a cross between a graham cracker and a Necco wafer. These can be automatically handled and stacked in such a way as to produce the desired results.

It seems to me that there are two conditions which lead to industrial automation. One is where the work to be done is arduous, dangerous, or unpleasant. The other occurs where work is highly standardized and the volume is great. Here a small economy can be converted into a great economy because of the many times the operation must be repeated. Of the two conditions, it seems to me that the undesirable working conditions are the most effective since those industries so afflicted must automate or lose out in the competition for people to do the work. The process industries generally include many functions which are arduous, dangerous, and unpleasant. This accounts I believe for the lead which these industries have established in automatic processing. There is not much incentive to automate the repetitive function type of industry while there is a plentiful supply of inexpensive labor. As the cost of labor increases, the highly competitive mass production industries are faced in their turn with the alternative: find more economical ways of doing work or close their doors.

People are interested in Automation for many reasons. We are part of a technically conscious society; our interests range from new gim cracks for our kitchens to atomic power. The whole idea of automation has been highly publicized, and since it bears a definite name perhaps we think of it as a definite thing rather than a nebulous sort of trend. Perhaps most of us are interested because we feel that inherent in technological advancement are some deep-seated social problems.

A short time ago I sat on a panel discussing the social aspects of Automation. Another member of the panel was a representative of the United



Auto Workers. Of course, he was a spokesman for a group which feels keenly that there are troublesome social aspects of Automation. His view was that the UAW is generally in favor of Automation; that they recognize that standards of living increase in the long run due to technical advancement; and that the CIO has contributed to the growth of Automation by working for increased compensation for the working man. He went on to say that while the long range picture is good, the CIO is more concerned with the short range. He, then, was interested in controls and agreements to minimize the suffering of the workingman and his family due to short term job disruptions and displacements.

I think that the official union viewpoint must be recognized as partially genuine concern. Also present, I believe, is the seizing of an opportunity to create a rallying point around which the unions can muster new members and new strength. New groups of workers may take refuge in union organization out of fear for their jobs. Clearly this increases the numerical and financial strength of organized labor. The right to organize cannot be disputed in a society based on free and responsible choice, but we must be sure that all sides of the issue are heard and understood.

We cannot shut our eyes to the Automation issue in the hope that it will go away. However we may feel about the real magnitude of the problems, we must admit that at least the apparent magnitude is great. From the social point of view, it does not matter too much whether a problem has real significance or people just think it has — for their fears and actions will be much the same in either case.

### **The Electronic Computer**

The electronic digital computer field has done much, in my opinion, to contribute to the furor over Automation. I

do not believe that there has ever been a field in which quite so many amateur publicists and practitioners plunged in with so resounding a splash — unless maybe it was in witchcraft and the psychology of sex. The men, who first coined the terms "Giant Brain" and "Thinking Machines" as applied to electronic computers, were probably aware of the limitations of the comparison. Then came a large crew of opportunists who took up the "Giant Brain" cry usually to their own financial benefit. A more inappropriate term for an electronic computer could hardly be imagined. True, many of them are giant, but hardly could they be called brains. An idiot can babble and drool of his own choice, but a computer can't even do this. It can't even blow a fuse unless some intelligent being turns on the power for it. Nevertheless, the idea that computers are brains has been firmly planted and our collective thinking is clouded because of it.

The next thing which, in my opinion, contributed to the confusion was that a group of scientists was struck by certain casual similarities in complex electronic circuits and the human nervous system. It is true research to explore such a comparison to see if new facts can be added to each as a result of what is known about the other. The term Cybernetics is used as a name for this new field. It means the study of the communications which occur in controlled systems, whether human or machine. Most of the Cybernetics people approach their work calmly and are fully aware of its limitations. Unfortunately, some of the most vocal of them make great issues over small points which reach many people, completely out of perspective. For example, we think of a nervous breakdown as a privilege almost exclusively reserved for human beings. If a scientist who may have some reputation in some other field says that an electronic computer failure is like a nervous breakdown, what are we to think? If this is

true, then the computer must be almost human in nature.

Most people, in my opinion, do not seriously believe that computers think in any broad sense of the term. Those who profess to believe it, usually have something to gain by the expression of such a belief. Perhaps it is done just to be different; perhaps there are other aims, but I cannot believe that the expression is ever sincere. This is important, for the replacement of human brute labor machinery has led always to an improved standard of living. The replacement of human thought by mechanical processes, on the other hand, would lead back to the dark ages. I feel that it is the half-accepted—half-rejected fear that computers do think in any complete fashion that suggests that perhaps their use may be a social problem. It is my firm belief that a computer is no more a thinking machine, than any other collection of wires, tubes, and mechanical gadgets. It will do a job faithfully, it is true, but only if it is built correctly to start with by human beings. Furthermore, it must be used correctly by human beings—and it will go nowhere unless its path was carefully planned in advance, every minute step of the way, by human beings.

The social questions to be faced squarely are:

1. Will new developments in electronics, such as computers and control systems, displace more jobs than they create?
2. Will the social changes following the new developments be forward steps or backward?

It is my belief that here and there, more and more, that the particular nature of many jobs will change as time passes, and some will disappear to be replaced by others.

The following is an example from my own experience which confirms this point of view:

During World War II, I was in charge of a large group of people at the Naval Research Laboratory. These people were engaged in transcribing numerical data from motion picture film exposed during the operational test of anti-Aircraft Fire Control Systems developed for the use of the Navy. After the numbers were recorded, a lengthy and complex computing job was carried out to determine where the shells would have gone had they been fired. Then there was a requirement for statistical analysis to find out what systems were best, how they could be improved, and how significant the tests were. Of the fifty people, about eighteen were engaged in reading and transcribing film, eighteen running calculating machines, eight doing the charting and drawing necessary to present the results, and eight in supervision and statistical analysis. So important was this job considered to be, that new engineers arriving on the scene frequently spent three to six months doing these jobs before going on to assignments better suited to their training. The statistical analysis was done in the most quick and slipshod fashion. I'm sure that some of our answers were incorrect because of the need for haste. Even so, the input data on motion picture film piled up far faster than we could process it.

In 1944, the first electronic digital computer, designed and built by Bell Telephone Laboratories, was moved in and installed. After a shakedown period, the personnel distribution was:

Twenty-five people engaged in reading and transcribing film and punching input tapes for the computer. You recall there were eighteen here before, for a net increase of seven. There were five people who made up the computer staff as compared with the eighteen doing computation previously, a net reduction of thirteen. The same eight charted results, and the eight who were doing supervision and statistical analysis had increased to twelve, a net increase of four. All in all, the staff had decreased by two people. Now did these two lose their jobs? No, it was now possible to use the engineers in engineering assignments rather than in computational work. Furthermore, we were doing the job in a way that had not been possible before. What about the job content? Three jobs appeared in which the skills required were down-graded—the girls who punched tapes. On the other hand, nine jobs were substantially up-graded. Some of our people moved into the better jobs, some were filled by new people as some members of our former staff left of their own volition, and the three tape cutters were new typists hired for the job. Now if we look at the jobs which the development and fabrication of that computer made possible, it is clear that many more jobs existed because of

it than were eliminated. The governments costs were up, in this case, over previous levels. But the job desired was being done.

Now this computer did not think, it merely did as it was told. A year before its arrival, however, a man looked at the computational routine as it stood at *that* time. He thought about it and made one suggestion. That suggestion cut the amount of time required to run a job to one-third the former requirements. If the suggestion had not been made, none of the fifty jobs would have existed, for the Navy would have said, "We simply cannot afford 150 people to do this job — we'll just have to take our Anti-Aircraft Systems as they come."

First we had a simplifying suggestion that made the jobs possible to start with — a result of human thought. Then a technical improvement changing many jobs, and eliminating two, which made it possible to do the work properly.

Of course, the staff for which I was directly responsible decreased from fifty to forty-one. The computer staff was elsewhere since it was found that other computing jobs could be done which we had never thought of attempting before. If I had felt that I was twenty per cent more important when I had fifty people instead of forty, I might have fallen prey to the fears which some feel today.

Electronic data processing and Automation generally will, in my opinion, work these effects on the economic structure:

- a. Jobs displaced will be more than offset by new jobs arising out of functions not presently performed, out of new products and services and in the new areas of computer design and construction.
- b. The standard of living of the people of the United States will continue to rise gradually and not at all in a revolutionary fashion. To think of the introduction of our new developments as revolutionary is to overlook the tremendous tasks of planning and make ready before such new devices can be used.
- c. The work done by people will be more highly skilled, more challenging; rather than less so.
- d. No major economic and social adjustments will be necessary. The material benefits of life should be increasingly available to all, at a lower cost, with higher quality. The talk of a radically shortened work week that we hear is fearfully premature in my opinion. The American worker buys many things with his paycheck; the necessities of life, gadgets and luxuries, to a degree depending upon his industry, skill, and income management; and recreation and leisure time. In an increasing standard of

life, yesterday's luxury has a way of becoming today's necessity. Recreation and leisure time are purchased just as surely as a new automobile or refrigerator are purchased. If we manage our income, we strike a nice balance in what we buy. The competitive American being what he is, I cannot see a large portion of his potential income going into the purchase of idle time.

### Job Redistribution

I feel that we are talking not so much about job displacement, but about job redistribution. We know that the electrical industry had a profound effect on the leather industry, as an example. Power distributed through wires instead of turning shafts and leather belts, reduced the requirement for leather belting. Some leather workers were displaced. In the meantime, over the past twenty years, employment in the electronics industry alone increased from 180,000 people to 5,000,000 people. The comparison is not direct, but our shops are safer without all the slapping belts, and the work in the electronics industry is much cleaner, safer, and more rewarding than employment in a tannery ever was, or is today.

Though there are some forces which tend to solve automatically the problems raised by job and skill redistribution, the total solution does not come readily. One of the automatic factors is that new skills are not possessed by large portions of the population. If it is desired to make use of new skills it is usually necessary to train present employees, or new ones, in those skills. The competition for what is already available is too keen, and each company is nearly on its own. In such a case, wholesale layoffs are unlikely.

The portion of the solution, which does not come at all automatically, is a continuing review of the position of the technician in our social structure. It is certain that we need more highly skilled technicians than are available now, and that for the long pull a general rise in the technical comprehension of our people is necessary. We are concerned over the fact that the Soviet

Union is now graduating, many more engineers and technicians than we. It may be easy for us to solve the surface problem and perhaps aggravate a deeper one within. I feel that more and more we are training our technical people intensively for technology at the expense of educating them for anything else. There are many examples of people highly skilled in narrow fields, who do not appreciate the complexities of other fields sufficiently, to recognize properly their own limitations and properly to exercise their responsibilities as citizens. Indeed we are discussing just such a problem today. There is no better example than the Automation controversy of what may happen when technical development outstrips social development. In a technical or scientific field, action is based on experiment and formula. In the humanities, on the other hand, action is based on law, morals, mores, and the Sermon on the Mount. May I suggest that our current technical education seems barely to prepare a man for the governing of his personal actions, and hardly at all to direct the actions of others or to evaluate social consequences even of his own developments?

It seems to me there is a job to be done by our colleges and universities. Furnish the technicians, yes; but furnish them in a sufficiently broadened form so that the statements they make are responsible statements whether applying to their own fields of competence or not. If the quantities of technically trained people must increase for our national advancement and security, then let the numbers increase. But let us have an eye to the quality of our products, and prepare them to live as socially responsible people as well as qualified technicians.

As a people, we are responsible to ourselves to evaluate what we hear. We do this in our political spheres, but do we apply the same questioning attitude to the statements and predictions of technical people who are associated in

our minds with factual matters, yet who in unfamiliar fields are subject to the same limitations as we are? The pictures drawn of fully mechanized work places and mass technological unemployment are simply not rational views.

Let us think for a moment of the comparison between the mails, the telegraph, and the telephone as successively more advanced means of communication. The mails were not displaced by electrical communication, nor was the telegraph displaced by the telephone. Each has continued to grow, and there is today more use of the mails in the presence of competition than there ever was prior to competition. This remains true even when the necessary adjustments for population growth over the same period are made. The telegram enjoys greater popularity today than ever before when the telephone didn't compete with it. This is, I believe, because each has its own unique approach to service in allowing people to communicate with one another. The point is that we cannot talk about a new system completely displacing the old. New services and new problems inevitably arise, and the old and new continue to exist side by side with consequent increase in job opportunity and the content of living for all.

As a final point, no economic entity has gone farther in making processes automatic than the armed services have. We heard of push-button warfare before we heard serious talk of push-button factories. Yet what is the foremost concern of our armed forces today? The answer is simply manpower! An adequate supply of sufficiently trained manpower. Why? Because we require more supporting skilled services behind the man who flies the jet aircraft or launches the guided missile than we ever did behind the man with a rifle. There are fewer men with rifles to be sure, but the over-all requirement for people who have skill and can think, as no machine ever can, has increased and will continue to increase.

# The Challenge of Automation\*

ROSS ROY

*President, Ross Roy, Inc., Detroit, Michigan*

**A**UTOMATION is a subject of vital interest in all fields today. Everyone is talking about it. As more and more automatic machinery and processes are designed, they will mean increased production in all industries. And this increased production will have its effect on all of us.

This new era of productivity will bring many new problems to management. Management will have to keep up to date on many and varied new developments. More research will be needed. Unskilled laborers must be trained for more skilled work. New markets must be found. We are on the threshold of a second industrial revolution. This is the beginning of the age of Cybernetics . . . more popularly known as Automation. Mechanization of industry was the start of the *first* industrial revolution; it was the replacement of manual methods of production with machine-powered production. With it came mass manufacturing, mass distribution, mass marketing, and the mass prosperity that we know today.

Two years ago sixty-six groups of men came to this country from different industries in Great Britain. Their reports of their visits were gathered into a book by an economist, Graham Hutton. These men reported that the American people believe in discovering and putting into operation every new idea or technique that makes more products at lower cost. It is high productivity, he said, which has led us to higher and higher standards of living and to our mass prosperity. Automation is merely a continuation of this searching for new ways of making more

products at lower costs. The word "Automation" is comparatively new—I don't believe you will find it defined in any dictionary. Simply stated, Automation is the application of automatic controls to machinery in the production of goods. It is push-button operation at its complex and mystifying best, used by industry for the worthy purposes of (1) increasing production, (2) reducing costs, and (3) improving quality.

## Advertising and Marketing

Automation will have no less effect on our economy tomorrow than the mechanization of yesterday. Because I am particularly interested in the fields of advertising and selling, I wonder if our advertising and selling force can begin to keep pace with our new, tremendously increased productive force. I would like to discuss a few of my ideas of what should happen in the fields of advertising and marketing to keep up with Automation.

The automobile industry is presently producing passenger cars and trucks at a rate of over seven million units a year. I am told that the Automation techniques now in operation in our automobile plants make possible right now a current annual production of nine million vehicles whenever the public is ready for them. Improvement in the methods of production in this particular industry has gone on apace in the past few years. But can we as consumers use this many vehicles? Have we hit the saturation point? I don't believe so. We have passed several so-called saturation points in the automotive industry, as we have in many other industries. In my view, the big challenge confronting us—in the automobile industry and in any other—is the rebuilding of our sales strength, and

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\* Based on a paper presented at the SLA 46th Annual Convention, Detroit, Michigan, June 13, 1955.

gearing it to the strength of Automation—to the strength of production.

Automation production is by no means confined to the automobile business. General Electric is applying Automation methods in the production of refrigerators. Motorola, Raytheon, and RCA are manufacturing automation-produced radio and television sets. Oil refineries have automated almost 100 per cent. A push-button tanning process has been developed by a tanning plant in Milwaukee. The Bell Telephone Company has developed a system whereby we can dial calls not only in our own community but in other, distant cities. Automation has already reached into the field of librarianship in the form of automatic charging systems. Automation is a thermostat to turn your furnace on and off. Automation opens a door for you, when you walk through a beam of light.

A clue to the widespread interest in Automation is the fact that three leading business paper publishers—Penton, Reinhold, and McGraw-Hill—have brought out new trade magazines devoted exclusively to this topic. My first feeling in seeing Automation in action was one of tremendous respect for the genius and wizardry of the engineering minds behind this achievement; my second, and even stronger feeling, was that advertising and selling are going to have a tremendous job to keep up with the efficiency of this productive monster! When management in any industry authorizes the expenditure of millions of dollars for the purpose of increasing production, it automatically assumes the responsibility to invest additional money for the purpose of increasing sales. For every dollar that is spent in plant Automation, some money must be set aside to invest in sales manpower and equipment that will assure full disposition of plant output. When we double our production, we must find twice as many buyers, which will require twice the sales effort.

This does not mean that I feel we need bigger advertising budgets. They will come—slowly, perhaps, but surely, for advertising has gained stature with management. Advertising is gradually losing the step-child stigma so long attached to it. The need for advertising is well established—it has paid its way. Perhaps it has done too well, for in my opinion sales effectiveness has not kept pace with advertising effectiveness. To put it a different way—advertising has been doing a better job of driving customers into retail establishments than salespeople have been doing their job of selling. And this has been going on since 1942.

### Sales Budget

The thing we need most is a larger budget for sales training and sales promotion. The sales budget should be set up exactly the way the budget for increased production is set up. It should be kept firm, fixed—not subject to downward adjustment. It is just as important to keep the selling program intact and unassailable, as it is the production program.

My concept of advertising has always been that it is not just the creation of an idea and its execution, but of follow through right up to and even beyond the actual transaction of a sale. Let us continue to value attractive and compelling advertising, but let us also reach beyond it and do the many, many other things that will result in the consumption of all the goods that will result from our increased production. Let us borrow a page from Automation's book—let us integrate and coordinate to make advertising and selling a smooth, joint effort.

### Place of the Librarian

Librarians may be asking themselves: what can we do about this? As librarians we have nothing to do with setting budgets for advertising or selling or sales promotion. Special librarians, how-

ever, have an obligation as well as an opportunity to help make the company they work for more profitable. They can assist their management to obtain the complete sales and marketing picture and accurate information on which to base decisions. Librarians can also help with the development of creative ideas.

With the increased production created by the use of automatic equipment, management will face many problems. Management must keep up to date on all the latest developments in automatic equipment, on new materials, on consumer preferences, on the size and buying power of the market. Then, there is the need for research in all fields. The research worker today finds it practically impossible to keep up with what is going on in his field. In the chemical field, for example, twenty-five years ago, anyone who had taken high school chemistry was familiar with the leading products of the chemical industry. Today, a highly trained chemist has trouble keeping up with the newest products. Librarians should see that current information in the chemical research worker's particular field automatically reaches his desk.

These new automatic machines will mean that many engineers and production people will need basic information on metals and minerals and the proper utilization of tools. The textile manufacturer, for example, will need information on all the new synthetic materials. He will want to know how they can be used, what will make them appealing to designers, what will make them appealing to the public. Then as more and more machines will take over the jobs heretofore performed by manual labor, the workers will have to be trained to take over the maintenance and operation of these machines. The manual laborer must be trained to become a semi-skilled laborer; the semi-skilled laborer must be up-graded to take over some of the engineer's functions. Who is better fitted than the li-

brarian to see that the necessary training materials are available and properly organized for training departments and for the workers themselves.

Then there is the fact that larger output per man hour has usually been accompanied by a reduction in the total number of working hours. This means that Automation may bring about a shorter working day and shorter working week. What will people do with this increased leisure time? The librarian can assist people to make use of this extra free time. Materials can be available for study, hobbies, amusement and recreation.

The first concern of special librarians is the welfare of the company which employs them—whether it be advertising, manufacturing, chemicals, communications, food or any of our many industries. Perhaps librarians need to orient themselves more to management's needs, rather than to library problems. It is up to the librarian to help management make better decisions. Librarians are in a unique position in business. They are probably the only ones who have access to all the information which makes a complete picture. Librarians can pass on to top management enough of this information so that management will not be shut up in an ivory tower—so that it sees the whole picture. Top management does not have the time to review and evaluate all pertinent literature. By constantly keeping management informed about relationships between purchasing power and sales, about all the economic and sociological factors in our economy, the librarian can help management meet competition more successfully.

Automation will mean an increase in America's standard of living—will mean that our people will be able to enjoy still more leisure, still higher income, still greater employment, and a still happier existence, if we can meet its challenge.

# On Technical Writing\*

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THE IMPORTANCE of communications cannot be overemphasized in effecting the formula: *Industry plus Knowledge equals Progress*. Almost as important also is another hidden factor: *Interpretation*.

In any center of progress, be it educational, industrial, or other, the library is essential; and the library has its basis in the written or printed word . . . the usual means of permanent recording of ideas, experience, and knowledge. So, we cannot progress without communications, the printed or written word, and libraries; and we need interpretation of the results of inquiry and of research.

Anyone interested in progress in any field, who explores recorded ideas, experience, and knowledge related to the field of interest, soon appreciates the difficulties presented in technical literature, by technical jargon, by quality (or lack of quality) of technical writing. Not only in medical literature does poor quality of writing present a problem. Similar problems exist also, I have learned, in other fields as well, including: law, theology, engineering, the physical sciences, the natural sciences, the humanities, *et alii*.

## Deterioration in the Quality of Writing

Inevitably with specialization, which in itself is essential to progress, there comes into use a special jargon for communication of ideas among those interested in the field. Technical jargon becomes so complex that communica-

tion of ideas to those of related fields, even to those of closely related fields, becomes difficult because even old terms frequently have new and different meanings. McAllister in *Science* (121:530, April 15, 1955) in replying to the question, "Is There Accepted Scientific Jargon?," gives some excellent examples of difficulties which confront the student of guided missiles particularly, and comes up with the conclusion that there is an "accepted scientific jargon . . . determined mostly by usage . . . appropriate and desirable whenever it serves as a vehicle for accurate and efficient communication between experts, but not otherwise . . ."

Two factors come to mind as important in answering the question: How has the quality of writing deteriorated? Firstly, so-called progressive methods in teaching reading, coupled with laxity in teaching various aspects of grammar, have resulted in carelessness in use of English both in speech and in writing in too large a proportion of students. Too frequently, even in requirements for advanced academic degrees, requirements for foreign languages as well as for specific subjects in the field of special interest, have pushed aside the basic need for ability to express clearly and incisively one's thoughts in good English. Secondly, the use of scientific jargon *per se* encourages carelessness in use of English in writing. "It is easier to say it in jargon than in English. Anyway, you know what I mean! Why hold me to such minute points?" The average teacher too often has no interest in how the student expresses himself, but only in "whether he knows the subject." He has his hands full, he thinks, in teaching his subject: "Let the English teacher teach English!"

\* Based on a paper presented at the SLA 46th Annual Convention, Detroit, Michigan, June 16, 1955.



Howie, microbiologist of the Rowett Medical Research Institute, in Blackburn, Aberdeenshire, Scotland, expressed it so well in his paper, "On Writing to be Read" (*Lancet*, 2:320, 1954):

"Doctors and scientists usually seem to dislike writing about their work. 'I hate the writing up' they often say. Perhaps it is the up that does the harm. If authors were content to write instead of writing up, many mistakes might be avoided. Writing up suggests that the author feels the need to do something beyond communicating his facts and thoughts. Often it seems that authors work hard to introduce much that a good editor will remove because of his duty to see that (his) readers are not bored or bewildered."

Someone has said that if authors would remember three, or possibly four questions: (1) What did I do? (2) How did I do it? (3) What did I find? and, perhaps, (4) Why did I do it?, technical papers would be markedly simplified, much more interesting to read, and much more helpful to the reader. Howie (cited above) sets the desirable standard in his statement: "A medical paper should be as precise as a legal document and as interesting as a good short story." Too often medical authors do not keep these objectives in mind; and too often technical writers in other fields, likewise, do not give as much consideration to these and to their readers as should be necessary if we have improved technical writing.

### **Improving the Quality of Writing**

Two organizations exist—one in medicine (The American Medical Writers' Association) and one in law (The Scribes)—with objectives directed at improvement in quality of writing in

their respective fields. In 1955 the AMWA established the Visiting Lectureship in Medical Writing, in which the lecturer is available to schools of medicine and medical centers. By Spring of 1955, ten schools, of the eighty in North America, have been visited. The hope is that the lecturer may arouse interest in the need for improvement in quality of writing. Little more can be achieved in a single lecture; if interest can be aroused, the student will be aware, it is hoped, of his own inadequacies, spurred to put forth his best effort, even to seek aid in his writing. The Medical Manuscript Editing Service maintained by the AMWA offers such a service to its members and to other medical authors.

If teaching of reading and of grammar is of basic causal import in the present situation, even if we were to have improved methods of teaching today, a generation would be required before tangible improvement in quality of technical writing might be expected.

There is also another way. If teachers could be inspired to a continuing and constant interest in writing (in addition to their interest in their own subjects), in secondary schools, in colleges, in universities, in professional schools, students would then have the benefit of constructive criticism of examination papers, of laboratory reports, and of other writings and of speech. Stimulation of interest, and maintenance of that interest in the language itself is not simple or easy. But therein lies our only hope for an improved quality of technical writing.

It is not too late to begin! And begin we should! For an improved technical, including medical, literature is basic to our progress.

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## *Convention Papers*

Selected papers presented at SLA's Annual Convention in Detroit, June 13-17, 1955, will be published in forthcoming issues of *SPECIAL LIBRARIES*.

# Librarians on Display\*

RUTH NIELANDER

*Librarian, Lumbermens Mutual Casualty Company, Chicago, Illinois*



RUTH NIELANDER

THERE is no doubt about it, librarians must come out from under the bushel—the bushel under which they are hiding their light, that is, in order to do a more adequate job of recruitment! Spend a few hours at a booth such as the one sponsored by the Joint Committee on Library Work as a Career at the Convention of the American Personnel and Guidance Association, if you are not convinced of this fact.

For here, from April 3 through April 7, 1955, at the Conrad Hilton Hotel in Chicago were gathered hundreds of personnel and guidance representatives—people who should be informed about the library profession, and yet among this group there was a noticeable lack of enthusiasm for, and ignorance of, librarianship as an attractive career for young students. How can this apathy be overcome?

There are a number of ways, and one of the best is a booth for use at key conventions such as the one set up by Clara Reaum, Head of the Displays Division of the Chicago Public Library. Plans for this booth were begun at the Midwinter ALA meeting in Chicago in February. At that time Sara K. Vann, chairman of the Joint Committee on Library Work as a Career, 1954-1955, met with Clara Reaum representing the Chicago Library Club and Ruth Nielander representing Special Libraries Association. Following this meeting, letters were sent to various library

groups and associations who had published recruitment literature, and a collection of this material was assembled into kits for distribution at the convention in April.

The booth itself was attractive and professional looking, with colorful literature as well as pictures of various types of public, special and school libraries . . . Over 300 counselors and personnel administrators stopped to pick up literature and chat with the exhibitors.

But an attractive booth is not enough, and, recognizing that fact, an attempt was made to man the exhibit with enthusiastic library salesmen . . . For it is primarily a selling job, in which librarians compete for recognition with hundreds of other glamorous professions. It is a selling job which must be done by every librarian, every day and every where. Again and again the counselors who stopped at the booth expressed surprise at the variety of jobs available and at the fact that men were librarians. A few men helped at the booth and seemed to offer considerable bait!

How much of this apathy is the fault of colorless librarians who have never come out of their complacent shells to look around at the world outside? How much is due to lack of information on the part of counselors who could be our selling right arms? Let each librarian answer this question honestly for himself. If the former shoe fits, let him put a bit of color into his job; let him show some sincere enthusiasm for his profession. If the latter shoe pinches, let him become a committee of one to inform local high school counselors about the profession and what it can offer to alert wide-awake students.

Here is your footwear—are you going to try it on for size?

\* Reprinted by courtesy of the *ALA Bulletin*, where the article appeared in the June 1955 issue.

# United Nations

## 1945 — 1955

WHEN SPECIAL LIBRARIES ASSOCIATION did me the honor of designating me as its Non-Governmental Organization representative (pro-tem) at the United Nations Commemorative Meeting in San Francisco in June of this year I accepted with much gratitude, although I realized that my acceptance involved certain duties and responsibilities. What I might gain personally was incidental to my obligation to the Association.

Thousands upon thousands of words have been written about this Commemorative Meeting, but I shall endeavor to give you a few of the impressions I had during the meeting.

I remember well when the United Nations was formed in 1945. I had an opportunity then to attend many of the sessions. The Bureau of International Relations Library on the University of California campus, Berkeley, sent hundreds of volumes to the United Nations Library in San Francisco. While attending the meetings this year my mind kept going back to ten years ago. How well I remembered the tenseness, people asking each other and themselves: "Will the United Nations succeed? After all, the League of Nations failed."

How different the atmosphere of 1955. A sense of having settled down with the United Nations seemed to prevail. The opening meeting took place Monday, June 20, at 3 P. M. The scene that met our eyes when we entered the Opera House was an awe-inspiring one. The flags of the sixty nations, the placards showing where each delegation was to sit, the atmosphere of expectation was all a bit breathtaking. The ear phones were mystifying at first but we soon got used to them. The translators were excellent. Mr. Eeelo N. van Klef-

fens presided. A minute of silent prayer or meditation was followed by an address by President Eisenhower, whose presence, denoting his approval, meant much to those attending. Approbation of the United Nations was needed and was given by him freely and honestly.

The plenary meetings started each morning at 10 A. M. and lasted to 12:30 P. M. and were resumed in the afternoon at 3 P. M. until 5:30 P. M. In the course of these meetings, each nation's Chief Delegate had an opportunity to speak in the order listed on the formal program. Some of these addresses were outstanding while others were less worthwhile. At times there was a sameness in the speeches and one wished that this was more than just a birthday celebration. The NGO meetings were excellent. Two hundred and sixty United Nations non-governmental organizations attended.

A few dramatic moments ensued when the gavel of President van Kleffens was used. There may have been some inconsistency in the using of the gavel, but to have stopped Mr. Molotov with the gavel could not have been done! After all, everyone there wanted to hear what Mr. Molotov had to say. He spoke long and well, and was applauded during and after his speech. Here again my mind wandered back to ten years ago. Mr. Molotov then was the sphinx; this time he was almost jovial. It was hard to believe.

At the last plenary meeting on the afternoon of Friday, June 24, Mr. V. Krishna Menon spoke. His plea for more universality in the United Nations, his plea for peace, at least the willingness to talk about peace, was very moving. I had heard Mr. Menon on Tuesday evening when he spoke to

members of the World Affairs Council of Northern California say "peace is a calculated risk worth taking."

On Friday evening a meeting was held at the Opera House. Here we heard a statement of the Executive Heads of the Specialized Agencies presented by Dr. Philip V. Cardon, Director General of the Food and Agriculture Organization of the United Nations, followed by an address from The Honorable Harry S. Truman. The address was a most fitting climax to the occasion, for had not Mr. Truman opened the sessions of the 1945 meeting when the UN was formed?

On Saturday afternoon, at the University of California, in the Greek Theater at Berkeley, a Special Convocation was held, honoring the United Nations on this occasion of the Tenth Anniversary of the signing of its Charter. Finally, on Sunday, June 26, the closing meeting of the Commemoration took place. On display in front of the speaker's dais were the original documents of the Charter of the United Nations and the Statute of the International Court of Justice. Statements were made by numerous speakers and the Commemoration was declared closed by President van Kleffens.

On the whole I felt that this meeting had meant much to many people, and had brought before the public, in a most vivid and honest manner, the failures and accomplishments of the United Nations during the last ten years. Let me end by quoting ex-president Truman: "The choice is not be-

tween the United Nations and something better. The choice is between the United Nations—between the principles of the United Nations—and international anarchy and violence which may lead to total destruction for all nations of the world."

HILDEGARDE F. MILLAR, *Librarian*,  
Bureau of International Relations Library  
University of California

Special Libraries Association, as a non-governmental organization (NGO) accredited to the United Nations, maintains liaison with the UN through Lee Ash, vice-chairman and chairman-elect, Social Science Division, SLA. Association members with problems concerning the UN, its publications, etc., are invited to write to Mr. Ash, librarian, Carnegie Endowment for International Peace, UN Plaza at 46th Street, New York 17, N. Y.

The July 1955 issue of *Librarians and the UN* is a particularly interesting one. It contains a message from the President of the American Library Association, Richard S. Richards; President Eisenhower's 1955 UN Proclamation setting aside Monday, October 24, 1955, as United Nations Day; Library program suggestions; and additional interesting information. Copies of this publication may be secured from the United States Committee for the United Nations, 816 Twenty-first St., N.W., Washington 6, D. C.

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American magazines are one of the best ways of telling the story of America, and are popular with our friends overseas. "Magazines for Friendship" is a plan for sending old copies of good American magazines abroad. It has been represented that a single copy of a prominent magazine was passed among one hundred persons who were eager to understand our way of life. For instructions for mailing, an overseas address, and other pertinent information, write to **Magazines for Friendship, Occidental College, Los Angeles, California.**

# Report of the 1955 Convention Committee

**T**HE FORTY-SIXTH ANNUAL CONVENTION of the Special Libraries Association was held at the Statler Hotel in Detroit, Michigan, June 13-17, 1955. The Convention was attended by 883 members and guests. A complete statistical break-down appeared in the July-August issue of *SPECIAL LIBRARIES*.

The local Convention Executive Committee had several meetings during the 1953-54 Association year for advance planning—convention theme, fees, suggested speakers, etc. During the 1954-55 Association year, this committee met informally about twice a month to see that all plans were going smoothly. There were six meetings of all convention chairmen and division representatives to discuss plans. A major portion of one chapter meeting was devoted to final plans. One post-convention meeting was held to discuss recommendations to be forwarded to the Convention Advisory Committee. In addition, there were hundreds of telephone calls, letters and telegrams to be handled.

The Convention would have been more profitable had the largest room not been used for exhibits. This necessitated the payment of a \$600.00 fee. Allowing exhibitors to pick their own exhibit space made it impossible to change rooms when it became obvious that all the booths would not be sold and also caused some competitors to have booths side-by-side.

From a study of attendance records, we found that workshop meetings were the most popular. Also, the members seem to appreciate a banquet speaker and toastmaster with a light touch as well as a message for the audience.

## Recommendations

The 1955 Convention Executive Committee would like to make the following recommendations to the Executive

Board of the Special Libraries Association:

1. That the Executive Board authorize the cost of the purchase of a new ticket box. We suggest that this box be similar to a theater box, with sloping slots, so that the ticket number can be inserted below the slot. This would greatly speed the handling of tickets.
2. That a flat registration fee for the entire convention be charged. This made registration much quicker and easier to handle and provides more revenue. We had very few complaints and none of those were serious ones.
3. That the Executive Secretary be instructed to keep the Information Desk informed as to her whereabouts (particularly during the day) in order to assist the Convention committees when questions arise.
4. That the Executive Secretary be instructed to assign exhibit space in the order of receipt of reservations. This would speed-up reservations because those received first would get the best space. Also, it would make it possible to see that competitors were not placed side-by-side. Final allotment of space should be made as late as possible to facilitate any necessary late changes in rooms or arrangements.
5. We recommend that a secretary be employed for the week of convention. She should be available to help the SLA President, Executive Secretary and Convention Chairman.
6. We appreciate the fact that the Association needs the revenue from the convention to help balance its budget. Since convention revenues vary from year to year depending upon size and location, we recommend that the actual amount of convention surplus from any year be added to the

next year's budget rather than a definite amount determined in advance which the committee must strive to meet.

Although we have attended many conventions in other cities, I do not think any of us realized how much hard work there is in planning a convention. There were many headaches and disappointments. The Convention could never have been held without the wonderful cooperation of the Statler Hotel and its staff, the Detroit Convention and Tourist Bureau; the many companies who supplied such excellent speakers and who gave so generously of their time and services; and the press which was so generous with publicity. The greatest assistance of all came from the complete cooperation of the members of the Michigan Chapter.

In spite of the amount of work involved, we have all enjoyed running the 1955 Convention and are glad to have been of service to the Association. Our many "thank you" notes from members have made us feel it was all worthwhile.

We realize that some of our recommendations will involve extra expenditures but believe that they will be worth it by causing a more smoothly run convention and by creating good will of the members and exhibitors. We would like to request action on the recommendations included in this report.

FLORENCE H. ARMSTRONG, *Chairman*



#### Available on Loan

*Rare Earth Elements and Metals: Selective Bibliography, 1946-1953, with Subject Index, and Titanium and Its Alloys: Selective Bibliography, January-June 1954, with Subject Index*, are available on loan from Headquarters. Helen Basil, librarian of the Crane Company Engineering Library, Chicago, Illinois, is the compiler.

## ISABELLE BRONK FELLOWSHIP

The Institute of Local and State Government has created an Isabelle Bronk Fellowship in the Graduate School of Arts and Sciences, University of Pennsylvania, leading to the Master of Arts Degree in Political Science in memory of the late Isabelle Bronk, Institute librarian from 1937 to 1955. Miss Bronk, a member of SLA's Philadelphia Council, died on February 2, 1955.

This Fellowship, which will be awarded annually, is for a period of nine months, September 15 to June 15. It will cover full tuition charges and carry an annual cash award of \$1,000 to be paid to the recipient in nine equal installments. The recipient, in turn, will devote thirty hours a week to research or other work activities in the area of local and state government under the supervision of an Institute staff member.

The academic program leading to the M.A. degree includes instruction in the fields of administrative theory, the objectives, practices, and problems of local and state government administration, political theory, constitutional law, and research methods. The requirement of an acceptable master's thesis in the general area of local and state government must also be met by the recipient. Since the course of study leading to the degree is a two-year program, it is anticipated that the fellowship would be renewed for the second year upon successful performance by the recipient in both the academic and research phases of the program.

# Chapter Highlights

## Georgia

Dr. Maneck Bapuji Vajifdar, assistant librarian, Tata Institute of Fundamental Research, Bombay, India, spoke on India and its libraries at the May meeting of the Georgia Chapter. One of the foreign librarians brought to this country under the internship program of ALA and the State Department, Dr. Vajifdar interned at the Georgia Institute of Technology Library in Atlanta.

Describing India's progress in overcoming problems of language differences and illiteracy, Dr. Vajifdar pointed out that as illiteracy decreases, the task of India's librarians becomes greater. If the educational program is to have practical results, libraries must provide books for the increasing number of readers.

Most of India's more than six hundred libraries are special or university. "Public" libraries supported by social organizations or public-spirited individuals do good work but few can provide real public library service. National and state governments, however, are rapidly developing plans for increased library service.

The National Library at Calcutta has possibly India's largest collection, well over a million volumes. At Delhi, a Public Library established with UNESCO aid will serve as a model in library development. The government-supported Indian National Scientific Documentation Centre in Delhi is a major research repository.

MARION R. TAYLOR

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The Georgia Chapter has undertaken to compile an author index to the first eleven volumes of *Microfilm Abstracts* (formerly *Dissertation Abstracts*), published by University Microfilms, Ann Arbor, Michigan. Dorothy Jones, of the

Georgia Institute of Technology staff, has accepted the chairmanship of the Index Project.

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## New Jersey

The Newark Business Library offered one of its display windows to publicize the work of the New Jersey Chapter and its member libraries. Pictures of these libraries were attractively mounted on colored cardboard. In addition, the SLA publication, *Our Library*, was placed in a prominent spot to attract the attention of the public.

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## Washington, D. C.

Several members of the Washington, D. C. Chapter plan to attend the International Congress of Libraries and Documentation Centres to be held in Brussels, Belgium, September 11-18, 1955. The members planning to attend are Paul Burnette, Lt. Col. Frank Rogers, Scott Adams, Marietta Daniels, Eleanor Hastings, Foster Mohrhardt, Lucile Morsch, Anita Welge, Karl Baer, Anvor Barstad, and John and Ruby Moats. SLA President Chester M. Lewis has appointed Mrs. Eileen Cunningham of the Vanderbilt School of Medicine Library as official delegate to represent SLA. Marietta Daniels and Foster Mohrhardt will also attend the Conference as SLA delegates.

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## Wisconsin

The former Milwaukee Chapter, which has eighty-five members representing forty-five individual libraries throughout the state, voted recently to change its name to the Wisconsin Chapter. As a means of introducing the Chapter and the Association to fellow librarians, several SLA members compiled brief histories of their libraries which were published in the *Wisconsin Library Bulletin* for May-June 1955.

# Have you heard . . .

## SLA Metals Division Fall Meeting

The fall meeting of the SLA Metals Division will be held in Philadelphia, October 19-21, during the National Metals Congress and Exposition. Jean Wesner, librarian, Bethlehem Steel Corporation, will be chairman of the meeting which is sponsored jointly by the Metals Division and the Philadelphia Council, SLA, and the American Society for Metals.

The following papers on Indexing Systems in Industrial Libraries and Powder Metallurgy will be presented on Thursday, October 20:

*Use of the ASM-SLA System by Industrial Metallurgists*, by E. C. Wallace, metallurgist, Barber-Colman Company

*Uniterm-Coordinate Index System*, by R. L. Francisco, Engineering Services Division, General Electric Company

*Battelle Memorial Institute Subject Index System*, by Robert Gibson, assistant librarian, Battelle Memorial Institute

*Powder Metallurgy Literature and the Library*, by Mrs. Jean Haime, librarian, Pansteel Corporation

*Powder Metallurgy with Especial Reference to the Refractory Metals*, by Harry W. Highriter, vice - president, Vascoloy - Ramet Corporation

The program also includes a tour of the Bethlehem Steel Company and the American Society for Testing Materials.

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## Microfilm Service for Government Patents

Because film copies are not generally available, a growing amount of shelf space—about twenty-five three-foot shelves—is required each year to house the patent specifications for that year in bound form.

Ernest Biel of Biel's Photocopy and Microfilm Service is considering starting a microfilm project to film U. S. Patents, either on 35 or 16mm. film and is interested in ascertaining how much demand there might be for such a project. For further information, write to Mr. Biel at 1037 Ellicott Square Building, Buffalo 3, N. Y.

## Standard on the Storage of Microfilm

The British Standards Institution has issued a revision of its Standard Recommendations for the storage of microfilm, BS 1153:1955. This standard supersedes the 1944 edition and contains up-to-date information obtained as the result of recent experience. It applies only to microfilms made on a safety-film base and it is recommended that other microfilm should be copied on to safety film. Separate conditions are specified for microfilm required for a period up to twenty-five years and for film required for archival permanence. Aspects covered include processing, protection from fire and water, chemical contamination, relative humidity, temperature and air conditioning. Recommendations are also made concerning containers, film removal and conditions for transport. Copies may be had from the Sales Manager, British Standards Institution, British Standards House, 2 Park Street, London, W.1. The price is three shillings (42 cents).

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## Monthly Issues of New Serial Titles

A monthly issue of *New Serial Titles* in subject arrangement by Dewey decimal classification has been initiated by the Card Division of the Library of Congress. This arrangement enables librarians to survey for acquisition purposes the new serials in selected fields of interest without surveying the entire list. Each hundred of the decimal classification starts on a new recto (except that the 200's continue directly after the 400's). Thus the unbound issues, printed on 9¼ x 11½ sheets, stapled in one corner, may be disassembled, and all or part of the major classes may be sent to subject department librarians, faculty members, or other specialists for their information and recommendations.



*New Serial Titles—Classed Subject Arrangement* will appear monthly only; there will be no annual cumulations. The first issue, however, will be a combined issue for January-May. Subscriptions may be placed with the Card Division, Library of Congress, Washington, D. C., at \$25.00 a year.

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#### **Re-Publication of Index-Catalogue**

A re-publication of the *Index-Catalogue of the U. S. Surgeon-General's Office* has been announced by the Readex Microprint Corporation, New York City. It is an exact facsimile of all the four series originally published, with over one million entries.

While the original *Index-Catalogue* consists of fifty-seven volumes, the Microprint edition comprises only four labelled royal octavo boxes, which are shelved in exactly the same way as books, yet take up only eleven inches of shelf space. Librarians, who are concerned over the disintegration of their original volumes, will welcome this opportunity to replace them at low cost. The Microprint edition sells at \$75.00 for the complete set of four series.

\* \* \*

#### **Color-Coded Photocopies**

Color-coding, which speeds up communication by expediting the distribution of "paperwork", has for the first time been successfully extended to photocopying. Peerless Photo Products, Inc., Shoreham, L. I., New York, manufacturers of the DRI-STAT line of dry-process photocopy equipment and materials, is now offering colored positive papers, on a heavy, durable 10-point 220-gram card stock. Green, yellow and white are now available; for additional colors, users should contact Peerless or its nearest distributor.

The photo-sensitive side of the paper is colored. By making several copies of an original letter, an incoming order, an invoice, a part-drawing, or a specification on several different colored sheets of the new DRI-STAT paper, the routing

of these copies to the proper departments, according to the color-code, is automatically and positively assured. Colored papers are available in cut sheets 8½ by 11, 8½ by 14, and 11 by 17 inches in size. For further information contact Paul M. Platzman, manager, Publicity & Public Relations Department, John Mather Lupton Co., Inc., 420 Lexington Ave., New York 17, N. Y.

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#### **Moveable Booth for Photocopying**

A moveable photocopy booth for controlling light while making photocopy prints is now available from Hunter Photo-Copyist, Inc., Syracuse, New York. Parts for this booth come in package form, capable of being set up in five to seven minutes on any desk or table. Frame for the booth is of light, sturdy, tubular steel over which a specially shaped cloth is drawn to shield the photocopying machine and process from the light. For further information write the Hunter Photo-Copyist, Inc., 595 Spencer Street, Syracuse 4, N. Y.

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#### **A Photocopy Service at the New York Public Library**

The New York Public Library has inaugurated a new quick-copy service for its readers. The Cormac Book-Printer, highspeed photocopy equipment can copy directly from the pages of any bound book in forty seconds.

In the past, anyone wishing replicas of pages from a book in any library has had to photograph or photostat pages pressed down under glass, wait for processing (three days to a week), and in many cases could not capture all the original material due to too small margins.

The advent of this machine and its technical advantages will speed up and improve the work of researchers, engineers, technicians and librarians. For further information, write to W. Ware Lynch, president, Russell Birdwell & Associates, Inc., 30 Rockefeller Plaza, New York 20, N. Y.

## NEW SERIAL PUBLICATIONS

Henry Evelyn Bliss  
1870 - 1955

### CONTENTS IN ADVANCE

This new monthly periodical reproduces the tables of contents of some 200 domestic and foreign journals in the field of library science and documentation. The journal will be issued eleven times a year. One issue will consist of a union list of the titles whose tables of contents are included. Eugene Garfield is editor. Subscriptions at \$6.00 a year should be addressed to *Contents in Advance*, P. O. Box 64, Williamsbridge Station, New York 67, N. Y.

### HISTORICAL ABSTRACTS

Volume 1, No. 1 of this quarterly covering the world's periodical literature from 1775-1945 includes abstracts 1-989. The perspective is for coverage of 600 periodicals by the end of Volume 2. Erich H. Boehm is editor. Individual and institutional subscriptions are \$15.00 and \$25.00 a year, respectively, for four issues and index. Editorial address is c/o Historisches Seminar, Universitat Wien, Vienna 1, Austria. Publishing address is 640 West 153rd Street, New York 31, N. Y.

### JOURNAL OF EXPERIMENTAL & THEORETICAL PHYSICS

The American Institute of Physics will shortly begin publication of *Soviet Physics—JETP*, a periodical translation of research reports appearing in the Russian language *Journal of Experimental and Theoretical Physics*. The National Science Foundation of the Federal Government has granted funds to help finance the first year's operations. The editor is Professor Robert T. Beyer of the Department of Physics, Brown University, where the editorial office will be located.

The journal will appear every two months, the first issue being scheduled for publication in October, 1955. For further information, write to the American Institute of Physics, 57 East 55th Street, New York City.

Henry Evelyn Bliss, author of *A Bibliographic Classification* and other works on library classification published by The H. W. Wilson Company, died on August 9, 1955, after a slight illness. He was one of America's foremost contributors to the systemizing of bibliographic classification.

Mr. Bliss, who retired in 1940 as associate librarian of the College of the City of New York, had been associated with that institution since 1891. The bibliographic organization of knowledge, a study to which he devoted more than fifty years, first engaged his attention about 1900 when he found that the classification system used by the City College library was inadequate for classifying the rapidly developing fields of science, social science, technology, literature, and other subjects.

His new classification system, by which he reorganized the City College library in 1905-1908, endeavored to systemize all branches of knowledge and study in accordance with the consensus of modern scientific and educational thought. His introductory volume, *The Organization of Knowledge and the System of the Sciences* (1929), was followed by *The Organization of Knowledge in Libraries and the Subject-Approach to Books* (1933) and *A Bibliographic Classification* (a four-volume work completed early in 1953.) Although the Bliss classification has been adopted by only a few libraries in the United States, it has influenced American thinking on classification. It also enjoys a considerable reputation in Britain and the British Commonwealth nations, where it is in use in about sixty libraries.

In the last years of his life, in addition to other activities, Mr. Bliss planned (and edited the first three numbers of) the *Bliss Classification Bulletin*, an occasional mimeographed publication designed to keep his system of classification up to date. He was a member of Special Libraries Association, Library Association of the United Kingdom, and the (British) Poetry Society.

# Off the Press . . .

## Directories and Yearbooks

**AMERICAN ART DIRECTORY.** Vol. 39. Edited by *Dorothy B. Gilbert*. Rev. ed. New York: R. R. Bowker, 1955. 358p. \$17.50.

This 1955 edition, sponsored by the American Federation of Arts, lists all museums, art societies and art associations in the U. S. and Canada. Includes information on personnel, collections, exhibitions and activities.

**APPLIED SOLAR ENERGY RESEARCH.** A Directory of World Activity and Bibliography of Significant Literature. Edited by *E. J. Burda*. Stanford, California: Stanford Research Institute (available from the Association for Applied Solar Energy, Suite 204, Mayer-Heard Bldg., Phoenix, Arizona) 1955. 298p. Cloth, \$5. Paper, \$4.

Includes the names of individuals and organizations in 27 countries with a brief description of their current programs.

**CANADIAN ALMANAC AND DIRECTORY.** Edited by *Beatrice Logan*. 108th annual edition. Toronto, Canada: The Copp Clark Co., 1955. 822p. \$11.

Revised and up-to-date compendium of information on Canadian affairs. Over 50,000 indexed listings covering Dominion and Provincial government officials, banks, insurance companies, associations, educational institutions, newspapers and periodicals, custom and postal regulations, forms of address, railways, air lines, etc.

**DEMOGRAPHIC YEARBOOK 1954.** Sixth Issue. Prepared by the Statistical Office of the United Nations. New York: United Nations (Columbia University Press) 1954. 729p. Cloth, \$7.50. Paper, \$6.

New, additional and revised figures in this international compilation of basic demographic statistics. Fertility data is emphasized. English and French text.

**DIRECTORY OF MANUFACTURERS OF AMERICA.** Brooklyn, N. Y.: Directory of Manufacturers (186 Joralemon Street) 1955. 1,143p. \$125.

Lists some 300,000 manufacturers in all industries with pertinent data (number of employees, etc.) Information is compiled by states and within states by classifications. No advertising appears in the volume.

**DIRECTORY OF SPECIAL LIBRARIES IN AUSTRALIA.** Compiled by *Barbara M. Brown* and others. Sidney, Australia: The Library Association of Australia, 1954. 149p. App. \$3.

A directory of almost 400 special libraries in Australia with information on subject fields. Arrangement is alphabetical by states and by a subject index as well.

**THE INTERNATIONAL LABOR DIRECTORY AND HANDBOOK.** 1955 edition. Edited by *Jack Schuyler* and staff. 2nd ed. rev. New York: Praeger, 1955. 1,000p. \$25.

A comprehensive listing of labor unions and officials, government and private organizations, and individuals affiliated with the labor movement. Listings include labor press, institutes and labor libraries, labor lawyers, accountants and consultants, human relations agencies, federal, state and municipal officials concerned with labor.

**THE LIBRARY ASSOCIATION YEAR BOOK 1955.** London: The Library Association, 1955. 127p. plus membership directory. Paper, app. \$3.15.

Includes names of officers and committees, charter and by-laws, regulations and syllabus of examinations, library schools, graded list of textbooks.

**THE 1955 AB BOOKMAN'S YEARBOOK.** The Specialist Book Trade Annual for All Bookmen: Dealers and Publishers, Librarians and Collectors. Newark, N. J.: Antiquarian Bookman (42 Walnut Street) 1955. 345p. Paper, \$2.

**A PENROSE ANNUAL.** A Review of the Graphic Arts. Vol. 49. 1955. Edited by *R. B. Fishenden*. New York: Hastings House, 1955. 131p. plus illustrations. \$8.50.

The 1955 edition of this well-known reference source for designers, artists, printers, advertising people, and all graphic arts craftsmen.

**SCIENTIFIC AND TECHNICAL SOCIETIES OF THE UNITED STATES AND CANADA.** Sixth Ed. Washington, D. C.: National Academy of Sciences-National Research Council, 1955. 447p.

Lists information on history, purpose, membership, meetings, research funds, publications. Entries are limited to membership group organizations. Trade associations with research activities, previously included, have been eliminated.

**VOCATIONAL TRAINING DIRECTORY OF THE UNITED STATES.** A Compilation of about 3,800 Private and 600 Public Non-degree Schools, Offering over 300 Semi-professional, Technical, and Trade Courses. Compiled by *Nathan M. Cohen* (1434 Harvard Street, N.W.) 1955. 191p. Paper, \$2.95.

## Library Methods

**BASIC BOOKBINDING.** By *A. W. Lewis*. London: Batsford, Ltd. (available from Dover, New York) 1955. 147p. \$1.75.

Step-by-step instructions, with the aid of diagrams and photographs, in the binding of books by hand. Enables the beginner to bind his own books in a satisfactory and attractive style.

**CHARGING SYSTEMS.** By *Helen Thornton Geer*. Chicago: American Library Association, 1955. 177p. \$3.75.

A guide to the selection of a charging system. Tables show comparative features of 17 systems currently in use in public, college and university libraries. Cost figures or installation data are not included.

**LIBRARY MANUAL.** A Study-Work Manual of Lessons on the Use of Books and Libraries. By *Marie A. Toser*. 5th ed. rev. New York: H. W. Wilson, 1955. 94p. Paper, 70 cents.

A standard text for teaching the use of libraries and reference books to high school and junior high school students.

**MODERN STORAGE EQUIPMENT AND METHODS FOR SPECIAL MATERIALS IN LIBRARIES.** By *Robert L. Collison*. Essex, England: Mason & Sons (available from the author at 7A, Worsley Road, Hampstead, N.W. 3) 1955. 32p. Paper, 35 cents.

An introduction and handbook issued in connection with an exhibition of modern storage equipment and methods for special material in libraries, held in London, January 1-12, 1955, under the auspices of the London and Home Counties Branch of The Library Association. Brief comments on archives, maps, news clippings, microfilm, music, pamphlets, etc. General bibliography is included.

**PROBLEMS AND PROSPECTS OF THE RESEARCH LIBRARY.** Edited by *Edwin E. Williams*. New Brunswick, N. J.: Scarecrow Press, 1955. 181p. \$3.50.

This volume contains the papers and proceedings of the Monticello (Illinois) Conference of the Association of Research Libraries.

**SERIAL PUBLICATIONS.** Their Place and Treatment in Libraries. Chicago: American Library Association, 1955. 309p. \$6.

A theoretical and practical introduction to the library aspects of serial publications. Special libraries have been taken into account equally with general libraries.

**SUBJECT SPECIALISATION AND CO-OPERATIVE BOOK PURCHASE IN THE LIBRARIES OF GREAT BRITAIN.** (Library Association Pamphlet No. 12.) By *K. G. Hunt*. London: The Library Association, 1955. 33p. Paper, app. 50 cents.

Includes a chapter on University and Special Libraries.

**VOCATIONAL AND PROFESSIONAL MONOGRAPHS.** No. 1. *The Library Profession.* By *Ruth Shaw Leonard* and *Margaret Paige Hazen*. Cambridge, Mass.: Bellman Publishing Co., 1955. 20p. Paper, \$1.

The first in a series dealing with vocation and career opportunities. Covers personal qualifications, scholastic training needed, employment opportunities, etc.

## Miscellaneous

**BRITAIN: An Official Handbook.** 1955 Edition. London: Her Majesty's Stationery Office (available from British Information Services, New York) 1955. 438p. \$1.80.

The 1955 edition of the Handbook, prepared by the Central Office of Information, London, has been extensively revised and enlarged. The volume contains a wealth of information, compiled from official sources, on Great Britain's geography, history, government, trade and export regulations, transportation, science, national economy, etc. Includes diagrams, illustrations, maps, a bibliography and cross-index.

**CUMULATIVE INDEX OF HOSPITAL LITERATURE 1950-1954.** Prepared by the Library of the American Hospital Association. Chicago: American Hospital Association (18 E. Division Street) 1955. 513p. \$6.

This is the second cumulative index to journals in the hospital and related fields. The first covered the years 1945-49. These two cumulations will give the administrator, librarian or student an accurate insight into hospital progress over the past decade. The present volume covers more than 300 journals and is arranged by author and subject. A list of the periodicals indexed is a valuable aid in ascertaining which magazines are included among those indexed.

**ENGLISH-VIETNAMESE DICTIONARY ANH-VIET TU-DIEN.** Paris: Edition La Fontaine (available from Educational Services, 1730 Eye Street, N.W., Washington, D. C.) 1955. 2,000p. \$19.50.

EVERYONE'S COMPLETE LEGAL ADVISER. By *William Capitman*. Rev. ed. New York: Gilbert Press (available from Julian Messenger, New York) 1955. 384p. \$3.95.  
Useful home guide to law, written for the layman.

FEDERAL POPULATION CENSUSES 1840-80. A Price List of Microfilm Copies of the Original Schedules. (National Archives Publication No. 55-7.) Washington, D. C.: The National Archives (General Services Administration) 1955. 73p. Gratis.

A GUIDE TO THE DISPOSITION OF STATISTICAL RELEASES ISSUED BY THE BOARD OF GOVERNORS OF THE FEDERAL RESERVE SYSTEM. Compiled by the Library, Board of Governors of the Federal Reserve System. Washington, D. C.: Board of Governors of the Federal Reserve System, 1955. 6p. Mimeographed. Gratis.

HANDBOOK OF PARLIAMENTARY PROCEDURE. By *Henry A. Davidson*. New York: Ronald Press, 1955. 292p. \$3.75.

Useful source for on-the-spot answers to parliamentary questions. A compact manual of organizational tactics and operations.

INTELLECTUAL FREEDOM. (*Aspects of Librarianship No. 7.*) By *John M. Goudeau*. Kent, Ohio: Kent State University, 1955. 12p. Mimeographed. Gratis.

A readable and thoughtful presentation of the subject.

THE INVENTORIES. By *Frederick Staples*. Thiensville, Wisconsin: Counting House Publishing Co., 1955. 113p. Paper, \$2.

Handbook and practical guide to the preparation of inventories, including general pricing principles, inventory methods, verification by outside auditors. Examples, sample forms and extensive alphabetical index.

OUR NATURAL RESOURCES: THEIR DEVELOPMENT AND USE. (The Reference Shelf, Vol. 27, No. 2.) Edited by *Juanita Morris Kreps*. New York: H. W. Wilson, 1955. 189p. \$2.

Explores national policies on hydroelectric power, the Tidelands, public lands and atomic energy through reprints of articles and speeches by experts. Includes bibliography.

REPORT WRITING. By *John Ball* and *Cecil B. Williams*. New York: Ronald Press, 1955. 407p. \$4.75.

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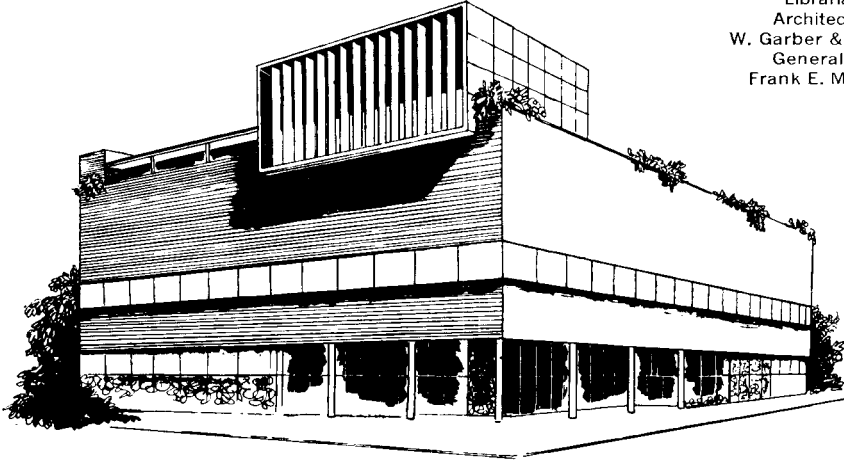
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