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PAPERS PRESENTED AT THE ANNUAL CONFERENCE, SPECIAL LIBRARIES ASSOCIATION, KAAT- ERSKILL, N. Y., JUNE 23-26, 1913.

The Library a Necessity in Modern Business.

By N. C. Kingsbury, Vice-President, Amer. Tel. and Tel. Co.

The predicament in which I find myself this afternoon, it appears, has been brought about by the enthusiastic regard which our very able comptroller, Mr. DuBois, has for our library system.

This system is the particular pet of Mr. DuBois, and I dare say he has talked a good deal about it, with the result that he was asked to address you on this subject.

Now, Mr. DuBois, fortunately for him, is on a trip to the Pacific Coast, and I have been delegated to perform this duty in his stead. The circumstances in which I find myself remind me of an incident which occurred in Charleston, South Carolina, this winter, when my wife and several other ladies were walking on the street and noticed a little girl hugging in her arms a small, white pet. One of the ladies, attracted by the child's appearance and evident affection for the pet, stopped and said: "Why, my dear, with that lamb in your arms, your name should be Mary." Whereupon, the little girl smiled and replied: "My name is not Mary, and this is a goat." Mr. DuBois seems to me to be the little girl. I do not know who the kind lady was who

addressed the little girl, but there is no doubt in my mind that I am the goat.

The American Telephone and Telegraph Company is the parent company of the Bell System. Through its subsidiary companies it carries on a telephone business in every state and territory with the exception of Alaska, and thus covers the entire country with a thin blanket. Its interests, therefore, are country-wide. If a fire occurs in Baltimore, an earthquake in San Francisco, a cyclone in Omaha, a flood in the middle west, or a business failure anywhere in the land, the American Telephone and Telegraph Company suffers a loss together with the people of the particular locality affected.

With the opportunity and the privilege of conducting a business throughout this broad territory, the company is charged also with a great civic duty, which I believe it fully appreciates and attempts to fulfill. It must supply facilities for twenty-six million telephone conversations every twenty-four hours. It must replace the facilities destroyed by fire, earthquake, cyclone, and flood. It must give those who are involved

in a business failure every possible chance of recouping losses and re-establishing business. In other words, it must to the fullest extent of its ability deserve the patronage of the public, and work towards its ultimate object, which is, to so arrange telephone business that everybody in the United States who has a telephone may be able to talk with everybody else in the United States who has a telephone.

It will be understood at once by this audience that in order to fulfill the highest ideal of such a duty, it is necessary to keep fully informed on a great many subjects. Superficial information will not answer such a purpose. The knowledge must be comprehensive, exact, technical. The sources of information must be the best obtainable. The achievements, and records, and writings of the great doers and thinkers of the past must be available, and the last thought and the last word on a multitude of subjects must be constantly studied, analyzed, and where valuable, adopted, in order to keep fully up to date. And therefore the main thought which I wish to impress upon you this afternoon is the necessity for a collection of printed records, or, in other words, a library.

The company has no general, central library; such an arrangement would not be easily available to a large number of employees and executives; therefore the general theory is that special libraries so selected and located as to be of daily, practical use to the several departments and a multitude of persons, are more desirable than a single, central library could possibly be.

This chain of special libraries comprises the following:

- Accounting library;
- Foreign statistical library;
- Public ownership library;
- Engineering library;
- Law library;
- Commission research library.

Duplication of books is, in the main, automatically avoided by the different character and purpose of the different libraries, but we do not hesitate to allow libraries to overlap to such an extent as this is found useful for the work. For instance, the accounting library has a few—but very few—books on general engineering and legal subjects; the few standard books on the telephone might probably be found in each of the libraries; some standard authorities on general accounting have a place in several of the other libraries.

Let us consider for a moment the necessity, purpose, and extent of these several collections.

The accounting library—As modern business has expanded and developed and become more and more complicated, so methods of bookkeeping, auditing and account-

ing have necessarily kept pace with the different lines of business to which they pertain. It was sufficient for the individual proprietor to know how much he owed, how much was due him, and, in a general way, what his profit was during a given period of time, but such a bare outline would be quite insufficient to satisfy the stockholders of a great corporation, and, indeed, the stockholders have a right to know in detail just what is taking place in the corporation. Furthermore, in the telephone business, the public has a right to know exactly what is taking place, and every attempt to increase rates or to justify existing rates must be backed up by accurate, detailed statements as to the value of the property involved in giving service, cost of operation, depreciation, maintenance, etc.

Accounting, therefore, has become a science, a profession, and attracts men of the very highest intellectual grade.

The accounting library of the American Telephone and Telegraph Company is so called because it was originated for research and reference work in accounting and auditing subjects, and it is still especially strong along these lines. However, by natural extension to meet the demands made upon it, it now covers other subjects, more or less closely allied with accounting. For instance, while this library comprises some 1,200 bound volumes, only about 150 volumes are classified under the general heading "Accounting-Auditing-Bookkeeping."

The general purpose and intent in this part of this library has been to acquire only the modern books on the subject, and as the literature of accounting is not an extensive one, these 150 volumes cover the subject quite completely.

The real students of auditing and accounting have their attention drawn to many subjects which might seem to fall outside the strict lines of their profession, but which, in fact, are more or less closely related to their work. Thus, under the heading "Sociology" are several subjects which must be frequently referred to by real, earnest students of accounting.

Frequent recourse must be had to statistics, and to the recognized authorities on statistical methods, such as Bowley, Davenport, King, and Yule; also the general statistical reference books and the publications of the American Statistical Association are on hand and have come to be considered as necessary equipment for the accounting department.

The standard textbooks and publications on economics form a part of this library and the various publications of the Economic Association. The subjects of "Capital and Labor," "Profit Sharing," and "Compulsory Insurance" are represented by the principal works and those of a general character bearing on these subjects.

Under the title "Bank Money Credit" there are some 50 volumes, dealing chiefly with the theory and practice of banking and of foreign exchange.

Under the subject of "Insurance" it is, of course, obvious that a large library could be collected, but it has been thought wise to limit the scope of this library to the principal authorities on the general subject, such as Hoffman, Huebner, Young, Walford, Tarn, and others.

Under "Commerce, Communication" we believe we have about all the general works pertaining to the telegraph, telephone, and cable, but we do not carry in this particular library the technical works which would in general be classified under the useful arts, and with us are to be found in our engineering library.

Under the heading "Railroads and Express" we have limited the books to about 40 volumes, which in a general way cover the subjects fairly well, but which, of course, could be largely added to from the general literature on these subjects.

Accounting is, of course, an exact science, and the subject of mathematics, therefore, has a prominent place in an accounting library. This library contains textbooks for reference and quite a comprehensive collection of mathematical tables which are in daily use.

I find that in Dewey's classification, the subject of accounting falls under useful arts as a sub-class of a sub-class and without further elucidation than its title "657 Book-keeping-Accounts." We have retained the number 657, but have changed the title to "Accounting, Auditing, Bookkeeping," and have sub-classified with reference not only to the present literature on the subject, but also, and more especially, to the development and expansion of that literature in the future; it being our general idea that accounting literature in the near future will be much more extensive and satisfactory than it is at the present time.

This library acquires also the principal books on business management, under which heading a literature is rapidly developing. We hear so much now-a-days about "Efficiency," and the so-called "Scientific Management" that it is necessary for our people to continually keep abreast of the times and take advantage of the best thought on these important subjects.

This library also contains encyclopaedias, dictionaries, atlases, directories, manuals of statistics, and other reference books which must be constantly available.

A trained librarian is in charge of the accounting library, and it is conducted according to modern library methods. This has been found very advantageous and the activity of the work is indicated by the circulation for 1912 which was 1,780 books, 476 papers, 376 pamphlets, but these figures

do not include the reference work and the research work which is done in the library without the withdrawal of books.

The real value of the library is, of course, best indicated by its constant use and this use may be roughly described as being of three kinds:

1. For detailed working purposes; many of the people in the accounting department are engaged in constructive work, such as developing and perfecting accounting systems, clerical methods, or statistical data on general subjects. In such original or research work, the library is not merely useful, but is, of course, absolutely necessary.

2. For educational purposes in the training of accountants; it is impossible for us to find thoroughly trained accountants in our line of work; the young men in the department must be trained and developed along special accounting lines, but, at the same time, it is desirable from their standpoint as well as from the standpoint of the company that these young men have the opportunity to develop themselves by a broad, general study of accounting and all of its kindred subjects.

3. For general reference and consultation by other departments of the business. This use of the accounting library is steadily increasing, and promises to become more and more important as time goes on. Any person with the company who desires to look up a special matter or to do some general reading along the line of accounting, finance or economics, naturally turns to this library for material and for assistance by the librarian.

A card catalogue is kept and a classified catalogue of bound volumes is to be printed this year.

Foreign Statistical Library—Our foreign statistical library is necessary in order that we may know what is going on in our line of business all over the world.

We claim to have in the United States the largest and best system of telephony in the world. We always want to make good that claim, and in order to do so we must be continually alert, lest the palm be snatched from our hands.

In a broad way our foreign statistical library covers the following classifications.

1. Annual reports of foreign telephone and telegraph administrations and companies.

2. Bound volumes of foreign technical and trade periodicals.

3. All foreign official telephone and telegraph publications other than annual reports. All official and non-official statistical publications dealing incidentally with telephone and telegraph statistics, and all general statistical books, such as census publications, year books, etc.

4. Works of a legal nature, such as legislative or parliamentary hearings, debates, etc.

5. Historical and narrative works on the telephone, telegraph and allied subjects.

6. Foreign trade books, subscribers directories, etc.

7. Special technical books and dictionaries.

This library at the present time includes something over 1,000 volumes. As the above classification shows, these volumes deal not only with foreign telephone and telegraph statistics, but also with many general foreign statistics, such as population, and commercial statistics. These books have been gathered from about 70 different countries, and together with a number of general books, including the above classification, represent every country in the world.

We are constantly studying to improve our methods, and have come to know that the most intelligent sort of study looking toward improvement, is to know what the other fellow is doing. We constantly are forced to compare our rates with the rates for telephone service in other countries. We are constantly called upon to compare our service with telephone service in other countries, and in the consideration of all these questions lies the value and the necessity of this foreign statistical library.

I might also say that we have to answer questions which our honored President, Mr. Vail, is continually propounding. He is the greatest user of statistics I have ever known, and he doesn't want to wait for an answer when he asks a question. I was amused the other day to hear Mr. Gifford, our statistician, say that Mr. Vail called him up on the telephone from Boston and asked him how many horse-power was developed in the United States annually by steam and water power. Of course, Mr. Vail waited on the telephone until Mr. Gifford told him.

Public Ownership Library—There are some questions of broad, general interest, which have such a peculiar and particular interest to the company that it has been thought wise to collect special information concerning them. One of these is the subject of Public Ownership.

In compiling the special information on Public Ownership, an attempt has been made to begin, first, with a complete compilation of all past information of a special character, dating as far back, in some instances, as the middle of the 19th century, which, because of its official or semi-official nature, has been deemed worth while collecting, as a substantial foundation upon which to build the compilation of current and future information. First of all, then, an attempt was made to gather all information of an official nature, bearing, in any

way upon the subject of public ownership, irrespective of the public utility involved. All official documents bearing upon the subject of public ownership, were gathered, for the twofold purpose of general information as to the status and trend of public ownership, and the possible utilization of information so gathered.

This information, including not only official literature as to the United States, but also as to England, France, Germany, Sweden, Switzerland and other foreign countries, has been used as a foundation for the collection of current official information for the United States and foreign countries. This includes such documents as those of the United States Senate and House Reports, English Parliamentary Reports, French Senate Reports, special reports of official committees, reports of heads of departments where utilities are publicly owned and operated. As a further guide to this class of current official information, current newspaper reports, reviews, the Congressional Record, foreign newspaper and periodical information, etc., have been used, together with special lists prepared in connection with such subject matter, such as the price lists issued by the Library of Congress, lists of references furnished in books and treatises on the experience of foreign countries with public ownership, etc. Whenever reference is made in any newspaper, review, digest or list, to an official document, specially issued, the matter is taken up, with a view to the availability of such official literature for our purpose.

As to information which is not official, such as that which appears in books, magazines, pamphlets, newspapers, etc., a more general method of collecting information has been adopted. All available book reviews are noted in this library, and such books as are deemed of especial note, are purchased for direct use and reference. Those books which appear to be of lesser availability, are noted in a General Card Index. Pamphlets referred to in newspapers, reviews, and reports, which may, in any way, be interesting, are directly procured for filing in this library, and such others as are of more remote availability are listed in the General Card Index.

Recourse is had to an extensive clipping bureau, and, also to a number of bureaus which give digests of pertinent information, the latter serving not only as a general information guide, but also as an index to original data which may be deemed of value and interest. All magazines and other current periodicals which are, in any way, likely to be interesting for purposes of general information or as a follow-up guide to other information, are especially scrutinized. In addition, a large number of foreign periodicals, some two dozen in

number, are regularly received by this library, are indexed, and filed for handy reference.

There are, approximately, 200 bound volumes in this library and about 1,000 unbound periodicals, pamphlets, reports, etc., together with a considerably larger number of clippings, loose papers, and the like.

This is a very live subject, and books are being added to the library at the rate of about 10 a month, and this number does not include the bound official and other regular reports, but relates only to special works on the general subject of public ownership.

The bound volumes, pamphlets, periodicals, etc., are filed on book shelves, while the loose papers, clippings, etc., are filed in ring binders.

As a cross division for literature, included in bound volumes, pamphlets, periodicals, etc., a rough arrangement is observed as to the regularity or irregularity with which the literature is published; that is, bound volumes and pamphlets which are more or less regular in time and circumstance of publication, are kept together on the shelves, so that they may be added to indefinitely, without disturbing the filing arrangement. The arrangement on the shelves is, first, by country, and under country, by group (i. e., Reports of Postmasters-General), and then by year, or other interval of publication. Volumes and pamphlets irregular in time and circumstance of publication are filed together, on the shelves, by country, and, under country, by a straight consecutive-number filing, depending upon the mere accidental sequence of adding to the shelves.

The material consisting of loose papers, clippings, etc., is filed in ring binders, first, by country, and under country by date. The file number indicates not only the country of filing, but also, the date (down to the month) and exact location within the files.

As a ready index to material available in these different groups of publications, a current file or general index is maintained. This file is triplicate in nature. That is, for every piece of literature thus indexed, there are three cards: a card filed alphabetically by author; a card filed alphabetically by the subject involved (i. e., utility concerning which public ownership is discussed, such as Railways, Telegraphs, Telephones, Lighting and Power, etc., with a further indication as to whether the treatment involves public ownership by national or provincial authority, or public ownership by municipal authority), and a card filed alphabetically by country involved. Where a single piece of literature treats of public ownership in more than one of the above phases, such as more than one country, or more than one utility, additional cards are made to cover such duplicate phase of treatment of the sub-matter.

Engineering Library—When Alexander Graham Bell invented the telephone in 1876, he, of course, accomplished the most far-reaching and important work which can ever take place in the art of telephony, but important as that discovery was, it still was but the beginning of hundreds of discoveries and developments which were necessary in order to make the invention of Dr. Bell available for the transmission of human speech.

Ever since that time hundreds of engineers have been busily engaged in study, research, and experiments, which have resulted in the invention of several hundred devices which are now used and necessary in the everyday employment of the telephone. Together with the general science of electricity, the art of telephony has been growing and developing at a tremendous pace, so that a telephone equipment man who might have known all about telephone apparatus five years ago would know little about telephone apparatus as employed today in a modern telephone exchange.

This work continues, and refinements in equipment and apparatus, the result of engineering experiments and studies, are being made, and in no branch of the business is there a greater necessity for a library than in the engineering department.

The engineering library contains about 1,500 printed volumes, and consists of specially selected works on the following subjects: Mathematics, physics, electricity and magnetism, chemistry, materials, mechanical engineering, electrical engineering, civil engineering, telegraphy, telephony, and patents, together with a miscellaneous collection on architecture and other allied branches. To this should be added many volumes and bound periodicals. This library contains all of the U. S. patents for telephony and related subjects. These patents are reviewed by the engineering department as fast as they are issued, are bound, and carefully indexed and placed in the library.

60 technical periodicals are subscribed for and the publications of the leading scientific and technical societies of the world are received.

In addition to these, the engineering library contains over 3,000 unprinted volumes consisting of manuscript reports of the company's engineers and other engineers, and these date from the very beginning of the telephone art. These reports include accounts of important, original research work of the innumerable technical tests which the engineers are constantly making upon all new devices pertaining to the art of telephony, and exhaustive studies made from time to time upon a great variety of subjects pertaining to the development of telephony. These reports, which are kept up to date, have not merely an historical

value, but they are of great practical value, being constantly made use of by the engineers in their work.

One branch of the engineering department's work consists in making what are familiarly called "fundamental plans," which plans provide broadly for the telephonic development of cities and towns for a period of twenty years in advance. These plans necessitate the most careful forecasts of growth, and population, and business development in all of the principal cities and towns of the United States.

If a large business block is to be erected in any city, the telephone company must be ready to serve the subscribers in that business block. The company cannot continually dig up the streets, put in underground cables, string overhead wires, every time a new telephone is required. It must be ready to serve; hence these fundamental plans are absolutely necessary, and form a part of the valuable data filed in the engineering library.

In the patent division of the Engineering Library is to be found a technical library of, broadly speaking, 5,000 volumes. The beginnings of this patent library were coeval with the earliest days of the telephone business. From its inception the aim has been so far as possible to get together substantially everything, or at any rate everything valuable, that has been published concerning the sciences of electricity and magnetism, and indeed the other sciences in so far as they relate to electricity and magnetism, embracing also substantially all the text-books and manuals dealing with the several industrial arts which are based upon such sciences.

Furthermore, it has been found expedient to collect copies of all the patents that have from the beginnings of the United States patent system been issued upon electrical, magnetical and kindred subjects by the Patent Office, and to bind these with complete indices; so that the library now comprises a full list of the American patents, together with a more specialized list of British, French and German patents.

What has been described might well be called the working or everyday part of the Engineering library; but the engineering work touches the affairs of the company at so many different points that recourse must be had from time to time to other libraries.

A few years ago it was our good fortune to secure a very valuable, comprehensive library which includes substantially all publications relating to electricity since 1865, in all languages. This library we have presented to the Massachusetts Institute of Technology. It is especially strong in periodical publications and is brought down to the year 1910. Pretty nearly everything in the way of periodicals relating to electrical engineering is included in this collection.

In addition to the periodicals, practically all of the recent works on electrical engineering make the collection immensely valuable for working reference.

This library also includes very interesting, old, rare volumes. Motley says regarding this library that in many respects it is the best electrical library that has ever been gotten together. In addition to its electrical works it contains much relating to metallurgy, and is said to contain all the publications that have been made relating to aeronautics.

This library is, of course, available to our engineering department, as is also the magnificent library which the American Institute of Electrical Engineers and its allied societies have established.

Law Library—Last but not least is the law library, and also the library of commission research, to which it is closely allied. The library of the legal department of the American Telephone and Telegraph Company necessarily comprises a complete set of the statutes and session laws of all of the states and territories of the United States, as well as of the Federal government; the West Publishing Company edition of all the decisions of the highest courts of the states, from about the year 1885. It also includes complete sets of the decisions of the Supreme Court of the United States and the Court of Appeals of New York State; recent editions of standard text-books on legal subjects of interest to telephone corporations; general digests of decisions and encyclopedias of laws covering the United States and the state of New York, and many volumes covering the reports of governmental officials, municipal ordinances, state manuals, etc. This library subscribes to all the principal legal magazines which tend to keep the legal department abreast of the academic thought on legal subjects.

The library contains a complete subject catalogue of books and also a subject index to telephone cases.

It has not been the aim to assemble a complete law library, but to have available those books for which the legal department has constant and immediate use. There are about 5,000 volumes in the law library, which constitute what the lawyers term a splendid working library.

Commission Research Library—You have all doubtless heard a good deal of late about government by commission, and we are having a good deal of it in this country at this time. The Federal government has the Interstate Commerce Commission, and I believe at the present time all except three of the states—Delaware, Utah, and Wyoming—have state commissions established by the state legislatures, with as many different species of supervision and control over public service corporations as there are commissions.

The American Telephone and Telegraph Company welcomes gladly supervision by commission, believing that a body of men specially selected, with time and facility for investigation, performing a quasi-judicial function, is the best sort of a tribunal with which to deal.

It is, of course, necessary for the company to keep in touch with all of these various commissions and to collect all the available literature pertaining to the Interstate Commerce Commission and the different state commissions. This library now numbers about 1,000 volumes, and is increasing very rapidly. Logically this library started with the fundamental laws passed by the United States and the various states establishing the commissions and outlining their duties and powers. The library also includes the annual reports, the periodical reports and the special reports of all the supervising state commissions, as well as the decisions, the orders, the opinions, the rulings, the findings and in many cases the evidence brought out in many of the rate cases which have been decided by the commissions.

The importance of this data may at once be appreciated in considering the fact that so far as administrative functions go the

rulings of these commissions are absolutely binding on the public service corporations over which they exercise supervision. There is no appeal from the rulings of the commissions so far as administrative functions go.

All of these reports of the acts of the commissions are carefully filed, indexed and cross-indexed, so as to be immediately available.

Such is a brief outline of the different libraries which are found necessary to the telephone business. Such a library is in large measure a record of the mistakes and the achievements, the successes and the failures, of the past. In thinking of the value—nay, of the necessity—of a modern library to modern business, this question at once arises: What could we do without these records? We know what the ancients did—they groped about in uncertainty and darkness and doubt; they went as far as they could with logic, with philosophy, and then had recourse to various omens and divinations. But if we would decide on a wise course for the future we look to the records of the past, we weigh the successes and the failures of those who have gone before us, and instead of journeying to the oracle of Delphi, we naturally turn to the modern library.

A Review of Chief Sources of Material for Special Library Collections.

By Mari Fay Lindholm, Assistant Librarian, Public Service Commission Library, New York City.

1. Introduction.

One of the chief distinctions between a public library and a special library of similar size consists in the greater variety of kinds of material and the more elusive character of material in the latter. This constitutes a difficult problem for the special library organizer. Hence it is with the view of helping, perhaps, to simplify this problem that this paper has been written, presenting a nucleus of material of varied kinds which usually serves to build up a special library. In such a broad subject as this, the special library experience of the writer having been along lines of public utilities principally, it may well be that many will discover a slight bias in choice of sources. However, I have tried to make my references as general in their application as possible. Many sources are common to all special libraries, while still other sources would be used only by certain types. If this review serves to bring to the attention of special librarians some

of the more important of these various sources, its object will be attained.

2. General reference foundation.

No matter what type of library you may be organizing, you will need a representative collection of general reference books. A most helpful source for selection is A. B. Kroeger's Guide to Reference Books (A. L. A. Publishing Board), supplemented by articles appearing annually in the Library Journal on the reference books of the current year. Your collection will include the Encyclopaedia Americana or, New International or, if a more scholarly work is needed, the Encyclopaedia Britannica; the Century, Standard or Webster's dictionaries; some foreign dictionaries; technical dictionaries; the World, Tribune and Brooklyn Eagle almanacs and your local newspaper almanac; the Statesman's Year-book and American Statesman's Year-book; local directories, corporation and trade directories in your line; Century Atlas, Rand-McNally's Atlas, Lippincott's Gazetteer and local atlases;

Lippincott's biographical dictionary and Who's Who in America; Hoyt's and Bartlett's Quotations, Brewer's Dictionary of phrase and fable and Reader's Handbook; U. S. Census reports and the Bureau of Census Annual statistical abstract.

Chief reference sources in certain lines.

Coming now to sources of information peculiarly useful to particular types of special libraries, we necessarily have before us too broad a field to cover in this limited space. I shall attempt, however, to indicate a few of the most important reference books or sources of information in certain lines.

3. Chief reference sources for a Public service commission or corporation library.

In a library of this character, information and statistics relating to public utilities, public service corporations and commissions, their accounts, financial problems, bond issues, valuation, franchises, rates, municipal ownership engineering material related to their work, charters and codes of ordinances, state, city, company and commission reports would form the main bulk of the collection. At risk of devoting too much space to this portion of my subject, I include the following list of material:

a. Engineering.

- Merriman, M. American civil engineers' pocket book. 1912.
 Trautwine, J. C. Civil engineers' pocket book. Latest ed.
 Foster, H. A. Electrical engineers' pocket book. Latest ed.
 Garcke's Manual of electrical undertakings. N. Y. Van Nostrand. Annual. (Corporations in Great Britain).
 Hawkins' electrical dictionary. N. Hawkins. N. Y. Theodore Audel. 1910.
 McGraw electrical directory. Lighting and power edition. N. Y. McGraw. Semi-annual.
 National electric light association. Electrical meterman's handbook. 1912
 Pomeroy, L. R. Lighting engineer's handbook. 1909.
 Gillette, H. P. Handbook of cost data. 1910.
 Browns' directory of American gas companies. N. Y. Gas Age, 280 B'way. Annual.
 Gas World year book. John Douglass ed. Lond. John Allan & Co., 8 Bouverie St. Annual. (Gas corporations in Gt. Britain.)
 O'Connor, H. Gas engineer's pocket book. Latest ed.
 Trustees gas educational fund. Catechism of central station gas engineering in U. S. 1909.
 Boston consolidated gas co. Library catalog. 1909.
 Smoley, C. Smoley's tables: parallel tables of logarithms and squares. 1912.
 Byrne, A. T. Inspection of the materials

- and workmanship employed in construction. 1911.
 Kent, W. Mechanical engineer's pocket book. Latest ed.
 Bureau of railway economics. Railway economics: a collective catalogue of books in 14 American libraries. 1912.
 Johnson, E. R. American railway transportation. 1904.
 Dawson, P. "Engineering" and electric traction pocket book. Latest ed.
 Electric railway dictionary. Rodney Hitt comp. 1911.
 McGraw electric railway manual. N. Y. McGraw. Annual.
 Kidder, F. E. Architect's and builder's pocket book. Latest ed.
 Johnson, Bryan and Turneure. Theory and practice of modern framed structures. Latest ed.
 Gilbert, Wightman and Saunders. Subways and tunnels of New York. 1912.
- b. Economic.**
- Johnson, G. Electric lighting accounts. 1904.
 Forse, W. H. Electric railway auditing and accounting. 1908.
 Eaton, J. S. Handbook of railroad expenses. 1913.
 Hendrick, F. Power to regulate corporations and commerce. 1906.
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- Whitten, R. H. Valuation of public service corporations: Legal and economic phases of valuation for rate making and public purchase. 1912.
- Wyer, S. S. Regulation, valuation and depreciation of public utilities. 1913.
- Wilcox, D. F. Municipal franchises. 2 v. 1910.
- National civic federation. Municipal and private operation of public utilities. 3 v. 1907.
- Knoop, D. Principles and methods of municipal trading. 1912.
- Lindsley, Van S. Rate regulation of gas and electric lighting. 1906.
- Ripley, W. Z. Railroads, rates and regulation. 1912.
- King, W. I. Elements of statistical method. 1912.
- Peddle, J. B. Construction of graphical charts. 1910.

c. Rapid transit.

Special mention must here be made of some important sources of information in rapid transit lines, among them being the reports of the Public service commission, First district, the Boston Transit Commission, the Chicago City council-Committee on local transportation, the reports of Bion J. Arnold on the New York subway (some of which may be obtained by addressing the Public service commission, New York city), and his reports on transportation in Chicago, San Francisco, Pittsburgh, Providence and Toronto (which may be obtained by addressing the mayors of these cities). Much valuable material is contained in periodicals, and through the Engineering index, articles on the London, Paris, Berlin and Vienna subways may be obtained. The Chicago City council-committee on local transportation, has published, in 1909, a "Report on transportation subway systems of Boston, New York, Philadelphia, Paris and London." The New York subway contracts may be obtained from the Public Service Commission at one dollar for each section of the various routes.

d. Other sources.

State railroad and public service commission reports and decisions, special reports, company reports, association proceedings, periodicals, etc., will be considered under their respective heads.

4. Chief reference sources for a financial library.

Here the standpoint would differ materially from that of a public service corporation library. Here, perhaps more than in any other sort of special library, are newspaper clippings in evidence. Leading newspapers of various cities, including several New York papers, are clipped daily for

commercial and financial news and changes in companies. These are pasted on manila sheets and filed.

Daily quotation sheets of the principal stock exchanges, files of the Commercial and financial chronicle, Wall Street journal, Moody's magazine and other financial and railroad periodicals are important sources. State and national banking, insurance and railroad reports, American Bankers' association proceedings, U. S.—Foreign and domestic commerce bureau—Monthly summaries of commerce and finance, U. S. Consular reports, Financial review (Wm. B. Dana Co, Front, Pine and Depeyster Sts., N. Y.), foreign financial and statistical annuals, Moody's and Poor's Manuals (previously noted), besides many of the reference books noted previously and other works on finance and banking would all be useful.

The Analyses publishing co., 35 Nassau St., New York, publishes many financial books, besides issuing Moody's Analyses of investments (2 vol. Annual) and Moody's magazine. The latter lists monthly new financial books and articles of interest.

Company information being the paramount issue, there would be included annual reports, articles of incorporation, mortgages, dividend records, agreements and clippings. All annual reports and other company matter is noted in the daily papers, the Wall St. journal or the Commercial and financial chronicle, and are immediately sent for.

5. Chief sources of information for a municipal reference library.

In a municipal reference library, information about cities, and particularly the city in which the library has been established, will be the chief consideration. The collection should contain as full sets as possible of the local city reports, documents, charters and ordinances. Other important city documents from cities here and abroad should be secured, particularly charters, ordinances, statistical year-books, and reports of special investigations undertaken by cities. Much analytical indexing of these reports will be necessary. Local state legislation affecting the city concerned should be kept track of by means of full sets of the local state laws and files of legislative bills kept during the current session of the legislature. State reports dealing with city affairs and some of the U. S. government reports, such as those of the Bureau of census on Statistics of cities, Bureau of manufactures, Bureau of statistics, Commissioner of education, Department of labor, will be useful.

A broad collection of books dealing with all the functions of municipal government, such as government, public finance, public works, transportation, municipal ownership,

health, housing, charities, correction, education labor, recreation, and, to a lesser degree, other economic topics should be included. No up-to-date and broad bibliography exists at present but the following are helpful:

Check list of books and pamphlets on municipal government. Chicago Public library. 1911. 44 pages

Civic bibliography for Greater New York. James B. Reynolds. ed Russell Sage Foundation. Charities publication committee, 105 E. 22nd St., New York. 1911. 296 pages.

List of city charters, ordinances and collected documents in the New York Public library. N. Y. Public library. Bulletin. Sept., Nov., Dec., 1912, Jan., Mar., 1913.

Bibliography of municipal problems and city conditions. R. C. Brooks. 1901. 346 pages. (Of help in indicating scope of material to be covered, although out of date as to references).

Many municipal and engineering periodicals will furnish valuable up-to-date information. Severance's Guide (mentioned under Periodicals) will give a clue as to selection. The National municipal review of July, 1912 contained an article on "Periodical publications on municipal affairs."

The leading municipal periodical, the National municipal review (referred to under Periodicals) was started in 1912 by the National municipal league. This is the most valuable source of information in existence concerning current municipal material, altho it appears only quarterly. It reviews important special city reports and books on municipal subjects, lists all recent municipal documents throughout the world, and reports current municipal events and legislation of interest. The American economic review and American political science review undertake the same thing in the more general fields of economics and politics.

In regard to obtaining current books and special reports, or government and state reports, these topics will be treated later under their respective heads.

Finally, one of the functions of the municipal library being to assist in the drafting of ordinances, not only are many charters and ordinances of other cities necessary, as we have stated before, but the library should be in close touch with other cities, corresponding with city officials and preserving the results of queries as to ordinances and practices in various cities. Digests and compilations of this information should be made for the use of councilmen and city officials.

6. Current books and special reports.

Much current material of value, especially in the line of pamphlets and special reports, is elusive, and must be discovered by careful examination of notices in current periodicals.

a. Books.

For general sources, we have the new United States catalog, containing all books in print in 1912, and the Publisher's weekly, which lists all current books. The new A. L. A. catalog, 1904-1911, a selected list of 3,000 books published since 1904, is also useful.

In New York, Chas. Scribner's, Fifth Ave. and 48th St., and Baker and Taylor Co., 33 E 17th St., make a specialty of handling library orders.

Foreign material, as well as books published here, may be obtained from G. L. Stechert, 151 W. 25th St., International news, Co., 83 Duane St., and Lemcke and Buecliner, 32 W. 27th St., New York city.

Technical books. The leading publishers are:

Myron C. Clark pub. co, 537 So. Dearborn St., Chicago.

Norman W. Henley pub co., 132 Nassau St., New York.

McGraw-Hill book co., 239 W. 39th St., New York.

Munn and co., 361 B'way, New York.

Ronald press co., 198 B'way, N. Y. (Accounting).

D. Van Nostrand co., 25 Park Pl., New York. John Wiley & Sons, 43 E. 19th St., New York.

McGraw, Van Nostrand and Wiley also handle library orders.

Among practical bibliographies of technical books are:

R. A. Peddie. Engineering and metallurgical books, 1907-1911. N. Y. Van Nostrand. 1912. (Covers the ground admirably, although without annotations).

Pratt institute free library, Brooklyn, N. Y. Selected list of technical books. Annual Catalogs of technical publishers mentioned above.

b. Periodical notices of new material.

The following periodicals give valuable reviews and bibliographies of economic material, both books, reports and pamphlets. American economic review.

American political science review.

National municipal review (especially municipal publications and documents).

The Engineering news, in its mid-monthly number, publishes an extensive supplement of current engineering literature.

A list of "Technical magazines containing book reviews," with notes, was published in Special libraries, June, 1910, p. 47-48.

The various technical periodicals, besides Special libraries, also note pamphlets and reports of interest.

The Library journal and Special libraries publishes lists of current bibliographies.

7. Periodicals.

It is unnecessary to enlarge upon the value of periodical material as a source of information, particularly when the articles of interest are clipped and placed in a folder or cover and filed with other material on the same subject. Magazines of particular reference value may be bound, but all others should be clipped for convenience and time-saving in reference use, besides enormous saving of space. The value of the newspaper clipping in the financial library has already been mentioned, but its use in any connection should not be forgotten.

In selecting periodicals, the most complete bibliography is:

Henry O. Severance. *Guide to current periodicals and serials of U. S. and Canada.* 1909. George Wahr. Ann Arbor, Mich.

This includes over 10,000 titles, with a classified index, making it easy to find all the periodicals published along certain lines.

The Engineering index lists the most important technical magazines here and abroad.

As for periodical indexes, we have:

Readers' guide to periodical literature	} H. W. Wilson Co., Minneapolis, Minn.
Industrial arts index	

Engineering index. *Engineering magazine*, 140 Nassau St., New York.

Index to legal periodicals. Amer. assoc. of law libraries. H. L. Butler, American law library, 27 Cedar St., New York city.

Among recently started periodicals of particular interest not included in Severance's Guide are:

National municipal review National municipal league, 2427-9 York Road, Baltimore, Md., 5.00. Quarterly. (Leading periodical on municipal affairs. Very valuable for sources of information).

Public service regulation. Traffic service bureau, 30 So. Market St., Chicago, Ill. 3.00. Monthly. (Organ of National assoc. of r. r. commissioners. Gives news of all state railroad and utility commissions).

Rate research. Rate research committee, National elec. light association, 120 W. Adams St., Chic, Ill. 10.00. Weekly. (Devoted to problems of rate-making. Gives abstracts of rate decisions, current bibliography along public utility lines).

The following long-needed newspaper indexes were started this year:

Index to dates of current events. R. R. Bowker. N. Y. 4.00. Monthly. New York times index. Quarterly.

8. Government and state reports.

You will find it necessary to obtain many government and state reports along certain lines. Current publications may be noted from the "Monthly catalogue of United States public documents," furnished free on application to the Superintendent of documents, Washington, D. C. Special lists of documents on certain subjects may also be obtained from the same source. In this connection, mention must be made of the monumental "Index of economic material in documents of the states of the United States," edited by Adelaide R. Hasse, which is gradually appearing, a different volume for each state. This is published by the Carnegie institution of Washington. The Library of Congress issues a "Monthly list of state publications" (.50 yearly).

Perhaps the most useful U. S. government publications will be among those issued by the Commerce department, Census bureau, Corporations bureau, Foreign and domestic commerce bureau, Manufactures bureau, District of Columbia committee, Economy and efficiency commission, Geological survey, Interstate commerce commission, Labor department, and the President's messages. Occasionally reports of hearings by some House or Senate committee will be found useful, e.g. the Pujo money trust investigation, before the House committee on banking and currency.

Lists of state railway and public service commissions may be found in the following sources:

Public service regulation. Monthly. Traffic service bureau, 30 So. Market St., Chicago, Ill.

Pocket list of railroad officials. Railway equipment and pub. co., 75 Church St., New York. Quarterly.

McGraw electric railway directory. N. Y. McGraw Semi-annual.

Of commission publications, you will wish to obtain the annual reports, reports of decisions, commission laws and accounting systems (if formulated), perhaps also the accident and tariff bulletins.

At present, the most valuable commission publications are those of the Interstate commerce commission. Annual reports, reports of decisions, annual reports on railway statistics, accounting classifications, bulletins and circulars, tariff circulars

Public service commission, First district, 154 Nassau St., New York. Annual reports and reports of decisions.

Public service commission, Second district, Albany, New York. Ditto.

Wisconsin railroad commission. Ditto.

Massachusetts Board of railroad commissioners. Annual reports.

Massachusetts Gas and electric light com'rs. Annual reports.

Among other states may be mentioned California, Connecticut, Illinois, Indiana, Kansas, Maryland, Missouri, New Jersey, Ohio and Washington.

Besides state public service commissions, there are now a number of city utility commissions, a list of which may be obtained from the Public service commission library, 154 Nassau St., New York.

Parliamentary publications of Great Britain may be kept track of from King's Monthly list. Free. P. S King and Son, Orchard House, 2 and 4 Gt. Smith St., Westminster, London.

They have also issued complete catalogs of previous publications.

Lists of official publications of foreign countries are given in the Statesman's yearbook. Further information regarding them may be obtained by addressing U. S. Consuls.

9. Society publications.

Much valuable material is found in proceedings and publications of societies and associations. "Severance's Guide" (referred to under Periodicals) lists all periodical publications of importance.

The following lists of societies will be suggestive:

Brooklyn Eagle almanac. Contains full general lists of associations.

"List of societies of state, municipal and other governmental officials." H. H. B. Meyer. Special libraries, Jan., 1912. p. 6-7.

"Directory of national technical and trade societies." Engineering record. In back of each weekly issue, just before "Contracting News."

"List of railway associations." Railway age gazette. In back of each issue, just before "Traffic news."

Pocket list of railroad officials. Railway equipment and pub. co., 75 Church St., New York. Quarterly. In back of issue.

"Street and interurban railway associations." McGraw electric railway directory. Semi-annual. In back of directory.

The following societies are among the more important in certain lines:

Engineering

American institute electrical engineers.

American society for testing materials.

American society civil engineers.

American society mechanical engineers.

Association of engineering societies.

National association cement users.

Western society of engineers.

Lighting

American gas institute.

Illuminating engineering society.

National electric light association.

Railroads

Air brake association.

American electric railway association.

American railway association.

American railway engineering association.
International railway congress.
Master car builders association.
National association railway commissioners.

Financial

American bankers association.

Investment bankers association of America (new).

Economic and municipal

American academy of political and social science.

American economic association.

American political science association.

Chamber of commerce of New York.

National civic federation.

National conference on state and local taxation.

National conference on city planning.

National municipal league.

10. Company and trade publications.

In public service corporation, industrial or manufacturing libraries, trade publications are largely used. Severance's Guide (see Periodicals) will furnish lists of trade periodicals. Files of trade catalogs are most valuable. The American society of mechanical engineers has issued a condensed catalog of trade catalogs of a large number of manufacturers.

The leading trade directories are:

Thomas' register of American manufacturers. Thomas publishing co. 129 Lafayette St., New York

Hendricks' commercial register of United States for buyers and sellers. Samuel E. Hendricks Co., 74 Lafayette St., New York.

Kelly's directory of merchants, manufacturers and shippers of the world. Kelly publishing co., 5 Beekman St., New York.

Each trade has also its own special directory, for example, the "Blue Book" textile directory. A "Classified directory of manufacturers" and a "Classified list of electrical supply dealers and contractors" are published in McGraw's Electrical directory, Lighting and power edition. The "Electric railway buyers' guide" is published in McGraw's Electric railway directory.

Lists of recently published trade catalogs and notes of special bulletins of pamphlets gotten out by companies may be found in many of the engineering and trade periodicals. The advertising pages of technical or trade journals will also give names of manufacturers and dealers in particular lines.

Annual reports of companies and municipal corporations operating public utilities are needed, especially by the public service commission, corporation or financial library. Names of companies may be obtained from the various directories mentioned under Reference sources for a Pub-

the Service Commission library, such as McGraw's electrical directories, Moody's and Poor's manuals, and for Great Britain, Garcke's manual of electrical undertakings, Electrical trades directory, Gas World year book, and the Municipal year book of the United Kingdom.

The largest collection of foreign trade directories in this country is in the library of the National association of manufacturers, 50 Church St., New York. Among foreign company directories may be mentioned, for Germany, "Handbuch der deutschen Aktien-Gesellschaft," appearing biennially and containing all kinds of companies, "Die deutschen elektrischen Strassenbahnen sowie die elektrotechnischen Fabriken, Elektrizitätswerke..." covering electric lighting and traction, both of these published by the "Verlag für Borsen- und nanzliteratur," Berlin. The "Annuaire Marchal des chemins de fer et des tramways," published by H. Dunod and E. Pinat, 47 Quai des Grand-Augustins, Paris, covers railroads and tramways throughout Europe, with especial fullness for France and colonies.

For those not wishing to purchase all these annuals, many of the foreign technical periodicals (see Engineering index) contain abstracts of annual financial reports of companies. In the field of lighting and traction, we may mention, for England, electrician and light railway and tramway journal; for France, Electricien and industrie des tramways et chemins de fer; for Germany, Elektrische Kraftbetriebe und Bahnen, and Zeitschrift für Kleinbahnen.

11. Legislation, legal decisions and briefs.

The legal side of the question has an important share in a special library collection. We have only space here for a word on this subject. Large corporations keep files of all current state and national bills affecting their line of business. Important legislation and important decisions are noted in technical periodicals. For a general key to all current decisions in the United States on any subject, we have the American digest, appearing monthly, and indexing all decisions of the previous month. This is published by the West Publishing Co., St. Paul, Minnesota, who also publish various law reporters, covering cases in each section of the country. Any case indexed in the American Digest may be obtained for .25.

12. Manuscripts, original records, blueprints, maps.

In any company or industrial library, many original records, company publications, typewritten material, etc., will be cared for by the library. Some libraries have arranged their own company publications chronologically, forming a complete literary history of the company. Other man-

uscript material of value, including digests, summaries and data collected by correspondence, may be kept with other material on the subject. Patent specifications, blueprints, maps and plans may require especial consideration in specially adapted filing-cases.

13. Co-operation in special library work.

This question is just beginning to receive the attention it merits. There may be three kinds of co-operation, co-operation between special libraries, co-operation between special and public libraries, and cooperation between special libraries and individual sources of information.

In special library co-operation, the obvious first essential is that we should know what libraries there are, and in what particulars they are best equipped. There are now about 250 libraries in the membership of the Special libraries association. It would be very valuable if a list of these libraries and other special libraries could be issued, and I believe the Library journal and Special libraries are now co-operating to this end. The following further aids to this information have been compiled:

Directory of special libraries. Special libraries, Apr., 1910.

List of special libraries. Special libraries, Oct., 1912. (List of descriptive articles about various special libraries).

U. S. Bureau of education. Bulletin 23. Report on special collections in libraries in the U. S. W. D. Johnston and I. G. Mudge.

Columbia university—New York city. Readers' manual. 1911. (Lists most of special libraries in New York, showing strong points of the various collections).

The files of Special libraries, with their descriptive articles and bibliographies, afford a valuable means of co-operation. Everyone who has any idea or experience of interest should freely contribute.

The "Responsibility districts" which have been created by our association, dividing up various sections of the country, make it possible for greater helpfulness between libraries of neighboring localities.

Libraries who issue bulletins of current references should place on their mailing lists other libraries of similar interests. Among those now issuing bulletins are the Public service commission, First district, 154 Nassau St., New York, Stone and Webster, Boston, Studebaker Co., South Bend, Indiana (automobiles), and Commonwealth Edison co., Chicago. The Public service commission library has a loose-leaf typewritten subject catalog in such form that blueprint copies of any sheets desired may be made. I am authorized to say that any librarians wishing references on a particular subject in the line of public utilities may obtain blueprint copies of the catalog sheet at cost of printing, two cents a sheet.

Special libraries should be in close touch with the public libraries of their own city, referring necessary inquiries to them and taking advantage of their traveling library collections.

As a pioneer experiment in local co-operation on a broad scale, we have the Boston Co-operative information bureau, originated by G. W. Lee, of Stone and Webster. All libraries, organizations, specialists and other individuals who can furnish information on any particular subject are indexed with their special topics. A central bureau is now maintained at the Massachusetts Institute of technology, where

queries are directly answered or referred to the proper source, and a bulletin published, summarizing questions and answers asked. The results of this experiment should be watched, and the idea adopted in other cities.

With the subject of co-operation, we fittingly bring to an end our bird's-eye-view of sources of information, hoping that realization of the variety and the breadth of the material to be included in a special collection has been brought home to the minds of those uninitiated in special library methods.

The Relation Between Special and General Libraries.

W. Dawson Johnson, Librarian, Columbia University.

The question of the relation between the special library and the general library interested me first as an assistant in the Library of Congress; afterwards as head of a special library, the library of the U. S. Bureau of Education, and finally as librarian of a University library in which the general library and the department or special library are alike important and the relations between them a subject of constant concern and anxious study. In this paper I merely state some of the general questions which should be considered in a study of this subject. If I do this in a somewhat dogmatic manner it is merely with a view to brevity.

From a University point of view—indeed from any rational point of view, I believe, the question of the relations between libraries is the fundamental question of library economy. This has been recognized in the emphasis which has been laid upon cooperation between libraries, upon specialization in book collecting and in bibliographical investigations upon inter-library loans, and upon library publishing.

The question has ordinarily related to cooperation between libraries of a general character, and has usually assumed the form of a federal or state question rather than that of a local question.

The question of the relation of the special library to the general may be a federal one, as illustrated by the relations between the libraries of the Department of Agriculture or Bureau of Education and the Library of Congress, or it may be a state question as illustrated by the relations between the library of a state historical society and the state library but ordinarily it is a local question, though, as in New York and other great metropolitan centers, a question of national importance.

Limitations of the two classes of libraries.

The rise of the special library is undoubtedly due to the limitations of the general library. These have been limitations of location as well as limitations of service. A general library can not in the nature of things be everywhere and even when it is located so as to serve excellently the needs of a special institution, it can not render the service of a collection selected for a specific purpose. There must then be special libraries for special institutions, societies, clubs, and offices.

The special library, however, has its limitations also. It is in danger of having the disadvantages of a private library without the advantages of a public library. This is so true as to remind one of Charles Lamb's description of pamphlets as books which are no books. In similar manner we are sometimes compelled to look upon special libraries as libraries which are no libraries at all, especially where they are so small and so little used as not to require the services of a librarian.

The question of the relation between the special and the general library is then: what are the limitations of each and how may they be met by each other.

Policy to be pursued in book collecting.

In the first place how should the policy of each with regard to collections, be affected by the activity of the other? The special library will collect ephemera of all kinds relating to its special subject, pamphlets, trade catalogs, etc. It will take all current periodicals of special interest and it will purchase all new treatises within its field, and all important new editions. It will not, however, collect material of historical interest only, nor literature in other departments of learning, except necessary works of reference.

The difficulty of making a distinction be-

tween antiquarian material and other material, and between the literature of one department of learning and that of allied departments is an old one. To do this should be less difficult, however, for a specialist than for others. It may, therefore, it seems to me, be agreed that these two classes of literature shall be excluded from the province of the special library. There are too many special libraries which are not to be distinguished from general libraries except by their location, too many that are simply inferior general libraries, too many that may simply be described as general libraries gone wrong.

Policy in the elimination of books.

If, however, this ideal is to be followed, files of periodicals must be eliminated as they become antiquated, old books must be removed as new ones take their places, and pamphlets and other ephemera must be put in storage. The selection of books with a view to their addition to a collection is sufficiently difficult, but the selection of them with a view to their elimination is much more so, not only because it is more difficult to determine when a book has ceased to be useful than it is to tell when it may be useful, but also because too, it is more difficult to give than to receive. It is probably better, therefore, to approach the problem of elimination from the more or less arbitrary point of view of class, and eliminate for example all books more than thirty years old or more than ten years old, and consider older books retained as exceptions to the class.

By pursuing in this manner a somewhat rigid policy of selection and elimination, all the advantages of a compact and up to date collection may be secured; and the more used a collection is, the more important does frequent and careful revision of it become.

The objections to a too rigid policy of selection may be met in part by a catalog of all books which have been or are likely to be of interest to the users of the library, and a messenger service between the general library and the special.

Policy—conditions of transfer.

The conditions on which a transfer of books from a special library to a general one should be made, must also be considered, especially in view of the fact that such transfers may be of only temporary duration. In defining these conditions there is a tendency in each party to the transaction, to overestimate the value of the books and underestimate the value of the service rendered by the institution to which they are entrusted. Some transfers have been made upon the condition that the books be kept together and in some cases kept in a separate room. There are few collections which should be treated in this way, and it is therefore less and less common to impose any restrictions as to location. A list

of the books is made to identify the collection as a whole, and the book plates identify the books individually. Wherever the usefulness of the collection is the prime consideration more than this is unnecessary.

With regard to use, it is sometimes provided that the books are not to be loaned at all, sometimes that they are to be loaned only to members of the society making the deposit, and sometimes that they be loaned also to members of the institution acquiring the library, provided similar privileges in the library of that institution are extended to members of the society which is transferring its collection.

With regard to conditions of withdrawal, it may be provided that the collection may be withdrawn from deposit, but, only for the use of the society making the deposit. From 60 days to a year's notice of intended withdrawal is required, and the institution is to be reimbursed for expenditures for binding of periodicals, etc.

In cooperation with such special libraries, the general library will duplicate the most useful of the books in these collections; will receive collections transferred from the special libraries; and will collect publications in fields not represented by special libraries. It will also have a catalog of all books in special libraries, and will draw from them to meet the occasional needs of the general reader so-called

Relation between the two in respect to bibliographic service.

A close relationship between the special library and the general library, in the development and use of their collections, is then of fundamental importance, but of equally great importance is cooperation in bibliographic service. The special librarian may be a specialist without being a librarian or he may be a librarian without being a specialist. The combination of the two is undoubtedly rare but where it exists the special library has boundless opportunities for service not only to its special clientele but also to that general public whose needs the general library attempts to satisfy.

In the first place, the special librarian by reason of his special knowledge is in a position to select the best books. The general librarian is at the mercy of the advertiser and the reviewer; the special librarian is able to exercise an independent judgment. This should be exercised not merely in the selection of books for his own library but in recommending books which should be duplicated in the general library.

This special knowledge should be exercised also in classifying and describing the literature acquired, particularly in analyzing it. This can be done properly only by a specialist and the results preserved in a special catalog. This is notably true of analytical work. This is on the whole of interest only to the special student and is for the most part of interest to him only

temporarily, partly because the material is of temporary interest only, and partly because it is recorded later in published bibliographies and indexes. For these reasons I question whether we should not pursue a policy of eliminating subject entries and analytical entries similar to that which we may adopt in the elimination of books. It may be added, moreover, that such a policy would not only give us a better catalog from the point of view of selection of titles, but a catalog more readily used and one in which the cost of filing would in the long run be much reduced. These considerations may not be of immediate importance but they gain in importance each year, and must eventually receive attention from the librarian who would secure the most efficient bibliographical apparatus.

These entries should not, I believe, be duplicated in the catalog of the general library. Their use there will not justify the expense involved in their insertion.

But while the special knowledge of the special librarian is of the greatest value in the development of a collection and in the description of it, it is indispensable also in the immediate service of the reader. The larger libraries must in the nature of things serve classes of people and institutions rather than individuals. The special librarian may discover the needs of the individual and give him substantial satisfaction.

In all these respects then the special library forms an important auxiliary to the general library and especially to the university library, and more important as subjects of research become more practical in character. The general library, because of its comprehensiveness and size must in the nature of things be more useful and must in the aggregate be more used. But if a spe-

cial library is well selected that is, if only the best and latest books are admitted to its shelves, it must be proportionately more used than the general library and with better results. Some time may be wasted in finding a special library and in gaining admission to it, but little time is wasted in it, while in the general library the time wasted in getting books and in reading books which were better left unread is simply appalling.

In these observations I have been more intent on defining the province of the special library and the duties of the special librarian as regards the general library, than in defining the province and service of the general library to the special because the work of the former is, it seems to me, distinctly bibliographical in character, while the work of the latter may be of a more mechanical nature. For example the work of book buying, cataloging, binding and printing may often be better done for the special library by the general library. Indeed most of the clerical work and all the work which involves an elaborate mechanical equipment may, I believe, be centralized with profit. Such centralization is not common except in universities, but with the development of the special library and the establishment of proper relations between it and the general library there is no reason why the latter should not do as much for the former as the public library in the larger cities does for its branches.

In all this I am, as I said in the beginning presenting generalities rather than details, the ideal rather than the actual. But it is the measure of the ideal that is the measure of our responsibility as librarians whether we are placed in general libraries or in special libraries.

Problems of Printed Indexes in Special Fields.

H. W. Wilson, President, H. W. Wilson Co.

With every extension into new fields of investigation and thought a wealth of accompanying literature springs into existence. The general serviceability of this literature is determined entirely by the character of available finding lists. The question of indexing this literature of so great variety and complexity has, in recent times, developed into a paramount one that calls into service the most efficient indexing methods.

The need for printed indexes in special fields has been made manifest by the thousands of fugitive scraps of indexes that libraries here and there spend their time and energy in producing for temporary use. plan of uniformity in binding or filing.

The librarian is justified, perhaps, in taking a certain pride and satisfaction in contemplating these printed sheets. He sends out a few hundred of them to other librarians, and receives in exchange similar scraps covering different fields. When he gathers up his piecemeal indexes, what has he? A collection of pamphlets of different sizes and types, printed upon varying thicknesses of paper,—a collection that defies any plan of uniformity in binding or filing.

These first steps towards printed indexes are both fragmentary and inadequate. It seems to be time to take the next step in the development of index-making, a step which involves concentration of scattered ideas, a step which should be successful

because it means comprehensiveness, thoroughness, uniformity, economy and efficiency. As to the important question of economy, it may be noted that the cost of the special indexes varied and inclusive enough to meet the demands of all departments of investigation and thought, is quite negligible when compared with the purchase price of printed cards at their lowest figure of one cent each. The cost is probably less than one per cent. of the expense of cards and cabinets, not to mention the labor of writing headings and of filing. If the time, labor and money expended at the present time in compiling and printing scraps of indexes here and there could be concentrated upon a broad plan, no subject would lack for a comprehensive index or bibliography.

In considering the problem of the printed index or catalog one faces an interesting group of questions. In the first place one must acknowledge the fact that the printed index or catalog is more stereotyped and less flexible than the card index. A card index as compared with a printed index is like a tailor-made suit compared with a hand-me-down. However, the hand-me-down suit has the distinction of being made to fit the perfectly proportioned figure, and if so made, a failure to fit any figure reflects not on the cut of the suit, but on the proportions of the wearer. In the same way the failure of a library collection to fit a printed index covering well selected literature of a certain field may sometimes reveal an unbalanced selection in the library. The card catalog has possibilities of being kept up to date, but the enormous cost of indexing a large literature makes thorough indexing impossible. It should not be forgotten that much of our current literature will become obsolete in a few years and cards for such references to useless or misleading material sooner or later impair the usefulness of the card catalog. In the case of a printed index with five yearly cumulations, this material of secondary value is automatically segregated.

The printed index to the best selection of literature on any subject has another limitation. Small libraries have only a part of the material and large libraries are incompletely served. An index to material not in the library is often an annoyance, especially where indexes are used by the public. This disadvantage is often more than offset by making it possible for the library or patron to secure at once from other sources just the material wanted. Librarians of today are as anxious as commercial institutions to make their service as perfect as possible, and might well display signs reading: "If we do not have what you need, we will get it."

The special fields of literature in which printed indexes are most likely to succeed

are thought to be as follows, in about the order mentioned:

Industrial Arts
Agriculture
Education
Social Problems.

Having determined upon the field, it is necessary to make a thorough study of that field to ascertain:

(1) What literature is common to many libraries.

(2) What literature of highest quality but not in general use has for some reason been overlooked. In determining this we consider quality and also availability.

In making preparations for the selection of periodicals for indexing in the Industrial Arts Index, the procedure of the publishers was as follows:

A large list was made to include every periodical thought to be of any importance. This was sent to five large libraries with a request that every item be marked with figures 1, 2 or 3 to indicate relative importance, with the further request that any good titles overlooked should be added.

From these five enlarged lists, a printed list was made and sent to fifty libraries, with the request that they indicate on it which magazines should be indexed, and express the order of their preference by means of the figures 1, 2 and 3.

A tabulation of these reports showed that a few periodicals were considered standard in libraries, but that outside of a few there was little uniformity in selection. It was therefore found necessary to consult files of journals to determine the character of their contents and their desirability for indexing purposes. A periodical made up of many short although good articles is not as satisfactory for indexing purposes as one made up of long articles. The user of an index is likely to be disappointed if referred to too many scrappy articles. Whether or not a periodical is well established is a question to be considered, since it would be poor policy to include a single one that is not likely to maintain its standard.

At the beginning the selection of periodicals for an index must follow in the main the selection found in libraries because an index to what the libraries have is evidently most efficient. However, it is not visionary to expect that when the index is once established, its selection should become the standard list from which libraries may safely choose. It is to be hoped that in a very few years subscription lists will be so standardized that the printed index will reach its maximum efficiency. Incidentally, printed indexes should perform a service by bringing about the best selection.

It will scarcely be necessary to defend here the alphabetical index as opposed to the classified arrangement. While a classified list of articles has its value in inform-

ing specialists what has been published in their respective fields in one particular month, or year, it is almost useless as a book of ready reference in a library—useless even to the technically trained, exasperating to the layman.

If a list of new technical terms should be compiled, the electrical engineer, wishing to become familiar with the vocabulary of electricity would prefer of course to have these terms grouped together. The civil engineer likewise would desire to have the terms used in his profession listed in a separate alphabet that he might become familiar with the new words. But if one were making a technical dictionary for use in a library where the demand is for a particular definition in the shortest possible time, there would be no question about the necessity of a single alphabetical arrangement.

In a classed list the responsibility for finding an article rests with the searcher. He is supposed to know whether the subject he is investigating is a department of civil engineering or mechanical engineering and to read through the subheads till he finds the one he wants and then read through the titles under the subheads for the particular object of his search. If he misses the article, it is his own fault. In the alphabetical index the responsibility is on the indexer. If the user of the index fails to find a particular article or material on a particular subject, it is because the indexer has put it under the wrong heading or has neglected cross references. It is the choice of subject headings, therefore, that is the great problem of the indexer.

A choice of subject headings that shall satisfy everyone is of course impossible, but the selection of headings for a special index, particularly in technical fields, has some peculiar difficulties. No industrial art has a standard terminology. These arts stand between sciences on the one hand and the humanities on the other. The sciences have their accepted nomenclatures; the humanities dealing with matters of common interest, universally discussed in the newspapers, in lectures, in dramas and in daily conversation, acquire automatically a well defined vocabulary. "Minimum wage" or "workmen's compensation" are terms that are by no means confined to the vocabularies of economists. They are current coin. They are given the legal stamp in many state legislatures and have become fixed by constant and general use. The vocabulary of any one particular industry or trade is for the most part familiar only to those actually engaged in it, and there is not sufficient intercommunication among the members of any one industry to produce a standard terminology. Nor have they, like the scientists, adopted a nomenclature. The editor of the *American Machinist* in the issue for May 15 recognizes this difficulty. He says:

"There seems to be a tendency in some quarters to revise the names of machines and their parts. This has much to commend it in most instances as there is hardly a line of machine work which is not open to improvement of this kind."

There has been some discussion recently in the *Iron Age* of the term "machine tools." One writer thinks that the term is perfectly clear to an engineer but that it is difficult to make it clear to the layman. That it is perfectly clear to all engineers is, however, disproved by the variety of opinions offered by contributors to the *Iron Age*:

"'Lathe' is a good and explicit designation which has brevity, clearness and wide acceptance."

"'Lathe' is a misnomer and 'metal turning machine,' 'turning machine' or 'lathe for turning metal' are preferable."

"The words 'turning machine' might refer to a merry-go-round."

"Machine tools cover all metal working machines which are used or can be used regularly for cutting cast-iron."

"The term was arbitrarily adopted by metal working machinists."

"There is more to the question than arbitrary choice; 'lathe,' for instance, has an historical significance."

"Each machine for working should have a specific name, as 'metal planing machine,' etc."

"The term 'machine tool' properly means a tool used by a machine"

"'Machine tool' does not mean the cutting tool of a lathe or any machine."

"The source or character of the power makes no difference in determining the definition, inasmuch as the machine is designed to transform energy."

"The term 'machine tool' always connotes application of power other than hand or foot power."

Mr. D. M. Wright of Hartford, Connecticut, says in the same number of the *Iron Age* concerning the need of revision of machinery terms:

"The great expense the industry has suffered in its contentions at Washington last year and this was very largely caused by the use of impossible nomenclature."

The difficulty of choosing subject headings for a technical index is further increased by the enormous number of new inventions and new processes which demand new terms. The rapid progress in technology taxes the resources of the most creative linguist. The moving picture industry, for instance, has sprung into existence with a rapidity that leaves one gasping for a simile. It makes the long undisputed reign of the mushroom as the queen of rapid growers a part of ancient history. It is now one of the largest industries in the United States; it is not only an industry in itself as witnessed by the large number of moving picture theaters, but is applied

to many practical uses in education, shop management, law and medicine. The humorist of the Louisville Courier-Journal imagines an army of fat and happy looking soldiers. "You must have a war chest," an inspector asks the general. "Not exactly," was the reply, "but things are on a higher plane than they used to be. This revolution is being financed by a moving-picture concern." For this tremendous new industry a new vocabulary will be required; there will be probably much confusion in the use of terms, causing the indexer a correspondingly great perplexity.

When the literatures of several industries are combined in one index, the difficulty is still further increased by the different view points of those who use the index. The electrician, for instance, will look for specific subject headings which would not occur perhaps to the civil engineer. Moreover the electrician will no doubt look under currents, lamps, lighting and wire rather than under electric currents, electric lamps, etc., since to him all currents and lamps and wire are electric.

The indexer must harmonize as well as possible these conflicting view points in order to make an index that is logical and consistent enough as a whole to meet the requirements of the non-technical user and

at the same time one that is usable by industrial workers in various fields. It is not an easy task. One indexer said she thought her best subject headings were "Accidents" and "Dam Failures."

Having secured a standard selection of periodicals and chosen suitable headings and standard methods of work, the next problem is to secure sufficient financial support. A study of this problem reveals the fact that the large library having all material indexed and using it constantly profits much more by the index and should consequently pay a higher rate than the small library. In other words, the small library must receive a rate much lower than that which the large library should pay or it will be debarred from sharing in the benefits as well as in the cost of printed indexes.

To meet this situation, it is necessary to establish a scale of special prices which brings the cost within the reach of all. By means of this plan a publisher may secure the support of every library according to its capacity, and it is hoped that enough revenue may be secured to make possible the publishing of indexes in a number of new fields. At least one new field should be opened up each year.

The Division of Bibliography of the Library of Congress as a Clearing House for Bibliographical Information.

H. H. B. Meyer, Chief Bibliographer, Library of Congress.

In the Annual Report of the Librarian of Congress for 1912, on page 106, the suggestion is made that the Division of Bibliography may undertake to act as a clearing-house for bibliographical information within the circle formed by the state libraries and the legislative reference libraries in the work of which we have a constitutional interest. It is the object of this brief paper to formulate a method of procedure which shall bring about some practical results from this suggestion.

The Division of Bibliography has no leisure time to undertake additional work, nor does it care to join in that efficiency movement which is really a very old variety of slave-driving under a new name. It does, however, aspire to identify itself with that movement for efficiency which means the application of thought to work. I hope, if the cooperating libraries will carry out their part of the plan, to substitute for some of the cooperative work we are now doing, other work which shall be more fruitful of results. By acting as a clearing-house, the Division of Bibliography will be in posses-

sion of information which will not only lighten its own labors, but will enable it the better to inform those seeking information, where it may be found.

To begin with I am planning, in the interval before the next meeting of the state legislatures, to prepare a list of the subjects which have been investigated by the several state libraries or state legislative reference bureaus; and with this immediate end in view, the following letter has been formulated:

To the State Librarians and Legislative reference bureaus:

The Division of Bibliography proposes to act as a clearing-house for bibliographic information relating to subjects likely to become matters of legislative activity in the state legislatures throughout the country. In order that it may be informed of, and properly list, the investigations made by your library, please send to the Division of Bibliography under the enclosed frank, copies of any lists or reports, printed or manuscript, which show what your library or bureau has done

The Division of Bibliography in return hopes to be in a position to inform you at a reasonable time before the next meeting of your legislature, what states have taken up any question your state legislature may be interested in.

After we are fairly started we propose to have the cooperating libraries prepare the cards for us to file. We can not handle an extensive correspondence—to attempt it will be to invite failure, but if we confine the inflow and outflow to cards, we may succeed. The cards would naturally take two forms, cards of inquiry by means of which libraries would make known their needs, cards of information by means of which the inquirer would be directed to the source of knowledge.

The card of inquiry might take the form:
Kansas

This library is interested in
Legislative caucus.

Please inform us what states have taken up this subject.

James L. King,
State Librarian,
Topeka, Kansas.

In reply to this we should send copies of the cards of information which we should have on file under this subject. These should also have a fixed form, perhaps something like the following:

Legislative caucus.

This subject has been investigated
by Ohio which has prepared
Brief

Digest of existing laws
✓ Bibliography
Not specified

On this we should check Bibliography, as indicated, if we had been informed that Ohio had prepared a bibliography or reading list of the subject. We propose to prepare the original stock of information cards from the printed reports, etc., as much for our own benefit as for yours, but there is no reason why subsequently these should not be prepared by the cooperating libraries on forms provided for the purpose. On the two forms given above the parts not underlined will be printed and the rest filled in as occasion arises. At this point I desire to emphasize again that the success of the whole scheme depends upon the willingness or promptness of the cooperating libraries to fill out the information cards concerning their own activities and send them to the Library of Congress. Falling in this, the whole thing falls to the ground.

Our duty will be to connect the lines of inquiry with the lines of information which will, of course, involve duplicating the information cards. We shall not make the duplicates until the actual need arises, until an inquiry comes, and if the demand should be great, the duplicating machine will do the job very nicely.

I shall be very glad to know what the members of the association especially the state librarians and legislative reference librarians, think of the plan, and invite your discussion and suggestions.

The Clipping Bureau and the Library.

Robert Luce, President, Luce Clipping Bureau.

In the twenty-five years during which the Press Clipping Bureau bearing my name has been growing in usefulness, if that result may be inferred from the steady spread of its activities and the increase in the number of persons busied, naturally I have had opportunity and occasion to reflect upon the part it plays in the dissemination of knowledge. When a novel enterprise succeeds, it is because it meets a social want, as in this instance by making human effort more effective. The wonderful progress of the world in our time is largely due to the sub-division, the specialization, of labor. Of this the clipping bureau is typical. How it concerns the librarian, it is my pleasant task today to tell.

The story will have no interest for the man who still thinks that a library is nothing more than a collection of bound volumes, of which the librarian is the caretaker. It was told of John Langdon Sibley that in his younger days as librarian at

Harvard, one Saturday afternoon when locking the library door, his face beamed with satisfaction as he said to a friend: "Every book is inside except one. Agassiz has that and I'm going after it now." Since that time in the dark ages of library history, most men have come to understand that a library should be a storehouse of information, useful in proportion to the abundance of its supplies and the extent to which the arc drawn. With the new conception have come also broader functions. The library no longer exists simply as an aid to academic study or mental training. It now plays a practical part in most of the social activities. Noteworthy indeed is the service it has come to render to commerce and industry. And still greater is to be its contribution to the material prosperity of mankind.

It helps the workers of the world, and will help them yet more, by putting at their command the experience of countless

other workers. Hitherto the doer of things has had the greatest difficulty in trying to get the help of the fresh additions to the store of knowledge. For the most part these have been wholly inaccessible, when outside the narrow circle of personal acquaintance. New information and new ideas do not get within the covers of books for months, sometimes for years, after they ought to have begun helping. Furthermore, most books are partial and incomplete. The culling of the facts depends on the discrimination of one man, whose judgment is most unlikely to agree precisely with that of any other man. That is why the study of sources has become an important feature of modern college work. The student is now sent to the fountain head. This makes inadequate the library which contains nothing but books. So far as possible, it must hereafter try to gather the material of which the books were made.

Then, too, a vast amount of information of current importance never gets into books. Take an illustration or two from politics. Mr. Taft's comments at Winona on the Payne tariff law perhaps have had a bigger effect on the history of this country than any other single utterance in ten years. That speech may never get into a book. If no library preserved it, what a handicap to the historian writing in the next generation! Much more doubtful is the preservation of a speech Mr. Taft made at Denver in which he gave the true and vitally important reason for his approval of the income tax amendment, which probably made possible its adoption. From the general misconceptions of the matter, I expect the historian to misrepresent it unless he chances to read that speech, and as it was published in full only in the Denver papers of that day, it is altogether probable that it will pass into oblivion unless some library got it from the clipping bureau. Yet it is vital to giving truly an important chapter in our constitutional and economic history.

Illustrations of like pertinency could be found in every other field of human activity. Consider but one. The wisest observers believe that the most important factor underlying the political, economic, commercial and social unrest of the time, with all its tremendous effects, is the depreciation in the purchasing power of money. Society groans and writhes in the attempt to readjust all its material relations to a change in the standard of values. Nothing else in the life of the world is for the time of so much importance. How much light can books throw on the great problem of the hour? What we most want are the facts of the crisis, as fast as they are thrown out from the forge of fate.

We call it an up-to-date age. Last year is ancient history. The telegraph, the telephone, the locomotive and the newspaper

press urge on the swiftest, keenest competition the world has ever seen. Knowledge must put on seven-league boots if it would keep pace.

The source of the freshest information is the newspaper. Its very name speaks of newness. Its information may be fragmentary or inexact, but it is the only absolutely new information to be generally had. Its deficiencies are not to be blamed on the clipping bureau, and inadequate information is better than none at all. Considering the enormous difficulties in the way of scientifically exact reporting for the daily press, the marvel is that so much is correct, not that so little is correct. Anyhow the clipping bureau offers only what the press puts within its reach. It thinks it therein offers much.

Periodicals are, of course, more accurate, and, for what they touch, more adequate. These, too, the scissors of the universal "exchange editor" put at the command of the seeker after information and ideas. This, however, is a field that most librarians have thought they could better cultivate unaided. Is that the case?

The doubt of the librarian comes from his failure to analyze the work of acquiring and storing information. It is partly manual, partly mental. The clipping bureau is qualified to do much of the manual labor, some of the mental. What it is competent to do, it does at a great saving of cost. We find that the bulk of the important matter coming from the news and periodical press of the United States, is contained in about 200 newspapers and 300 periodicals. There are many thousands of other publications that we read for certain purposes, and these libraries could to advantage also have at command. Note, however, that the subscription price of the high-grade publications alone would amount to more than \$2,000 a year. For reading we pay out more than \$10,000 a year, in wages, and that does not take into account mechanical or manual costs, or fixed charges. Manifestly, it would be a woeful waste if every library in the land paid out \$12,000 a year for subscriptions and reading wages, when nearly all its needs in those two particulars could be met at a cost comparatively trifling when one reading room works for many customers. It is not to be pretended that the clipping bureau can do even this part of the work precisely as well as it would be done in the library itself. We do not assume to employ a corps of specialists, equipped with expert knowledge in a hundred fields. On the other hand, complete thoroughness, precise discrimination, infallible judgment, come high. The librarian must decide whether he can afford to pay the price, by doing the work himself. No library has funds for all it would like to do. Hence it must pick and choose. So far as it is willing to take ad-

vantage of modern methods of sub-dividing labor, it can save to the gain of other kinds of work that cannot be sub-let, so to speak.

Not only with librarians, but also with all other customers, the greatest obstacle we have found in the way of harmonious relations during the quarter-century of our experience, has been the tendency to appraise our product item by item rather than in the mass. Only by explaining the methods essential to profitable conduct of the business can I show why this is inconsiderate. Each of our readers must try to bear in mind the wants of a great many persons. To pass careful judgment on each of the 20,000 clippings a day that are sent out, would slow down the work so that prices would have to be much raised. The mechanical cost of cutting and mounting each clipping is small when the labor can be sub-divided as is possible under such conditions. So in the long run we find it cheaper to send out many clippings that greater exercise of discrimination would reject. This is taken into account in the scale of charges. So we think it fair for the customer to pass judgment on the value of the service as a whole.

It is, indeed, far better to let the specialist do most of the winnowing and to let his waste basket have the preference over ours. He alone knows precisely what will be of use to him. If he asks somebody else to exercise the discrimination, he is sure to lose much matter that really would be of great value to him. So if he be wise, let him make his order broad, with the minimum of restrictions to confuse the reader, and be prepared to have many a smile over what he gets. A single nugget in a cradle-full of gravel may far more than repay the whole cost.

Our readers have not time to read anything through. They look for key-words, and finding one that is suggestive, must jump on to the next item or article. When we sent a man interested in hat-making an item about a chimney cap that blew off, it was funny, but it was accountable. In the reading of 60 newspapers a day, which is a fair day's work, something more than 10,000 words a minute must pass under the eye of the reader, and of course it is wholly out of the question for anything but headlines and key-words to get scrutiny and judgment. If it be urged that we ought to halve the speed, the answer is that it would double the wage-cost and so the price. Every ten minutes our combined force now glances over matter containing as many words as there are in an unabridged dictionary. We would be quite willing to make it instead an unabridged dictionary every twenty minutes if the persons we serve would pay us twice as much money, but the fact is that the ten minute speed

has been found to give on the whole that for which most people are willing to pay the cost.

Much the same considerations determine the amount of time and care that may be given to mounting and crediting of clippings. We have customers, and many librarians would be of the class, who would like to have their clippings cut with perfect neatness, credited in copper-plate, and mounted with scientific precision. That, too, we would be glad to do if the mass of our customers were willing to pay for it, but the fact is that they are not. We have put a vast amount of study into attempting to apply machinery to these manual processes, and have in fact invented some devices that combine speed and precision, but for the most part the work must be done by human hands, at a speed that does not permit the most artistic results.

This raises a question that librarians should earnestly consider, not alone with respect to the gathering of information, but also with respect to making it accessible in the library. Speaking as one who feels that he owes a great debt to librarians and libraries, for from early boyhood I have made steady use of them—the public library, the college library, the State library—I hope a word of criticism will not be taken as put forth in any unfriendly spirit. Sometimes I have thought that some librarians were not strongest in their sense of proportion. They seem to me to put too much time and thought and money into non-essentials, to the injury of essentials. Let me illustrate by citing the matter of book covers. Fortunately, it is no longer of importance to expatiate on the waste of energy in protecting the boards with brown-paper covers. That folly is little more than a memory of the epoch when, from motives of thrift or modesty, prudent housewives put pantalets on the legs of the piano-forte. There persists, however, a regard for book covers that in a working library sometimes verges on the unreasonable. One who has to use a whisk-broom on his clothes every time he handles an old volume of law reports, comes to believe buckram is preferable to calf, even if it is not so elegant. Of course it is for other reasons that bound volumes of pamphlets are inconvenient. It is my personal opinion that nothing should be bound which is not designed for continuous perusal.

The problem presents its most difficult aspects when it is a question of preserving and of making accessible the contents of newspapers. Doubtless a public library ought to keep bound files of local journals. These, however, do not meet what may be called current needs. So many times has the half-year volume I wanted been "at the binder's" or so laborious has been the search when it was accessible that I dread to visit a library to look up something in

a newspaper. Then, of course, no library has the room to keep files of a tithe of the important journals of the whole country.

Our Massachusetts State Library is making an attempt to meet some of the needs by indexing some of the leading papers of the State, and spends a thousand dollars a year, I think it is, on that work. Very likely it is worth while, but it is inevitably inadequate. The indexer must discriminate, for he can index but a small part of the contents, and there is always a material probability that he will not have indexed the particular thing you want.

Of course you know very well that all indexing is slow, tedious, and costly. You also know that much indexing is partial, incomplete, and vexatious. Why not abandon all attempt at it in the matter of newspapers, periodicals, and pamphlets? Is it useful? Is it necessary?

With an instinct for collecting and a need for preserving much current material against the need of sundry avocations, I found myself in the early days of the clipping business, strongly tempted to store away for personal use all that interested me in the immense supply of information peculiarly put at my command. Quickly it became clear that I ran the danger of being swamped. First the scrapbooks had to be discarded; next all attempts at indexing. The decimal system of classification proved my salvation. Even this the distractions of a busy life have kept me from using to the full, but I have a collection of about 20,000 pamphlets, magazine articles, and newspaper articles of length—a collection that proves exceedingly useful. It is the work of but an instant to lay my hand on all the material of this sort I have that pertains to any topic presenting itself. I can find any particular thing almost as quickly as I could look through the pertinent headings of a complete catalogue.

The rough-and-ready way I have devised for storing the matter may interest you. I use plain wooden boxes of quarter-inch stock, $7\frac{1}{2}$ by $3\frac{1}{4}$ inches inside and 10 inches tall, without cover, to the number of about 160. They cost but a few cents each. These are supplemented by about 100 covers of government reports no longer of value, out of which the contents have been torn. Such use is not so much a matter of economy as it is of convenience, for it permits an expansible collection, with the minimum demand for shelf-room—a not unimportant thing in a city office. My 20,000 articles take only about 75 feet of shelving.

The scrap-book has its uses. To preserve in fitting form all the biographical matter that may be printed on the death of a man of repute, is work frequently done by the clipping bureau, to the gratification of relatives, and when the books are deposited in a library, to the aid of future historians

and biographers. Also the scrap-book idea is usefully applied to the preservation of all accounts of and comments upon noteworthy happenings of a local interest, such as celebrations of centennials, great engineering projects, and the like. Every public library, too, should thus preserve everything that will prove of historical interest. We have long furnished to the Massachusetts State Library all the historical and genealogical articles, addresses, reminiscences, and kindred matter, printed in the newspapers of the State, which are duly classified and preserved in the library, thus giving permanent access to a great store of historical information that would otherwise pass into oblivion.

Beyond this, the scrap-book has little place in the library. It is the poorest way to meet the need. Far the better way is to forget the looks of the thing, and to keep utility, economy, and proportion uppermost in mind. And this can be done by letting the clipping bureau do the manual work of cutting, mounting, and crediting, with the library classifying by the decimal or some like system.

It is worth while realizing that a newspaper or magazine is simply a collection of unrelated bits of information or discussion, all printed at the same revolution of the press only because men find money profit in throwing them together. The cord on which they are strung deserves no reverence. And when you take them off the cord, assort, and restring them, they are not beads to make a pretty necklace, but—*it I do not too much force the metaphor—*dried apples to be eaten.

Keeping utility, then, ever foremost, the clipping bureau becomes the agency for collecting great stores of information which the library is to classify and shelve against demands of surprising diversity and vitality. Never before have men been so willing and anxious to profit by the experiences of others. It is the mark of that spirit of co-operation, of mutual helpfulness, which is the brightest, most hopeful characteristic of our time. Yours is the function of helping to get for it full play. When some settlement-house worker delivers an address full of the fruits of practical work among the poor, it is your mission to make that experience of use to others of philanthropic instincts. When in some city a group of earnest men succeed in putting the relations between a public service corporation and the community on a peaceful basis of advantage to both, as for example when we applied the sliding scale to gas charges in Boston, yours is the opportunity to spread the knowledge of how it was done. When debaters are anxious to get material bearing on the questions of the hour, when lawmakers want help in the framing of their measures, when speakers need the latest data in the preparation of public ad-

dresses, then the shears of the clipping bureau and the classifying skill of the librarian join to help mould public opinion. It is often said that the newspaper is ephemeral. Those err who think its life, like that of the insect, lasts but a day. Its influences endure beyond the life of any who read it, for those influences are the most potent of all factors in creating the public opinion that shapes the material and the intellectual destinies of the world. It is for you to help make that public opinion intelligent, enlightened, informed, by putting within the reach of all who will use it, as much as you can gather of that on which it should be based.

In this task let me urge you to consider whether you cannot accomplish greater measure of success by joint endeavor. The very existence of your organization, the very fact of this gathering, show a desire to be of mutual help. A very practical way of giving effect to your common purpose would be to work out some plan whereby you could put an end to the enormous waste of effort you must now be making in this matter of gathering current information and discussion. Most of you are now doing your own reading of periodicals and papers, taking many pairs of eyes to do what a few pairs could do. You are duplicating each other's work to large extent. Some day you may decide that by centering the manual labor, by entrusting the clipping bureau with so much of the labor as is common to all, you can free yourselves for work that each in his own field is best qualified to perform.

Such co-operation would gain by reason of some of the peculiarities of the business of reading newspapers and periodicals. It is natural that our readers should best remember those topics that recur frequently. The orders they forget are those under which at the most very little could be found. Half in jest a scholarly friend once told me he would give us a dollar apiece for every clipping we would send him on "Vampires." We never made a dollar out of him. For years our readers' bulletins have carried on order for poems on the apple. It has been a waste of bulletin space. But order everything on the tariff or the Panama Canal, and nothing will be skipped.

This may suggest why libraries that give the clipping bureau orders on detached subjects rarely discussed, are likely to form an unfavorable opinion of the work of our readers. To use the phrase of the street, such orders get lost in the shuffle. The mind of the reader who has many scores of things to try to remember, inevitably is least likely to respond to the impulse of key-words met with at intervals of several days or weeks. We use every device we can think of for stimulating memory—daily lectures in the reading rooms, elaborate and carefully prepared bulletins in

front of each reader, reminders of every variety, but the difficulties in the way cannot be wholly overcome. They never will be altogether vanquished so long as some reliance must be placed on that imperfect mechanism—the human mind.

To meet this difficulty, the most advantageous remedy we have found consists in the lumping of orders. For instance, illustrating from the commercial side of our business, when we saw that our readers indistinctly remembered we had at the moment orders for news of schoolhouses building, but not of churches, of garages but not of stables, of hospitals but not of jails, and so on, we solved the problem by ordering them to mark all construction news, with directions to the mailing clerks to throw away the clippings for which at the time we had no customers. We did the same thing with book reviews, and today our people have orders to mark every book review that appears in any publication we handle. As the manual labor of cutting and mounting is done separately, the reader doing nothing but mark, the cost of what is wasted, proves inconsiderable in comparison with the gain in thoroughness of service.

Some day we shall do the same thing with all the headed articles in the periodicals and the serious matter of general interest in the newspapers. Once they are all cut, those for which we have orders will be sent to the libraries or other customers interested, and the rest will be thrown away. Should your organization see fit to make such wholesale treatment of current information practicable, you would have little reason to complain thereafter of lapses of memory on the part of Bureau readers.

Whether or not there can be development in this direction, you may be sure of our wish to be helpful to you. That this will redound to our gain, is not an improper consideration if the laborer is worthy of his hire. But it is not the only consideration. The business man who has in mind his money profits alone is unequal to his opportunities and fails in his responsibilities. He, too, may and should aspire to make his efforts count something, however little, in lessening the drudgery of mankind, in adding to the efficiency of labor. We hope that toward this end our efforts contribute. Efficiency is the study of the hour. It has been my fortune to have opportunity for observing its need particularly in the public service. No man accustomed to modern business methods can fail to be struck by the waste therein due to the employment of high-grade minds on low-grade work. When some part of the working time of a public servant possessing intellectual acumen is put into manual labor that can as well be performed by a youth without special training, there is economic

loss. When your subordinates handle the scissors and the paste-brush, you are paying them for work that can more quickly and much more cheaply be done in our cutting rooms. When by concentrating our energies on a single phase of the task of disse-

minating information, we save many persons much time and effort, we believe we help toward subserving the common welfare. That is why we believe our enterprise justifies its existence and presents a valid reason for approval.

Report of the Committee Investigating the Use and Methods of Handling and Filing Newspaper Clippings.

Jesse Cunningham, Librarian, School of Mines, Rolla, Missouri.
Chairman of the Committee.

This committee has confined itself entirely to the investigation of the subject of clippings and presents, as a result of its labors, facts and suggestions from thirty-four libraries. A list of libraries selected from the membership of the Special Libraries Association with a few public libraries, some state libraries and legislative and municipal reference departments added, was used for the purpose of the investigation.

The following questionnaire was sent to the selected institutions:

"In this inquiry the term 'newspaper clipping' is used in a broad sense including all clippings from whatever source.

1. How do you obtain clippings?
 - I. Independent reading and clipping?
 - II. Subscription to clipping Bureaus?

What Bureaus Is service satisfactory Faults Merits Improvements suggested. Do you check up such service by reading and clipping
2. In doing independent clipping do you find that the arrangement of reading matter often requires the purchase of two copies of a paper What action could be taken to induce publishers to better arrange material.
3. What is your method of treatment of clippings?
 - I. Classification.

Alphabetical Dewey. Geographical Other systems.
 - II. Methods of filing.

Scrap books Gaylord pockets Vertical files. Pamphlet boxes Do you ever bind large and valuable pieces as a pamphlet?
 - III. Indexing.
4. How is dead and useless material eliminated?
5. To what uses do you put clippings?
 - I. Advantages as collectable data.
 - II. Disadvantages.

6. Would you purchase clippings from magazines on special subjects that interest you?"

Answers suitable for tabulating and digesting were received from the following institutions:

American Telephone and Telegraph Co
Arthur D. Little Co., Inc.
Baltimore Department of Legislative Reference.
Bureau of Railway Economics Library.
California State Library.
Carnegie Library of Pittsburgh.
Chicago Public Library, Bureau of Statistics and Municipal Library.
Cincinnati Public Library.
Columbia University, School of Journalism.
Commonwealth Edison Co.
H. W. Wilson Co.
Indiana Bureau of Legislative and Administrative Information.
Insurance Library Association of Boston.
Kansas City Municipal Reference Library.
Library Association of Portland.
Municipal League of Los Angeles.
Milwaukee Public Library.
National Carbon Co.
National City Bank of New York.
New York State Library.
Official Information Bureau, New York City.
Oregon Free Library Commission.
Pennsylvania State Library.
People's Gas Light and Coke Co.
Prudential Insurance Co.
Public Service Commission of the First District, New York.
St. Joseph Public Library.
St. Louis Public Library.
St. Paul Public Library.
Stone and Webster.
Studebaker Corporation.
U. S. Department of Agriculture.
Worcester County Law Library.

Methods of Obtaining Clippings

Of the libraries reporting but few depend entirely on clipping bureaus for their supply of clippings. Independent reading and clipping is the main source of this material. In some cases both methods are used but the clipping bureau is depended upon for clippings of some special subject, for instance, the New York State Library subscribes for clippings on the libraries of the state; the Indiana Bureau of Legislative and Administrative Information has its local needs supplied by state clipping service; the National City Bank of New York City subscribes to Romeike for clippings on the bank and its president.

The Arthur D. Little Company and the United States Forest Service have very efficient service and the methods of these two libraries are very similar in that intended clipping is indicated and done by experts. The Arthur D. Little Company circulates a large number of periodicals among definite readers. Each magazine is either bound or clipped. The magazines to be clipped are returned to the library marked for clipping and clipped by the staff.

The Forest Service receives some seventy papers as exchanges for news items. These papers are read and clipped by a clerk of the department. Under general instructions to Forest officers and other field men in the Forestry Districts many clippings are gathered from various parts of the country. The Washington office is also supplied by Luce's Press Clipping Bureau and indirectly by a number of other bureaus. The several districts of the Forest Service with headquarters in different states are also supplied by various clipping bureaus.

The National Carbon Company receives a large number of technical magazines besides many house organs. These are read over every week by the members of the Publicity Department who make a note of all articles of interest or value to any of the company's employees. The titles of such articles together with a short criticism are printed every week and distributed to each employee who desires a copy. This weekly sheet circulates among the employees and is returned to the Publicity Department signed by each man showing the articles in which he is interested. Magazines lie for one week on the table of the reading room where every one can see them.

In looking over the magazines such articles as are worth filing are numbered according to the Dewey decimal system and filed on large cards kept in a card index drawer. When the magazines return from circulation they are filed in the case for one year. Important ones are permanently bound and the others are put in temporary loose leaf binders. Those of little importance are destroyed after the articles which are to be filed have been clipped. These

articles are then placed in envelopes and filed along with the corresponding card in the drawer. Clipping bureaus are never used. Whenever an article of interest is noted in a periodical not taken, the company purchases a copy.

The H. W. Wilson Company clips material in advance only on subjects for which there is quite certain to be a demand. All material is filed by subject and the Readers' Guide to Periodical Literature is followed quite closely for the headings. When requests from customers are received the Readers' Guide is immediately consulted and then it will be found that the files contain a good proportion of the articles indexed there. A great deal of miscellaneous material, a good many pamphlets and large publications from many sources are secured. Experiments are being made with some methods of reproduction with the idea that copies of articles will be sold rather than loaned.

The California State Library keeps for historical purposes files of newspapers from every county in the state. An index covering important items from August 15, 1846 to date is kept. This index is on cards and to it are being added references to any items that may be needed again. Clippings are not needed. If an item is wanted in separate form or in a convenient form to loan or give away, it is camera-graphed. In the case of magazine articles the camera-graph is used and as many duplicates can be made as are wanted. If the magazine is not in the library the Union Catalogue tells where it is located. The magazine is then borrowed and the article camera-graphed.

Arrangement of Material for Clipping

It frequently happens that extra copies of a paper must be secured or the least valuable clipping discarded. In the case of newspapers the overlapping material may be typewritten. With magazines it is sometimes possible to remove the pages entire, saving the ones containing the desired article. These can be fixed together and mounted by pasting the margins.

The School of Journalism of Columbia University very often is required to purchase two copies of a paper. In the case of the London Times, it is necessary to buy twenty such copies in a year. Where there is a set of New York dailies used, the staple news can generally be found in another paper, if in one paper, it is back to back. In several cases the subscription calls for two copies of a paper. The Saturday edition of the New York Evening Post is an example.

A general publicity campaign complaining against the prevailing conditions might induce publishers to better arrange their material, then the success will depend

largely upon the liberality of the publisher and his willingness to co-operate. It has been suggested that newspapers print the news matter on one side of a sheet and the advertisements on the reverse side. Magazine publishers might be induced to commence all leading articles on the right-hand page.

The problem is a large and difficult one and it is almost chimerical to expect the make-up-man of a newspaper or magazine to consider clipping needs.

Service of Clipping Bureaus

The verdict seems to be almost unanimous against the clipping bureaus. Better results and more satisfaction is had from independent reading and clipping. The best that can be said of the bureaus is that their service is fairly satisfactory.

Experience seems to show that the various press clipping bureaus differ little in their efficiency. They give satisfaction within certain definite limitations. In three cases, one library sent the same instructions to three bureaus at the same time and it was apparent, chiefly, that the bureaus did not read enough scientific and technical or trade papers in order to send exhaustive material. For simple general subjects the service rendered is often satisfactory. For specific information, the service is short of what is desired, furnishing only a clue to the desired information or happening.

The fundamental fault is lack of scope and completeness due to the limited number of papers read. For scientific purposes the service is of no practical use. Minor faults are mutilation of articles, the fact that clippers do not learn what is worth while, crediting clippings to wrong papers and slowness in delivery.

Suggested improvements are more intelligent clippers and broadening of the scope to include something besides newspaper clippings on an order for definite technical matter.

Classification

Of the twenty-five libraries using some definite scheme of classification, ten use the Dewey decimal system, ten an alphabetical arrangement by subjects; four their own special numeric scheme; and one a geographical arrangement.

The Arthur D. Little Company employs the Dewey decimal system carried into great detail using the French expansion of the Institut International de Bibliographie, the Illinois Engineering Experiment Station expansion, Weyer's expansion of "Agriculture," and Hess on "Automobiles."

The Columbia University School of Journalism follows the Dewey system rigorously. It has combined number after number so that for instance, the present war of Macedonia would be 949.6.08 324.1913. The

reason for these numbers will appear to any one sufficiently familiar with the Dewey classification.

Where an alphabetical arrangement by subjects is followed, the subject headings of the Readers' Guide to Periodical Literature are used. In some cases it has been found advantageous to divide the subject geographically.

The geographical classification fits the needs of Stone and Webster better than any other scheme, the geographical numbers being assigned by taking an atlas and arbitrarily making divisions beginning at 1100 for Maine and ending at 6100 for Washington, with higher numbers for foreign countries.

In several legislative reference departments the special numeric scheme used for other material is applied to clippings.

Methods of Filing

Two methods of filing seem to predominate, the vertical file being used extensively and manila mounts with pasted clippings in condition for binding or lacing together. With collections of considerable size, a combination of several methods is used. The New York State Library puts material classified by subject in vertical files. Of this material the more important clippings included on one side of a page are usually mounted on punched or unpunched manila sheets. Clippings printed on both sides of the page, those on New York libraries, debates material, any which should be made available quickly, but which the library cannot afford the time to mount are filed unmounted in manila folders, envelopes, or pockets. Extracts from magazines are usually stapled and fastened into manila covers with gummed tape. When there are enough clippings on one topic to make it desirable, they are put into a binder and treated as a book.

The prevailing custom among legislative reference libraries is to paste the clippings on card board or manila sheets. These sheets are then shelved with the books in pamphlet boxes and when those on one subject get to be of sufficient bulk, they are bound together, one and one-half inch being allowed at the left-hand of the sheet for punching and binding. In some cases the manila sheets are filed in vertical files, but an objection is raised to this method that one does not find all the material on a subject in one place.

The date and source should be noted on each clipping. With ordinary newspaper clippings manila envelopes 11¼x8¼ inches (the size may vary) are occasionally used, each subject having a separate envelope and each envelope having a classification number and the subject written on the outside. Magazine separates are often placed in manila folders and kept in permanent

form with staples. The title of the article, the source, date, and class number are written on the folder. These separates and the envelopes containing the newspaper clippings are kept in pamphlet boxes which have labels showing the class number and the subjects of the material they contain. Valuable material is pasted on mounts of uniform size and treated as if it were a magazine separate.

The use of scrap books is limited to a very few libraries. Some public libraries use these books for material of a permanent nature and treat them in the same manner as books. An ideal arrangement suggested by Mr. Bostwick of the St. Louis Public Library is to have a scrap book or pamphlet box at the end of each class with the shelved books. For example, at the class 325.1 a scrap book or pamphlet box could be placed to receive all clippings on emigration and immigration. Thus the printed matter in the books of this class would be supplemented by up-to-date material from newspapers and magazines.

Scrap books have been tried and found useless by the Columbia University School of Journalism. Various forms of pocket and vertical files are found useful for a collection which is not going to run over 20,000 or 30,000 clippings. Envelopes in boxes are a useful device. The School of Journalism keeps its collection for the most part in large envelopes. Plays and small biographies are kept in small envelopes. The "morgue" has the obituaries of about 120,000 persons. Distributed in small envelopes are small notices and large envelopes contain larger items.

Gaylord pockets and other such binders are not extensively used, but they might be quite adaptable to the handling of clippings. However, this would be a rather expensive method where classification is very minute. It might require a pocket for a single clipping with little chance that there would be others added for a long time to come.

Continuous articles which run through several numbers of a magazine can be bound as a book in inexpensive buckram, in fact large and valuable pieces are regularly bound in several instances.

Indexing

With the use of the Dewey decimal system of classification, the relative index to the classification serves as an index to the collection of clippings. In the case of an alphabetical subject arrangement in envelopes and vertical files the scheme is self-indexing. By following the subject headings in the Readers' Guide that Guide can be made to serve as an index to the clippings. In some cases where the Dewey system is used the index has been transferred to cards in order that it may be made

a more workable tool. When a new subject is added a card is made for the index under the subject noting the classification number assigned to the clipping.

In one instance, that of the Arthur D. Little Company, indexing has been done very minutely, in some cases several subject cards being made for one clipping. An author card is made if the article is signed. A plain title card is used for the main card in all cases and from this card the subject entries are keyed. When a clipping contains a secondary article which could not be separated, a card is made for the secondary item as in the case of the primary article, almost in the same manner as an analytical for a book.

Elimination of Dead Material

The iron clad rule of the librarian to throw nothing away is abandoned in the case of clippings. In but few instances do we find no elimination whatever. A few have found it worth while to keep everything as it proves useful sometime.

Periodical revision is a customary method of eliminating old material. The period of revision varies from one to five years. In some cases a file of temporary clippings is kept for one year, at the end of which period material still useful is transferred to a permanent file and the remainder is discarded.

The New York State Library discards undesirable clippings when they are received from the clipping bureau and before they are classified. The Legislative Reference Department plans to remove from its files each year and turn over to the general library any material of ephemeral interest which is over five years old, preserving permanently all bibliographic material and comparative studies.

Use and Value

The information and data contained in books is generally out of date before the printer's ink is dry. Newspaper clippings and magazine separates fill the gap. Also in the present day some subjects are so new that no books have been written on them. Here again the clippings meet the need. The data obtained in this way would otherwise escape and the collection of the information would require considerable time if one were dependent on published reports.

Local clippings are considered a fairly good history of the municipal affairs of the city. For corporations and publicity bureaus a collection of clippings is invaluable for furnishing general news to the executive officers and for advertising sources and sales. In following new business they supply a need and instances are known where clippings were of great value in law suits.

Public libraries can supply the branches and schools with material for debates and

current topics from such a collection. Legislative reference workers depend to a large extent on clippings for a clue to the real information desired. In the work of this class of library, clippings and other fugitive material are the life-saver of the investigator.

The Forestry Service uses clippings as a source of information concerning public sentiment. They afford knowledge of criticisms that require investigation. Sometimes they supply data concerning forest fires and other subjects and they provide historical records of important events of the public aspects of forestry.

The "morgue" at the School of Journalism of Columbia has been growing since 1873 and now from twenty to thirty pre-faces express obligation for the use of the material.

Disadvantages

The chief fault to be found with clippings is that they are not wholly reliable, their authenticity being often questioned. The labor and cost of arranging in workable order loom rather large and this sort of material gets out of date rapidly. It is superseded by later official reports necessitating constant elimination.

The tendency is to accumulate too much dead material.

Purchasing Clippings on Special Subjects

Twenty-four libraries replied to the question, "Would you purchase clippings on special subjects." Eleven institutions are inclined to subscribe to such services, the remaining thirteen preferring to purchase the papers or magazines for the special material when they desire information appearing on any special subject. A few special libraries already avail themselves of the services of the Engineering Magazine which holds itself ready to supply copies of all articles listed in the Engineering Index.

Conclusions

1. This investigation shows that the chief source of clippings is independent reading

and clipping by the institutions themselves. The service of the clipping bureau seldom meets the needs and for scientific and technical purposes is almost valueless. The needs of each institution are better satisfied when the clipping and collecting is done by the institution's staff who are thoroughly familiar with the demands to be met.

2. The Dewey decimal classification and its various expansions is most widely used. The alphabetical arrangement by subjects following the headings of the Readers' Guide to Periodical Literature ranks along side the Dewey and has many advocates.

3. The manila and card board mounts with the clippings pasted on them in such a way as to allow binding and shelving with other material on the same subject seems a satisfactory method of filing. Large and valuable pieces are bound as books. Vertical files have their advocates and are used extensively.

4. The Dewey decimal system of classification provides its own relative index. The alphabetical arrangement by subjects is self-indexing and there is the Readers' Guide in addition. Full cataloging of clippings is ideal, but expensive.

5. The ephemeral character of the material requires constant elimination.

6. Clippings may be used the same as books and are often required to supplement printed books which are out of date as soon as published. For debates work and legislative reference they have great value.

7. The advantages claimed for clippings are their up-to-dateness, timeliness, small cost, convenience to send by post, flexibility, compactness, and they are very frequently the only material to be had on a subject when it is alive. A leading disadvantage is, the material is not entirely reliable, often being found inaccurate and sometimes entirely wrong and misleading. The labor and cost of arranging is great. They are difficult to index and the tendency is to accumulate too much dead material.

The Municipal Reference Library in New York.

Mrs. A. W. Von Hohoff, Librarian.

On the 31st of March, 1913, a Municipal Reference Library for the city of New York was formally opened at 280 Broadway, where it occupies two rooms.

It seems somewhat a pity that a city like New York should have allowed other municipalities to take the lead in the starting of such a library, but at least its procrastination has given it the opportunity of studying the work of other cities along this

line and perhaps, as usual, New York has been "wise."

Plans for actually establishing a Municipal Reference Library were perfected by Comptroller Prendergast and for its first year it is under the Department of Finance, but eventually it will be placed directly under the supervision of the Board of Estimate and Apportionment and it will be housed in the new Municipal Building.

Such a library has long been needed. There has been no one place for collected and classified data concerning all the departments and activities of this great city, such information has only been obtainable by personal inquiry at the various departments on the part of individuals who sought such information and the Public Libraries held the only statistics of other American and of foreign cities. There are thousands of city employees today who would like to acquire a broader knowledge of problems of city government and the best ways to solve such problems, but these employees have not the facilities, they are not financially able to purchase expensive text books or buy volumes treating special subjects and they do not know where to get free access to the knowledge they need. It is to such employees that the Library will always especially appeal. It is now about two months since the Library was opened to the public, during which time it has been used by over a thousand people. Perhaps to a regular librarian this does not seem like a large number but it must be remembered that each man who comes, comes to work. So far the greater number have been department men—city employees—but there have also been lawyers, real estate men and newspaper men.

Between the hours of 12 and 2—lunch hours—young men study in the Library, using books on accounting and bookkeeping in preparation for coming Civil Service examinations. These books and books on engineering in its many branches are in the greatest demand.

Lists of books on efficiency, engineering, accounting, municipal government, sewerage, road construction, water, sanitation, etc., were made for the Library by experts at the New York Public Library and these books, with the reports of the departments especially interested, have already proved of great value. Books may be borrowed for a week's time and there is a regular charging system. The Library contains the various departmental reports proceedings of the Board of Estimate and Apportionment and the Board of Aldermen, the Session Laws of the state from 1787 to date, a very fine collection on taxation, turned over to the Library by the Committee on New Sources of Revenue for the city of New York, and statistics of cities in this country and abroad, the reports made by the Bureau of Commerce and Labor at Washington as well as other government reports.

There are now 3,200 volumes and a large

collection of pamphlets, 61 weekly and monthly magazines, engineering, accountancy, machinery, efficiency, municipal, etc., published in this country, England and Germany. Clippings from papers and magazines are being constantly added and used in connection with subjects that are of special interest to the different departments.

The Library is being cataloged and as soon as possible a bulletin giving an idea of the books, pamphlets and reports in its possession and giving the latest facts concerning improvements in methods of city work will be published.

Already the Library is appealing to the busy men in the different engineering societies, to accountants in the Department of Finance and in the business houses and to many others. One of the chief aims is to keep the city in the closest touch with the activities and movements of other cities and other cities cooperate so readily that it is a comparatively easy matter to keep up-to-date in all outside municipal affairs. The Library should develop into a sort of college of efficiency where every man in city government will have the opportunity to educate himself and make himself of greater value to the community.

It must be remembered that a very small appropriation was taken for the compiling of the Municipal Reference Library, but books were collected from different departments. In many cases books and pamphlets and reports of real value were found stored in rooms where they were quite forgotten or entirely overlooked.

Although there are valuable old reports and some books that it would be difficult to duplicate, the real object of the Library is to have all the live, up-to-date material possible on every phase of city work, and to have this material where it can be obtained readily by any one desiring it. Of course, the Library has not the only collection of city documents and reports nor, as yet, a perfect one, but there is a set that is easily and quickly accessible to officials and employees, who can obtain their information in the time they would otherwise spend in going to and coming from another Library.

Thus it will be seen that the Municipal Reference Library even in two months has "made good;" that a necessity long felt is beginning to be met and that, following in the footsteps of Baltimore, Kansas City, Milwaukee and other places, New York hopes to make up for time lost along this line.

Relation between the Municipal Library and the Legislator.

Andrew Linn Bostwick, Municipal Reference Librarian, St. Louis, Missouri.

The municipal reference library has come to stay. It has passed through the experimental stage, through the vicissitudes which a new type of institution generally must experience, and is already regarded as an adjunct to intelligent city government that few large municipalities care to be without. Every month witnesses the inception of a new municipal library. Where it was formerly an experiment, it is now a necessity.

The municipal reference librarian, secure in the knowledge that his work is of real value, and indeed of paramount importance to his city, is nevertheless likely to be obsessed by some grave doubts. The library exists largely, primarily, in fact, for the benefit and the enlightenment of the city legislator—the alderman or councilman. How are its advantages and its resources to be brought to his attention—to be indelibly impressed upon his mind, so that it will be his very habit that leads him to consult its collection and make use of its facilities?

This matter is indeed an important one to consider. The municipal library, as we have just said, can be a force of the very greatest potency. In its quiet way it may do much in the actual shaping of the city's legislative policy. Yet without bridging the gap between the average librarian and the average city assemblyman, absolutely nothing can be accomplished. In no branch of library activity does the element of personality count for more, or should greater emphasis be laid upon the importance of close and cordial relationship between librarian and reader.

There are two kinds of libraries today. At the last Conference President Vincent of the University of Minnesota provided us with a number of striking library analogies. It seems to me that two of these will cover the entire field, dividing libraries into these two distinct classes—the library as jail, with the librarian as jailer, and the library as department store or business establishment, with the librarian as manager. In other words, there are the libraries that "stand pat," that guard their collections as such, and there are the libraries that, in common with business establishments, advertise their product and seek to place it in the hands of all who desire it and of many who perhaps do not desire it—for the time being.

Now this second class of libraries is gaining in size every day and it is with this class that we are interested right now. I think that if there is one kind of institution that should fall into it wholly and absolutely, it is the municipal reference library. I do not suppose that everyone will agree with me, but if any other effective means of keeping in touch with the average city legislator exists, I shall be glad to hear of it, as I believe we all are, or should be, open to conviction.

Consider for a moment the genesis of a municipal library that is (as most of them have been) created by city ordinance or resolution. Some thoughtful councilman, who really understands the value of such an institution, introduces the bill providing for its establishment. It is referred to a committee, very likely one of which the introducer of the bill is a member. The nature of the proposed legislation is explained to the Committee and as the bill carries only a small appropriation it is reported favorably and on the Committee's recommendation is promptly passed, as are the multitudes of ordinances providing for street and sewer improvements, or granting John Doe permission to erect a barber pole or a drinking fountain, etc. The probability is that the members outside the Committee know nothing at all of the nature of the institution that they have just authorized.

The library is established and the work of collection begins. Now we are not at present concerned with the matter of the municipal library's administration, and its subserviency to City versus Public Library authority; suffice it to say that there are some methods that will bring about the appointment as librarian, of a man specially trained and qualified for the position, and other that will result in the selection of a politician. In the latter event, the library, for the most obvious reasons, is likely to accomplish little or nothing. It simply means one more job for the faithful. What happens in the former event is of especial concern to us. Supposing conditions are such—and they generally have been—as to bring about the selection of a trained librarian. He builds up and catalogues his library; he makes academic investigations, which are published as bulletins, and abstracted in economic, sociological and library periodicals. So far, so good—but what has he done to aid the average city official, the city legislator? These gen-

plemen, particularly the latter, who generally have no regular offices in the City Hall, may not know that such an institution exists, and even if they do, have no idea that it can be of any real and practical help to them. We may take it for granted that at first the assemblyman has a very hazy notion of the character of a municipal library.

City legislators may be roughly divided into three classes. The first, a large though steadily diminishing division, includes the politician—from the saloon-keeping ward representative to the complacent alderman at-large who can always be persuaded to hearken to reason and the voice of the "interests." To bring to these men, particularly the former, an idea of the library's usefulness, is a well-nigh impossible task, except in some few exceptional cases. It is moreover, a misdirection of energy, inasmuch as the politician does not care to be guided by comparative data, or outside information of any sort. He works on a different plane, and while the municipal library is broadly speaking an instrument of reform, it does not undertake the reform of individuals.

The second class embraces the men who, though they may be politicians to a degree, are desirous of working for the city's general good, and yet who, through ignorance or temporary apathy, do not usually investigate the problems that arise in connection with their work as legislators. They may want to use the experience of other cities in guiding them when they consider bills in committee, but, not realizing that such information is easily had, dismiss the matter and act perhaps contrary to what their decision would have been after a study of the situation. It is this class of men that can double, treble the library's activity. Let the head of an institution of this kind use his every resource to bring them into the habit of consulting him at every point.

The third is still a small one, and consists of the more or less thoroughly educated men of high standing who get into the assembly from time to time. These men either use the library constantly or not at all, according to whether they represent the stand-pat, conservative type of business man, or the go-ahead, progressive, somewhat radical worker for the city's welfare. The latter need no invitation to use the library. If one-third of a city council were composed of such persons, the resources of the average municipal library would be most severely taxed. Of course, these active investigators often include cranks who delight in placing freak legislation before the assembly. I do not suppose any library in the country is without its crank patrons and municipal libraries form no exception to the rule.

Having considered the general types to be found in the city assembly, we come directly to our important question: How may the municipal library establish such relationship with these legislators as will enable it to carry out the purpose for which it was established.

Let it not for a moment be thought that it is my purpose to disparage academic or technical studies by municipal libraries. No library of any description should be guilty of turning out slovenly or low-grade work as its final product, and no librarian should be a person incapable of making investigations and presenting their results in a scholarly manner. This work is absolutely necessary, and the arguments bearing on the question need not be stated here. My point is that the municipal librarian must, in addition to the foregoing, pursue another line of activity. He must possess the qualifications, not only of a good librarian and investigator, but also of a man who can meet his fellow-citizens in each and every walk of life on terms of friendliness—in short, he must be what is called a "good mixer." In addition to this, he must be able to present the results of his studies to the busy and practical legislator in simple, brief form, so that these results will stand out clearly and sharply, answering the original fundamental questions put by said legislator. He must have in effect a dual personality and dual abilities.

To obtain such a man as librarian would not be an easy piece of work. Perhaps a perfect specimen could never be had, certainly not at an ordinary salary. A solution of the problem would be in having these necessary qualifications divided by two persons. A deficiency in the librarian's qualifications could be overcome by the employment of an assistant who was strong where the librarian was weak. For example, "A" might attend the council meetings, get to know the assemblymen, and receive the inquiries, transmitting them to "B", who would conduct and publish the thorough investigations. "A" would take the results of these investigations, boil them down to a simpler form, and present them to the original inquirer in such shape as to best serve the inquirer's purpose. Of course, a statement in this form sounds rather foolish, but after all, the system followed by many legislative and municipal libraries, to say nothing of institutions other than libraries, does not differ fundamentally from the above.

Just a word in regard to the actual form of presentation of data to the legislator. Here again must be emphasized the importance of personal relationship. The length, detail and form of the report should depend upon the type of man with whom you are dealing. I do not say, mind you, that the facts are to be modified—I do say,

however, that the librarian should have the ability to present the facts in the form most convenient and useful to that particular legislator who has made the inquiry. He will have this ability to at least some degree, if he has made it his business to know and size up the members of his city assembly. Without going into detail it may be said that in most cases the form of report most acceptable to the city legislator is the shortest form possible. Tabulations are nearly always useful. Only the more educated type of men will take the trouble to go through original material.

The municipal librarian must, if he is to serve the city fathers intelligently, keep posted on what is going on in his city. Pending legislation must be kept track of most closely. If the librarian thinks or knows he can aid the assembly on certain questions, let him do so whether he is asked or not. One can never tell when such work will bear fruit.

One more quality absolutely necessary to the municipal librarian, in dealing with the city officials, is what may be termed political tact. I dislike the term politician, and besides, I have stated before that a municipal librarian should not be a politician, in the ordinary sense of the word. This does not mean, however, that he should be devoid of all qualities possessed by politicians. Let the librarian be sensible enough to keep from needlessly offending those very persons whom he is supposed to help. The desired results along these lines can be attained if the librarian can preserve

a strictly neutral attitude, in his official capacity, on all public questions. A very hard thing for a man with positive ideas—but let him try his best. Just as soon as he becomes known as a partisan he will lose his usefulness as a librarian, and, very possibly, his position as librarian. Let him always furnish information, confidentially if so desired, for or against measures, regardless of his private opinions. His duty is to reform, not by open agitation, but by furnishing facts, and letting a steadily improving body of citizens draw their conclusions.

To sum up, the ideal municipal librarian should have the following qualifications:

Library training.

Training in city government and in investigation.

The ability to know and get on with his fellow citizens, particularly in the City Hall.

Political tact, including a non-partisan attitude on public questions in his official capacity.

Like Milton's attempt to combine the drama and the ode, an attempt to combine these qualities may be difficult, but just as far as we succeed, so far shall we, in my opinion progress toward an ideal head for an institution that has for a primary purpose the enlightenment of busy, practical men on problems outside the regular business to which they have heretofore been accustomed—the ultimate good results of this institution being attained by close relationship between librarian and legislator.

The Library of the School of Landscape Architecture at Harvard University.

The Treatment of Collections Relating to Landscape Architecture, Including City Planning. By Theodora Kimball, Librarian.

The collections of the School of Landscape Architecture were begun in 1900, with the beginning of teaching at Harvard in this subject, but the great bulk of material has been acquired since the independent organization of the Department in 1908 and the subsequent establishment of the work in City Planning in 1909. In the summer of 1911, the School's collections, previously scattered, were assembled to form the thirty-third "Special Reference Library" of the University. It should be stated that while the School administers and directs its collections through a Special Librarian whom the Chairman of the School appoints, the Library forms a part of the University Library, to whose general policy it conforms and through which it purchases ma-

terial. The resources of the University Library are of course at the service of students of Landscape Architecture, so that a high degree of specialization is possible in the Library of our own School. Further since the new Landscape Architecture Library is in the same building with the older Library of the School of Architecture, duplication along that line can be largely avoided, and students in both schools use either Library conveniently.

At the present time the collections of the School of Landscape Architecture consist of the following, of the approximate numbers given: books and bound pamphlets, 1400; unbound pamphlets, 500; maps and plans, including those deposited indefinitely by the American Society of Landscape Ar-

chitects, 2000; photographs, 4000; post-cards, (estimated) 12,000; lantern slides, 3,300, models, 4. In addition to its collections, the School has been accumulating bibliographies of very 'considerable extent. The subject matter of these collections and bibliographies lies not only within the field of Landscape Architecture and such portion of it as relates to City Planning, but also within allied fields to the extent necessary for ready reference. The collection of books on Landscape Architecture in the Harvard College Library and supplementary material in certain special libraries of the University is made available through the bibliographies.

As far as we know, there exists as yet no other collection in this country covering the same field and specially organized to meet the needs of students of Landscape Architecture. This is accounted for by the comparative newness of the profession and consequently of systematic preparation for its practice. Harvard has led the way in professional education in Landscape Architecture and for its furtherance is now a pioneer in collecting and arranging adequate facilities for reference and research.

The collections are used and administered in the closest possible connection with instruction and are intended to be supplementary as far as possible to the work in regular courses. Besides for general reference in connection with any part of their work, the students use the library in three ways; in connection with courses in which there is prescribed and collateral reading; for inspiration in designing; and for research. Caring for the prescribed reading books calls for a system of dummies usual in any library where books are removed from their regular locations. To meet the need for inspiration in designing, a knowledge is necessary on the one hand of the problems in design, and on the other of material likely to prove visually suggestion developed in our library, hinges largely on this kind of use, since the effort to present material in its most suggestive aspect naturally has given rise to new treatment and original methods. The use of the library for research as also, of course, its use for looking up any minor professional topic which may arise, necessitates a very large number of analytical references both to periodical articles and chapters in books, and to illustrations. As papers presented before this association have frequently pointed out, this is true in most special libraries. It is particularly true, of course, in any rapidly developing subject such as City Planning, which forms a very considerable portion of the field of our collections.

The composition and use of the Library have determined the outline of the special methods which are being worked out in order to bring the efficiency of the collec-

tions to the high point which their richness and value renders them capable of reaching.

When the special organization of the collection was first considered, an examination of existing classifications showed that none contained any adequate provision for the field of Landscape Architecture and City Planning. Further, since this Library was to be the first of its kind, its classification scheme should be thorough and systematic, one which could be applied to all the usual and unusual kinds of material which the Library might have. In order that material in the Library on allied fields might be cared for readily, it was thought best to use the principles of some well established classification into which the new special scheme could fit. The adequacy of the Library of Congress Classification Scheme in those allied fields in which we were interested and the general principles on which it is constructed—combination of logical arrangement with convenient sequence—led us to choose this as our basis. After correspondence, the Library of Congress assigned the designations NAB for Landscape Architecture and NAC for City Planning (which seemed best treated in a separate division), following and co-ordinate with the already existent NA (Architecture) in class N (Fine Arts). Although City Planning considered as a whole is not primarily a Fine Art, its fundamental esthetic aspect and its close connection with the practice of Landscape Architecture and Architecture justify its position in class N. Beginning with a careful consideration of the fields, and constantly testing our outlines as they progressed by application to the material which we had in the Library or had note of through our bibliographies, we have developed two schemes, one for Landscape Architecture and another for City Planning. Although the former was developed first, the lively immediate interest in City Planning throughout the country led us to publish the scheme for this before the Landscape Architecture scheme. Last May, to reach the meeting of the Fifth National Conference on City Planning at Chicago and thus secure the criticism of those actually interested in City Planning The Harvard University Press published a Preliminary Outline of our City Planning Classification under the joint authorship of Professor J. S. Pray and the writer. After considering the criticisms received, very few of which—except those of Professor F. L. Olmsted—were more than appreciations, we are publishing the final Classification Scheme, with alphabetic subject—index. This may be obtained at fifty cents a copy of the Harvard University Press, Cambridge, Massachusetts.

The scheme for Landscape Architecture under the joint authorship of Professor H. V. Hubbard and the writer will be published

in the Fall. This scheme is particularly interesting in connection with its use for classifying photographs to serve students taking the design courses. Certain photographs selected from our collection by Professor Hubbard have been arranged to illustrate details and also larger aspects of composition. We call these photographs the design collection and those already placed in it form only a nucleus, which we hope to increase largely. Cross-references and the assignment of numerous subject-headings for photographs which have value for reference in several ways will supplement the arrangement of photographs, although only to a limited extent since most students use the catalogue as little as possible and avail themselves much more readily of the opportunity to refer directly to the photographs as they stand.

The ideal way would, of course, be to have as many prints of a photograph as you wished to assign subject headings, but the cost of large photographs practically prohibits duplication. In the case of post-cards however, much can be done, and we now have the possibilities of this under consideration. A subject index to lantern slides can be made useful in the same way. As Mr. Sidney Kimball pointed out in a report on lantern slide indexing, made to the University of Illinois Architectural Library, it is quite possible to have as many "slide prints"—prints from the negative on a photographic card—as one desires and file these to bring out different details or points of view. This is particularly valuable to a lecturer who may wish to approach his subject from many sides and select quickly appropriate lantern slides.

Our lantern slide index, which perhaps will sometime be developed along the lines I have indicated, is kept separate from our main catalogue, since it is primarily for the use of instruction. The main catalogue which is for the use of all is in dictionary form, and is intended with the above exception to cover all the collections of the School. We use several special form cards to indicate the nature of the material, in addition to the ordinary printed or written catalogue cards for books and pamphlets: for plans and maps a buff form card, with a place for information as to the maker, scale, size, etc., for photographs, plates, and other graphic material in the vertical file the same form on a salmon card, for illustrations in books, portfolios, or periodicals, a white catalogue card with red form printing. This card for indexing illustrations has proved most successful. We use it particularly for bringing out unusual subjects on which people are not otherwise apt to find material readily and for details to supplement the photograph collection. We try to make the descriptive notes on these illustrations cards as telling as possible to

save a student from looking up material that he does not want.

The analysis of graphic material has proceeded faster than the analyzing of books for valuable chapters, sections, etc. This should be done as soon as possible, along with the assignment of additional subject-headings. Our accessions quite outrun our time, so that not yet have subject-headings been assigned to the very valuable collections which Professor Pray brought back from his sabbatical year abroad during which he made a special study of City Planning, although a rough classification of this material has rendered it fairly usable. With the variety of materials to which I have referred, it can be seen that a dictionary catalogue has advantages over any other for our purposes. It provides one definite place to which the students become accustomed to referring, and it unifies the collections which are kept in such various ways.

This point brings me to mention the housing of the plans and photographs, in which our visitors are always especially interested. The plans and maps are hung much as clothes are in the modern wardrobe trunk. They are clipped in hangers—long horizontal pieces of wood—which open to receive them and then bite, the hanger being kept tightly closed by a special kind of screw. These hangers are then hung in great cases as large as closets, suspended from hooks attached to rings (much like curtain rings) which slide on iron poles in the top of the case. When thus hanging vertically, the plans present their edges to the observer, and have their printed sides hung towards the right and towards the left of their backs, which bear labels corresponding in form to the plans catalogue cards. It is difficult to describe an arrangement of this kind which is much easier to understand when seen. A person can stand at the front of a case and look over plans by pushing the hangers along or he can take out a hanger and place it on a kind of rack which we have designed, and which will hold four hangers at once for consultation. We have one of these racks in the Library, and bring to it such plans as need to be consulted with other material there. The cases are so large that we do not have them in the Library room, but in two other rooms, a drafting room and a classroom, where they are more often used.

The photograph collection is kept in the Library. The photographs are mounted on cards 14x18 inches and filed vertically in cases, which are very simple in design, being really nothing more than large covered boxes made to order. The box itself comes up a little more than half way to the top of the photograph mounts, and the deep cover, which is hinged from the back of the box, stands up vertically while the photographs are in use and otherwise shuts

tight, keeping out the light and dust. The students like to use photographs in a vertical file much better than in any other way. We adopted the boxes, which are set on a ledge about the room, rather than a drawer-cabinet because we had the ledge already and thus could have the boxes at a uniform height, convenient for consultation by a person standing, as the students like to do. The same methods of treatment for photographs could be applied in vertical file drawers. In our boxes, the photographs are classified as I have previously described, the subjects being indicated on stiff gray guides made to go with 14x18 mounts. The guides are five-cut and we use the position of the tabs to indicate the subordination of the subject in our classification schema.

In passing, I might mention our method of keeping postcards. When they arrive they are temporarily filed in boxes like catalogue cards. Later they are pasted in large, loose-leaved albums in a geographical or subject arrangement. It would be cheaper and more convenient in many ways to keep the cards permanently in boxes or drawers, but where students are using them, the cards would soon get disarranged or lost. We keep these loose-leaved albums just like folios on folio slides.

Another special kind of equipment which we find indispensable is large exhibition screens for displaying interesting current accessions in the form of maps and plans, and for exhibitions in connection with courses. We have had the small unused wall spaces between windows covered with tan burlap over compo board, and had made also large movable screens of the board covered on both sides with burlap. These screens set the long way of the library tables, between the lighting fixtures, and thus divide the room somewhat into alcoves. If at any time we wish to make the room more open, all the screens can be taken away and stored. We find that only by the exhibition of new maps and plans in this way do the students keep up with them.

We call attention to new books and pamphlets by a posted list and by keeping them in a special place. Instructors and students and some former students make a practice of dropping around once in so often to see what has appeared.

Usually a good deal has appeared, particularly along the lines of City Planning. We make it our business to keep up with current publications here and abroad and to obtain as many as possible while they are timely. So much can be obtained free, that we have devised a printed form of request, with blanks to be filled in by hand, which has proved most effective. It is surprising how much dictating of letters this

form saves, since the handwriting on it seems to make it sufficiently personal to get returns. For noting material which we wish to obtain, we have found it convenient to have a form card printed with spaces for author, title, publisher, date, etc., from whom to procure, where noted, date sent for, and date received. This makes it possible for instructors to note material in a uniform way. I also find it extremely convenient to have some of these cards at home and whenever I am likely to be doing professional reading. The cards when filled out serve in turn as a basis for making out the request blank, as a record of the request, and as a temporary catalogue card when the material arrives. In the case of material which we are not able to secure immediately, the card passes into the bibliographies.

As I have mentioned bibliographies of our own and allied subjects form an important part of our collections. The School has long been accumulating titles relating to Landscape Architecture and to City Planning and is preparing to publish annotated bibliographies. The City Planning bibliography is being compiled in co-operation with the Library of Congress and is to be published as a government document. A check list, hastily gotten together, appeared in the magazine of this association for May, 1912. The titles in the bibliography are to be classified according to the new City Planning Classification Scheme and annotated where necessary. Our card bibliographies of allied subjects—roads, sewerage, water-supply, etc.—we keep as a separate thing arranged under dictionary headings. In our Landscape Architecture and City Planning bibliographies we have union catalogue features, covering not only the Harvard University Libraries, but also the Boston Public Library, Library of Congress, Columbia University Library, and the John Crerar Library. Along with our works of accumulating current titles in Landscape Architecture, we contribute to the quarterly journal of the profession "Landscape Architecture" an annotated list called "Recent Publications of Interest to Landscape Architects," including titles relating to City Planning. I have for the last two years also contributed to that magazine an analysis of current City Planning Reports in the United States, which we make a special point of keeping up with in the Library.

Taken as a whole the organization of our Library may be considered as past the experimental stage, although we are still experimenting with almost every individual problem. We have careful comprehensive plans for development along the various lines, which we expect to carry forward as time and opportunity offer.

Library of the Research Laboratory of the General Electric Company at Schenectady, New York.

Helen R. Hosmer, Librarian.

Now that scientific research has come into its own and is so generally accepted as an entirely practical as well as industrially and humanely necessary institution, it can do no harm to emphasize one of its phases which frequently escapes remark. We hear much of the things which research is accomplishing. Here a black oily mess is transmuted into beautiful dyes, perfumes, flavoring extracts and powerful drugs. There the source of a devastating disease is discovered and brought under control. There is scarcely a field of endeavor so exalted or so trivial that it has not been invaded.

What is the spring of all this activity? It is the force of idealism, applied idealism it may be called. Man is not satisfied with the tool he has, not because it does not work, but because he thinks it might work better. He sees in his mind's eye a more perfect instrument and at once tries to produce it. Research, then is an active idealism. It is the process of conceiving of an improved condition and then working to realize it. The conception is seldom fulfilled completely, but that is an intrinsic property of ideal seeking. Research expects rebuffs, expects to accept a small advance instead of a revolution, expects to make mistakes, and to frequently fail, but intends to let no lesson go unheeded, and to learn from every stumble.

Inasmuch as every special library comes into very close contact with those it serves, it is not strange that the research library partakes of the same nature that pervades the research laboratory. It, too, is, in this case particularly, a field for experiment. The ideal is there in quite definite form and the hope in good time to approach it as nearly as is given to the human being, but the actual organization is still largely in the experimental stage.

The object in view is of course to render as readily available as possible all the information contained in the library on subjects of present or possible future interest to the laboratory staff.

The main sources of this information are two: first, the scientific and technical literature, consisting of books, periodicals pamphlets and special publications, clippings, and abstracts from the technical literature, compiled by the Publication Department of the company, and second, the reports from the various laboratories of the company.

This library consists of about 1,400 volumes—some 300 books, 1,100 volumes of bound periodicals, and 80 volumes of re-

ports. About 55 of the more important German, French and English electrical, physical, metallurgical and chemical journals are received regularly.

Over two-thirds of the library material is of German or French authorship. The periodicals include practically none of purely technical rather than scientific nature. Among the more valuable items might be mentioned our very complete files of *Drude's Annalen*, of the *Zeit, fur Physikalische Chemie, fur Anorganische Chemie*, *Chemische Centralblatt*, *Philosophical Magazine*, *Proceedings of the Royal Society*, and such *Handbuchs* as those of *Beilstein*, *Abegg*, *Gmelin-kraut*, *Eder*, *Winkelman*, etc.

The periodicals immediately upon receipt are gone over carefully twice, by another member of the research staff and myself. All articles of present interest are referred to the proper men; i. e., those working in similar lines—by letter, and all those that seem of value, including abstracts of articles from journals, patents, trade notes and advertisements, are indexed by subjects and author.

The selection of the points that are worthy of research from the literature is not always easy. At the present time a partial list of the subjects having bearing on the work of the laboratory includes the following:

- Alloys, General and Specific.
- Annealing.
- Arcs.
- Cementation.
- Coal, Spontaneous Combustion.
- Coke Oven By-Products.
- Combustion Engines
- Composite Metals.
- Condensation Products (Phenol Formaldehyde).
- Conductivity (Electrical).
 - Metals.
 - Non-Metals.
- Powders under Pressure.
- Gases.
- Oxides.
- Contact Potential.
- Copper.
 - Physical Properties.
 - Impurities, etc.
 - Casting.
- Corrosion of Metals.
- Corrosion of Alloys.

The constant effort is not to attain completeness of bibliography, but rather to avoid entering the insignificant items where comprehensive and more valuable articles are available. But frequently the first men-

tion of many important subjects, especially those of a patentable nature, is in the form of very short notices, and so long as these represent the only literature, they are very important. An instance of this is the Serpek process of nitrogen fixation, the literature of which, though now quite abundant, a year ago was limited to a few notes and patent abstracts. Apparently to keep this literature index in the best condition a periodic weeding will be necessary.

The report files are quite voluminous. The most important are the reports of the investigations carried out in the laboratory since its organization in 1901, and written by the men themselves. These are bound in loose-leaf folders which are marked with the author's name and a catalog reference mark. Each man's reports are numbered chronologically and supplied with a table of contents, referring to the report numbers. These reports are indexed by subject on cards that refer to the volumes only.

The reports of the other research laboratories are filed similarly in folders under the name of the factory.

Another important file is that of the Progress Reports. These are monthly general reports of the progress of the various problems of the laboratory, and are compiled by the laboratory engineer and myself from personal interviews. They are thus the most up-to-date data of the laboratory, and are so written with subjects separated that at the end of a year the successive reports of a single subject may be brought together and thus form a general history of the year's advance along that line. These reports are periodically margin referenced to the subsequently appearing detailed reports of the men.

There are also a number of less important series of reports of engineering and research committees of the laboratory. All of these reports are card indexed together in a file which is later to contain also the catalog of the museum.

One other file should be mentioned, which stands midway in nature between literature and the reports. This is what is called the specific data file. In this are collected all sorts of things, clippings, abstracts, translations of articles, and last, and most important, lists of data, particularly numerical, that are likely to be called for in a hurry. These last are compiled from the literature and from the reports of the laboratory and include a great deal of material not otherwise available. A special feature are the compilations of data along special lines, often in the form of plots and tabulations. This file is still in its extreme infancy, as it is obvious that its collection is extremely time consuming. It is our intention some time in the bright future to have it include graphical representations of the various properties of series of different similar sub-

stances, so that by a glance at the appropriate plot a man may judge at once what metal, for instance, has the properties best suited to some present need.

The indexes of all the above described sources of information comprise four card files,—the book author, book title, the literature author, literature subject, and last report subject indices. If experience comes to justify it, the first four or all of these files may be combined at any time into a dictionary catalog. Our feeling at present is that the short files are much easier to use.

Practically all inquiries that the librarian finds these indices are called upon to answer fall into three distinct classes, first: location of a book known to be in the library by a certain author; second: similar location of an article in the journals; third: information at hand on a certain subject. Of these inquiries the first two are the most generally rush questions and can be much more conveniently answered from a card file unencumbered by other material. The man whose quest is the last expects to take more time. The title list is mainly of value as a record and is very seldom used.

It has further seemed advisable to keep the report and literature subject indices separate, since the former is so often referred to when the desire is to know merely what has been done in laboratory itself on a certain subject.

The subject indices are the key to the whole system of information, containing references to all material that is readily available, wherever located in the library files or in other nearby libraries. It seems to be especially important to keep it in as compact a form as possible. With all due precautions, and during its first and last production months it is growing at the rate of about 2,000 cards per year.

The system of indexing used is a simple one of our own design, involving the choice of such main subject headings and sub-divisions as seem best for the lines of work involved, always keeping in mind the point of view and connection of ideas prevailing among those who are to use the file. The published subject list extensions often fall in this latter respect, probably because of a difference in usage between men of different training. This leads to a variation in classification particularly in that type of subjects where several scientific fields, such as the electrical, chemical, and physical, overlap. As it is in this very region of overlapping fields that the work of the research laboratory lies, it has seemed best to work out a complete classification that would meet the needs of this particular laboratory. As an example of the nature of the system I will cite the sub-divisions of the subject of alloys, which is of great interest in practical research.

Under the general heading "Alloys" are indexed all general properties such as conductivity, constitution, etc. The sub-headings are:

Alloys, Binary.
Casting.
Corrosion Resisting.
Electro-deposited.
Magnetic.
Resistance.
Special.
Ternary.

The articles under each of these headings are arranged according to the metals involved. Other sub-divisions, as for instance alloys, pyrophoric, may be added, whenever such a subject becomes of interest to the laboratory.

It is obvious that the building up of the most efficient type of information bureau for a research laboratory depends most vitally upon being able to keep in very close touch with all the investigations carried on. Every item that escapes attention may prove lost opportunity for usefulness. Yet this is the very thing that is most difficult to accom-

lish and the problem is one which I have not even begun to solve. A great help in this respect is the compilation of the progress reports which inform one thoroughly once a month of what has been accomplished, but it is often the case that it is all over then. Another aid is attendance at the committee meetings of different sections of the staff, at which is discussed the work going on, and the methods to be employed. The best answer probably lies in the gradual building up of a reputation for efficiency in the department which will lead the men to naturally turn to it for needed information and keep it more or less informed of their interests.

As you see, the organization of this information bureau is as yet very incomplete. We are attempting to build up a system requiring the minimum amount of work for maintenance, sufficiently simple to appeal to the most hurried research mind, flexible enough to admit of continued improvement without demohshment, and yet adequate to the varied needs of practical scientific investigation. A start at least has been made.

Insurance Libraries.

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Of the Insurance Libraries, within a precise definition of the term, there are only a few in the United States and not many throughout the world. The largest and best arranged is probably the library of the Institute of Actuaries, London, of which a catalogue was published in 1906. Equally important are the libraries of the German Society for Insurance Science, Berlin, and of the Institute of Actuaries, of Paris, France, of which, also, a catalogue has been published. The Life Insurance Company, Utrecht, has a large library, which ranks foremost among the collections of private companies, and of which several catalogues have been published, the sixth and latest edition being in two volumes, issued in 1908. The Rossia Insurance Company of St. Petersburg has a fine collection of 4,272 volumes, a catalogue of which was published in 1912. In the United States, the Insurance Library Association of Boston has a collection of considerable value, inclusive of the several branches of insurance, but no catalogue has been published thereof since 1899. The fine library of the Equitable Life Assurance Society, including the priceless Walford collection, was, unfortunately, destroyed by fire in 1912. The Prudential Insurance Company of America, Newark, N. J., has probably at the present time the largest and most complete library inclusive of the sciences and branches of

knowledge collateral to insurance. No catalogue has been published of the library of the Prudential, which includes approximately over 150,000 volumes and pamphlets and a very large number of articles from periodicals, manuscript data, etc. The general libraries of the principal universities and an increasing number of public libraries include, as a rule, sections on insurance, but these, as yet, are very imperfectly developed.

No general principles of library management have thus far been made to apply to the organization and use of insurance libraries, which have primarily come into existence for the practical and immediate requirements of the business. An interesting note in the preface to the catalogue of the library of the Institute of Actuaries, issue of 1906, may be cited as an illustration of the difficulty which confronts insurance libraries to meet the increasing requirements of a truly vast and complex form of business and semi-public enterprise. As pointed out in the preface referred to,

"The scope of the Library may be stated as extending over all matters relative or cognate to the subject of Life Assurance and Annuities, and bearing directly or indirectly on the study and practice of those engaged or interested in matters having relation to the duration of human life. It includes, therefore, in addition to theoretical

treatises on such subjects as Arithmetic, Pure and Applied Mathematics, Probabilities, Compound Interest, Life Contingencies, Mortality and Sickness Tables, and Reversions, works on Accountancy, Finance and Banking, Political Economy, Vital Statistics, certain branches of Law and Medicine, and volumes relating to the Constitution, Organization, Reports and Accounts of Companies for Life, Accident or Employers' Liability Insurance. On these several subjects, all works likely to be useful to the Actuary, or to those training for actuarial pursuits, have as far as possible been included; as have also those volumes which, although now largely or entirely superseded by more modern treatises, have an important historical and literary interest, as representing the tools and equipment of the Actuary of past years. Contributions by foreign writers, on subjects related to our work, as well as the official records of State Departments, and the statistics and experience of Assurance and Annuity Companies and Pension Funds, at home and abroad, are also included."

In view of the fact that the Institute of Actuaries ministers to the needs of life insurance companies, there is an obvious limitation in such an arrangement which excludes the vast field of insurance in general and particularly the other main branches of fire and marine. A much more comprehensive scope of an insurance library is presented in the arrangement of the contents of the sixth edition of the catalogue of the insurance library of the Utrecht Insurance Company, which is briefly summarized as follows:

Library Arrangement of L'Utrecht.

- Section 1. Insurance Journals, Annuals and Almanacs.
- Section 2. Life Insurance.
 - Sub-section 1, General;
 - Sub-section 2, Agents' Manuals;
 - Sub-section 3, Law and Legislation;
- Section 3. Mathematics.
 - Sub-section 1, Pure Mathematics;
 - Sub-section 2, Insurance Mathematics;
 - Sub-section 3, Theories of Annuities, Tables of Interest, and Logarithms;
 - Sub-section 4, Probabilities;
- Section 4. Life Insurance Companies.
 - Sub-section 1, Technical Details and Histories;
 - Sub-section 2, State Supervision and Control;
- Section 5. Insurance Medicine.
- Section 6. Public Health and Hygiene.
- Section 7. Alcoholism.
- Section 8. Mortality and Mortality Tables.
- Section 9. Miscellaneous Insurances.
 - Sub-section 1, General Works of Reference;
 - Sub-section 2, Insurance against Accidents and Sickness;

- Sub-section 3, Insurance against Invalidity, Old-Age Pensions, etc.;
- Sub-section 4, Insurance for Widows and Orphans;
- Sub-section 5, Provident Funds, Friendly Societies, etc.;
- Sub-section 6, Insurance against Unemployment;
- Sub-section 7, Fire Insurance
- Sub-section 8, Savings Banks;
- Section 10. Statistics.
- Section 11. Accountancy.
- Section 12. Political Economy.
- Section 13. Bibliography.

The library of the Russia is again quite differently arranged, in an abbreviated form as follows:

Library of The Russia, St. Petersburg

- Section 1. Insurance in General.
- Section 2. Life Insurance
- Section 3. Social Insurance.
- Section 4. Fire Insurance.
- Section 5. Transport Insurance (including Marine).
- Section 6. Miscellaneous Insurance.
- Section 7. Collateral Sciences.
 - Sub-section 1, Political Economy;
 - Sub-section 2, Statistics;
 - Sub-section 3, Mathematics;
 - Sub-section 4, Law and Legislation;
 - Sub-section 5, Medicine;
 - Sub-section 6, Technology;
 - Sub-section 7, Geography;
 - Sub-section 8, Languages;
 - Sub-section 9, Encyclopaedia; Sources of Reference.

The Insurance Library Association of Boston being primarily for the practical requirements of fire underwriters, has naturally been arranged on quite a different plan. There are twenty-eight sub-sections, aside from the collections of photographs, portraits, and old and foreign policies. Among the especially interesting sections of this library, reference may be made to—Arguments, Briefs and Decisions; Causes and Prevention of Fires; Fire Patrols; Protective Departments; Insurance Maps and Surveys; Office Practice and Procedure; Processes and Hazards; Statistics of Fire Insurance; Water Works.

The organization and scope of the library of the Prudential is fundamentally different from all of the foregoing, in that the term "Insurance" has been construed in a much broader sense and in a more perfect co-ordination to collateral sciences. In a general way, the arrangement of the library of the Prudential corresponds most closely to that of the library of the Russia, there being seventeen general divisions as follows:

- Section 1. Insurance in General (including all branches arranged in alphabetical order).
- Section 2. Annual Reports of Insurance Departments (including the insurance

laws of the several states and insular possessions).

Section 3. Reports, Forms, and Statistics of Life Insurance Companies throughout the world.

Section 3a Reports, Forms, and Statistics of Social Insurance Institutions throughout the world.

Section 4. Insurance Medicine and Collateral Sciences (including Anthropology and Anthropometry, Public Health, etc.)

Section 5. American Public Health Reports.

Section 6. American Bureaus of Labor and Factory Inspection.

Section 7. Industrial Hygiene, Occupations, and Industrial Technology.

Section 8. Charities and Correction, Hospitals, and other Public Institutions, etc.

Section 9. Public Finance and Taxation.

Section 10. Transportation.

Section 11. General Statistics, Sociology and Economics.

Section 12. Constitutional and Corporation Law.

Section 13. Insurance Periodicals.

Section 14. American Topography, Geography, Geology, etc.

Section 15. Foreign Official Reports, Descriptive Accounts, Statistical Year Books, etc.

Section 16. Duplicates.

Section 17. Charts, Diagrams and Photographs, illustrating Insurance Methods and Results

It is estimated that there are over 150,000 volumes and pamphlets in the collection of The Prudential, but how large a proportion of these are strictly within the precise definition of works on insurance, would hardly be ascertainable. The library contains a considerable number of very rare works, the most ancient volume being a treatise in Latin, published in 1622, bearing the title, "De Mercatura—Decisiones, et Tractatus, Varii, et de Rebus ad Eam, Pertinentibus." Among the other early works, mention may be made of the famous "Dictionary of Trade and Commerce" by Malachy Postlethwayt, in two volumes, published in London, in 1751; of "A Complete Digest of the Theory of Insurance" by John Weskett, published in London, in 1781; and the equally famous "Lex Mercatoria Rediviva" by Wyndham Beawes, published in London, 1752. The library also contains an exceedingly rare work by Nicholas Magens, entitled "An Essay on Insurances," in two volumes, published in London, in 1755. Among the earliest American publications are—a copy of "An Account of Charitable Corporations for the Relief of Widows and Children," published in Philadelphia, in 1769; and the exceedingly rare "Plan of a

by Annuities for the Remainder of Life," by William Gordon, published in Boston, 1772.

In the organization and development of the library the aim, however, has not been to collect rare and interesting works of antiquarian value, but rather to meet the practical needs of a large company, transacting business throughout the United States and Canada. The collection of publications and pamphlets has, therefore, been amplified to a remarkable extent by articles from periodicals, and newspaper clippings all arranged according to topics, in exact conformity to the general plan of library arrangement. Most of these articles and clippings are the result of general and careful reading, and not much material of value has been secured through our clipping agencies. Aside from practically all of the principal insurance periodicals, much valuable information has been derived from the more important daily newspapers, the Scientific American, including the Supplement, the higher grade monthly magazines, the technical periodicals, such as the Engineering and Mining Journal, the Coal Age, etc. All such information is filed in oblong envelopes, 10½x4½, in cabinets with drawers of a uniform size of 13x11x4¾, the subject matter being inscribed on the upper right-hand corner. By this means the information of any particular subject is practically down to date and convenient for immediate reference.

It would be quite difficult to explain in detail even the more serious library problems, perhaps best illustrated in the statement that the library is not in charge of a librarian, but each section is taken care of by a clerk, thoroughly familiar with the practical requirements of the particular kind of information represented therein. The general oversight is exercised by the Statistician, who is responsible for its completeness and convenient accessibility. The library meets all practical requirements for information on a very large variety of subjects, all of which, of course, are more or less intimately related to insurance. Perhaps the most perplexing problem consists in the difficulty of ascertaining the insurance references in an increasing number of public documents, which by their general title do not indicate that the contents have any reference to insurance whatever. Mention may be made of the report of the Commission of Corporations on "Transportation by Water in the United States," published in 1909, which contains what is practically the equivalent of a brief but thoroughly digested treatise on marine insurance. There are, among others, important references to insurance in the Hearings before the Committee on Interstate and Foreign Commerce on Grain Inspection and Grading Bills, published in 1910; in the

Hearings before the Same Committee on Bills of Lading, publishing in 1906; in the Report of the Bureau of Corporations on Cotton Tare, published in 1912; in the Report of the Bureau of Foreign and Domestic Commerce on Foreign Credits, published in 1912; in the Annals of the American Academy of Political and Social Science on American Produce Exchange Markets, published in 1911; in the Compilation of Facts and Information on Reciprocity with Canada, prepared by the Senate Finance Committee in 1911; etc., etc.

In fact, it may safely be maintained that information of this kind is frequently of far greater importance for practical purposes than the facts and conclusions contained in the more readily accessible textbooks or annual official insurance reports. By way of further illustration of this important point, mention may be made of the numerous references to insurance in the Abridged Debates of Congress covering the period 1789-1850, and the Journal of the Constitutional Convention, in course of publication, by order of Congress, under the editorial supervision of Mr. Worthington C. Ford. The difficulty of ascertaining the true state of facts in any given case from conveniently available information, is best illustrated in the well-known controversy as to whether insurance is commerce within the meaning of the commerce clause of the Constitution. I need only refer to Chapter III on "Insurance as an Element of Early Commerce" in my work on Insurance Science and Economics, and the extensive bibliography attached thereto, to emphasize the importance of this point. I may add hereto, however, the statement that an important reference to insur-

ance occurs in a report on "Pittsburg and her Advantageous Position and Great Resources as a Manufacturing and Commercial City," published in 1845. But even much earlier than that some very pertinent observations on the subject were printed in a treatise on "Considerations upon the Expediency of Abolishing Damages on Protested Bills of Exchange," published in New York in 1829. Equally suggestive references to insurance occurred in *Lex Mercatoria Americana*, published in New York, in 1802; in Blunt's *Merchants' and Shipmasters' Assistant*, published in New York in 1832; in Pike's *First American System of Arithmetic*, published in Newburyport, in 1788; in Walker's *Practical Arithmetic*, published in Baltimore in 1819; in Gilleland's *Countinghouse Assistant*, published in Pittsburg in 1818; and innumerable other works of a similar or dissimilar nature, all of which, more or less, emphasize and illustrate the universality of insurance and its intimate relation to other sciences.

The foregoing very imperfect outline of the plan and scope of insurance libraries may prove useful, however, in emphasizing the great practical importance of a well-co-ordinated library of reference for the immediate requirements of insurance companies and the public at large. The few illustrations of practically unknown, or generally unrecognized, sources of valuable and conclusive information on the subject of insurance, and what has immediate or remote reference thereto, suggest the necessity of much more than the usual routine education in library matters on the part of those who would wish to render useful service in the further development of insurance as a branch of applied library science.