

"My work is, therefore, not only useful to those who practice medicine and who have as much right as any one to know whether only pure drugs are used in the composition of the remedies which they prescribe, but also to pharmacy students, to druggists and to apothecaries who will be able henceforth, through the information which they receive in this work, to discern the genuine from the false in usage or in the drug trade.

"I hope that those who read this work will concede that they have never seen such a complete treatise on drugs and that I have collected here not only material which is distributed among a great number of authors, and which could not be found without difficulty, but also a quantity of material of which nothing is known or at least very little by the authors who have preceded us."

There were scores of books on drugs printed or available in the 16th and 17th centuries, but Pomet's abundantly illustrated work, in spite of some inaccuracies, was considered the most complete and one of the best treatises that had yet appeared covering medicinal substances, spices and many food products. The publication was very well received. It was translated into German in 1717, and into English, with material additions, in 1712, 1725 and 1737. A revised edition of two volumes, prepared by Pomet's son Joseph, was printed in 1735.

The authors of the 1712 English revision made many useful additions, as is indicated by the title page herewith.

This English revision also contains an excellent bibliography of the many ancient works consulted. This is the oldest bibliography that I have ever seen. It is exceedingly interesting and of inestimable value to those having occasion to inform themselves in ancient drug lore; the wording of the title page is reproduced in the accompanying cut.

THE LITERATURE OF PHARMACY.*

BY FRED B. KILMER.

Heaped high on the top of Hargraves' desk, and overflowing to the floor, were rolls and bundles of drug magazines and journals, mostly enclosed in their wrappers, unopened and unread. When some one alluded to this mass of literature, Hargraves remarked:

"I never read them. I have no time. There's nothing in them anyway. Once in a while we have a clean-up, and out they go to the waste heap.

"Some of them are sent to me without my asking; some I pay for, to satisfy a glib canvasser or to stop a stream of letters from the publisher. Next year I will stop all of them. It's too much bother even to take them in and throw them away."

There are thousands of Hargraves in the land. Their names are counted on the magazine subscription lists and help the "circulation liar" to raise the advertising rate, but the pages are not read.

Noting the meagerness of the library in the store of a prominent pharmacist, he was questioned as to whether his home library contained works pertaining to pharmacy.

He replied emphatically, "No! when I go home I want to forget about pharmacy."

The pharmaceutical literature that is not read bulks large; it constitutes a great waste of energy, ink and especially of good paper, which the world just now needs to conserve.

It has been claimed that pharmacy ranks with the professions because it has a

* Section on Historical Pharmacy, A. Ph. A., Des Moines meeting, 1925.

literature. It is feared that there are many followers of pharmacy to whom pharmaceutical literature is an unknown realm. The writer of this paper looks upon pharmaceutical literature from the standpoint of a reader and not a producer. A few misguided editors may have used some of his "stuff" as space fillers, but at the bottom he is only a reader and a student of the pages.

PERIODICALS.

That which to us is the stated periodical is of rather recent origin. In ancient literature the place which it occupied was filled by the spoken word in the form of the ritual—the sayings of the savant who, whenever he could find listeners, gave forth wise sayings.

Long before the art of printing, the manuscript was copied and recopied and passed from hand to hand. The early guilds or societies disseminated their transactions and dissertations through hand-written copies. It was long after the invention of printing that the stated periodical appeared.

A common form of publication in religious, political and scientific literature circles was the pamphlet, of which many unique examples are in existence.

Weekly newspapers appeared on the Continent shortly after 1600, but it was not until a hundred years later that they gained a foothold in England. One of the earliest scientific journals was the "Journal des Scavans" (Paris, 1665). The first journal with the name "pharmacy" appearing in the title was "Recueil periodique des Observations de Medecine Chirurgie et Pharmacie" (Paris, 1754).

The "Journal de la Societe des Pharmaciens de Paris" (1797) is probably the first periodical devoted exclusively to pharmacy.

The first pharmaceutical journal in the English language was *The American Journal of Pharmacy*, which began publication in 1825, and has continuously held a unique position as a journal devoted exclusively to pharmacy.

The British Pharmaceutical Journal dates from 1841, and *The Chemist & Druggist* of London dates from 1859.

"No science or group of sciences has so many current periodicals as medicine."

The Library of the Surgeon General at Washington reports that in a period covering a quarter of a century they had indexed about nine thousand current periodicals. (This included pharmacy.)

Without invidious comparison, periodicals connected with pharmacy may be roughly divided as follows:

Those devoted mainly to the scientific side of the art, which would include journals of pharmacology. Chemical journals, some of which include departments covering pharmaceutical chemistry.

In the study of sciences as related to pharmacy, one must also include journals devoted to materia medica, botany, bacteriology, physics and other like subjects.

Another class might be termed drug or trade journals. They cover the field of crude drugs, chemicals, and often include paints, oils, varnishes, etc.

Then we have the journals which are the greatest in number and popularity—the pharmaceutical journals of modern times. In their pages may be found a certain amount of science, proceedings of associations, news, personalities, gossip, reviews and abstracts, and in addition a goodly space given over to the mercantile side of the calling.

The scientific journal has fewer subscribers and the least amount of advertising.

In the more popular journals advertising crowds over into the reading columns. In this class of journals the advertiser is the mainstay, as the subscription price is often as low as one dollar a year.

As the cash register occupies the center of the modern drug store, so in the journal—business topics fill the most prominent space.

Some of the English and American periodicals produce well-balanced publications devoting an allotment of space to matters of science, trade and news.

Continental journals, as a rule, are either all science or all trade. Some of them are printed on a low grade of paper, with poor ink, and are unattractive.

In both medical and pharmaceutical journals there is a high mortality. Some of them are very short lived. A few of the existing publications represent the merging of several journals. A journal devoted primarily to scientific pharmacy must, of necessity, be supported by an organization, or be endowed.

We may here reflect that the early examples of the printer's art were executed with carbon ink upon paper made of linen or other fibre, and after centuries are in a state of good preservation. Our modern productions are printed on pulp fibre with chemical inks. Deterioration begins with the issue. This may be a wise provision—perhaps they are not worthy of preservation.

Within a generation the tone, status and makeup of journals devoted to drugs and pharmacy have greatly changed. Formerly the editor considered himself an expositor. He filled his pages with essays calculated to edify and instruct. There were elementary and accurate descriptions of drugs, pharmaceutical processes, formulas and troublesome problems in prescriptions and mixtures. New remedies, new ideas, if noticed, were treated with reserve.

The columns were heavy with scholastic, academic, didactic, serious thought. Commercial topics were rare; personalities, except obituaries of persons of prominence, were excluded. It was not considered good form to give news in the style ordinarily looked for in the newspaper or magazine.

State and local associations were at first accorded scant notice, but gradually their transactions were given a place. One enterprising editor for a time had reporters at every pharmaceutical meeting.

The advent of pharmacy laws and boards to enforce them, while discussed sparingly at first, arose to full prominence. Except in journals closely connected with a college, openings and commencement were not noticed.

The wave of price-cutting inaugurated in the early 80's, followed by the famous "Campion plan," was the beginning of trade discussions in pharmaceutical journals. At once these themes became popular, sometimes crowding out discussions of a scientific nature.

A feature of the former period is revealed in discussions of the advisability of Sunday closing and the shortening of drug-store hours. At first these propositions were strenuously opposed, but the growing scarcity of clerks, coupled with the expense of heating, lighting and long hours when there was little trade, forced the reduction of hours of service.

Increased expenses for rent, clerk hire and a multitude of other things led to the introduction of classes of goods not before sold in drug stores, and the heading "Side Lines" appeared in the journals, with pages of discussion.

The rise of chain stores, with movements for coöperative buying, at once became a journalistic theme, until, like the drug store itself, the journal filled its columns with many things besides drugs.

Fifty years ago a journal devoted to pharmacy must needs be more educational than is required to-day. Nowhere else could the pharmacist then obtain knowledge pertaining to his art. To-day he has accessible an abundance of special magazines devoted to chemistry, biology, bacteriology, materia medica and all branches of the arts kindred to his own. There are hundreds of popular magazines filled with disclosures of physical phenomena. The advances of science, new ideas, new remedies, new revelations are cabled in full to his newspaper. By the time his pharmacy journal reaches him, so far as its science is concerned, it is a back number.

Thus, he reads the magazine and the newspaper, and the journals devoted to his art lie untouched.

PHARMACY IN PICTURES.

The literature of pharmacy, beginning with the earliest and coming down to now, has carried illustrations. The ancient manuscripts were illustrated with drawings, shaded and colored, and those of the Middle Ages were inlaid with gold and silver. With the art of printing came the woodcut, followed by the etching on copper and steel.

The delineations of the older artists leaned towards the picturesque. They were faithful and painstaking in their labors, and to this day such examples as have come down to us carry an entrancing charm.

In the early journal literature illustrations were sparse, possibly due to the expense and labor involved. Occasionally the face of a celebrity, or the outline of a piece of apparatus, at times a botanical specimen, graced the pages.

With the art of photography came the half-tone, and the pages of the modern journals are filled with photographic illustrations. There are men and women, singly and in groups, views of stores, pictures of automobiles, views of travel and of far off lands, crowding out the text. The half-tone and even the colored illustration lacks picturesqueness. The artistic is lost in literalness. The camera reveals that which the human eye cannot see, and the perspective is obscured in the detail.

In the photograph one sees the grain of the wood, and the weave of the cloth. The salient, impressive features are lost in the multitude of things shown.

One sometimes regrets that the author does not resort to drawing rather than to photography in the delineation of apparatus, processes, or even with botanical specimens.

THE EDITOR.

Contributors and readers of journals complain of the exclusion of some things from the columns and the admission of others, and between them the editor's chair is not soft-cushioned. Space is fixed by the limits of paper and type, cost and postage. Certain themes must be covered; place has to be found for current items.

The journal must meet expenses; advertising pages crowd out text. Subscribers have to be satisfied. Between conflicting, crowding elements the editor must choose quickly and send his copy to the printer, using the best judgment at his command in carrying on his work. He may do things he ought not to have done and leave undone things which he should have done.

The editor is the most severe critic of his own journal. He rejoices in a good issue; he is saddened by a poorer effort, working always under a strain, with meager financial return. He gives his life to his readers, and his greatest reward is their commendation.

The man who fills the position of editor of a journal devoted to pharmacy is entitled to the highest consideration and support of his fellows. He is the leader of pharmaceutical thought. Through the columns under his charge pharmaceutical science, education, legislation and business policies take shape and are spread before the reader.

Examination of our journals for generations past shows that uniformly and persistently the editorial columns have fostered the advance of science and education, supported beneficial legislation, propounded sound business methods. They have likewise taken a firm stand against inimical legislation, the lowering of educational standards and the imposition of inequitable burdens upon the calling. They have vigorously deprecated the cutting of prices, the bootlegger and the dope seller.

The pharmaceutical editor should rank in our esteem with the educator and the association leader.

It is charged that the average druggist cannot see beyond the walls of his own store. With few exceptions our drug journals are more and more becoming provincial, sometimes within narrow lines. If connected with a college, the spirit of the college governs: Eastern journals bear the New England stamp, New York publications reflect the glare of the "Great White Way," southern magazines are accentuated with phrases of the South, while those of the West bring breezes from the prairies and mountains.

In part this is by reason of their localized circulation, and in another part it is due to the editor's outlook. While this course does not tend towards the unification of pharmacy, it does bring the journal pages close to the reader.

CONTRIBUTIONS.

In days not far distant, journals were filled with contributions from readers who were retail druggists. These old-time articles, while not always constructed in the highest literary form were penned from the prescription counter and the back room of the drug shop. They were stained with the contents of the graduate and mortar, and carried the atmosphere of the drug store.

Stated contributions from this class of writers have largely disappeared. Scientific dissertations now emanate from college professors and from manufacturers' laboratories.

A recent number of one of our journals of pharmacy contained 105 pages of text. Scientific contributions from educational institutions filled thirty-one of the pages, from government and hospital laboratories there were eleven pages, and from manufacturing laboratories, twenty-seven pages.

Of late there has arisen in pharmacy a class of special contributors. These are contributors who write for a fee, "space writers." Some of them are experts in merchandising, advertising and like callings. In the main their contributions are well written; they abound in suggestions, but often the methods are more applicable to a grocery or hardware store than to pharmacy.

ANONYMITY.

In general and in scientific literature it was an old custom for the author to appear under an assumed name, or anonymously. Even in editorial contributions the custom of signing is recent.

Nowadays the reader judges the merit of an article through the name of the author, rather than by the subject-matter. If he has a personal acquaintance with the writer he selects through his likes and dislikes. Anonymous dissertations are passed unread. The old-time writer was sometimes shocked to see his thoughts in type. He would not have dared to have his name inscribed thereto.

Both anonymous and personal authorship have advantages and disadvantages. Signed contributions secure credit to the author and place upon him proper responsibility, for one is apt to be cautious in making statements which will appear under his name.

In the mind of the reader the statements of a well-known author are accepted without question. Who would dare to challenge the writings of such authorities as John Uri Lloyd or Prof. LaWall! Yet both of them have been known to make slips.

The new writer, blinded by the appearance of his name in print, is apt to write loosely, do "stunts" beyond the range of his theme and rather out of place in literature. It might be helpful if editors required new writers to practice anonymity until they had found their bearings.

That the reader might be tempted to make selection through subjects rather than authors, the name of the writer could be placed at the end of the contribution rather than at the beginning.

Undoubtedly young writers hesitate to send contributions to the journals through fear that their efforts must stand comparison with those of well-known and distinguished writers.

It was a custom with authors to place their portrait in their volumes. Modern journals have introduced the practice of accompanying contributions with a half-tone of the writer. Thus one can choose his author through his name or through his features.

NEW WRITERS.

We are not developing new writers in pharmacy. The younger generation receive but little encouragement at association meetings or in journalism. Readers want authors who speak with authority and whose names command attention.

We produce but few geniuses—polished writers who break into journalism in full panoply. With the best of authors the beginnings are crude.

A fairly successful writer has stated that his first paper, read at a pharmaceutical meeting, was severely scorched. He was chagrined and vowed "Never again!" Upon reflection, however, he resolved that he would continue his endeavors until the very men who had scoffed at his maiden effort would commend his work, and his later productions were crowned with success.

Prof. P. W. Bedford, himself a teacher and editor, urged his students to write papers to be read at association meetings and for publication in journals. His kindly stimulus developed many writers.

The writing of essays, letters and dissertations is of greater value to the writer himself than to the reader or hearer. The work of preparation involving, as it

does, thought, study and research is a worthy practice, and should give to the worker great pleasure.

The realization that one has added even a little to the world's knowledge, is a satisfaction that cannot be expressed in words.

LETTERS TO THE EDITOR.

We get a glimpse of the reader's point of view in the columns set apart in some of our journals where "letters to the editor" appear. They may be likened to the discussions at pharmaceutical meetings.

With an Englishman it is an inherent constitutional right to indite letters to the press. The English pharmacist tersely and vigorously airs his grievances and propounds his views in his pharmaceutical journal.

Running through several issues of an English journal were many pages given over to readers' letters. They covered a wide range of subjects, from government regulations to simple formulæ. They included such deep themes as "the earth's rotundity," "matter," "energy," "space," "the elementary constitution of light and heat," "the breaking down of the atom."

Evidently the British pharmacist reads his journals and the editor must "watch his step" to keep pace with him.

LANGUAGE.

In the earlier ages of the world the literature of each separate people, whether spoken or written, was in the native tongue. Through the intermingling of nations came a commingling of languages. Gradually certain languages assumed prominence in recording the annals of the arts.

The literature of pharmacy in the ancient Sanskrit, Egyptian, Sumatran and Oriental tongues has been only partly explored. The fragments which remain offer promise to the historian. With the rise of Greek civilization story, song and sciences were put down in the Greek tongue. With Hippocrates, the so-called "Father of Medicine," we have inklings of a real materia medica and pharmacy.

The Roman Empire carried the Latin language over the known world. Until very recent times classical literature was written in Latin.

Much of the literature of the arts and sciences, including pharmacy in the Latin and Greek languages, remains untranslated. We are in a new time, racial differences disappear and the masses in all nations are becoming educated. The printing press has spread knowledge in many tongues.

In our time three great languages, German, French and English, control pharmaceutical thought. The German literature is abundant and ponderous. The German critics and reviewers are the world's marvels for thoroughness and minuteness. In materia medica, pharmacognosy, and in other sciences they have evolved masterpieces.

The German habits of research outclass the rest of the world, but their reflections and annotations drag out to interminable length. German science is thorough but it is leaden and clumsy. The German language is unattractive and unwieldy. Patriotically the Germans adhere to a form of letter-text that is hideous and blinding. Persistently they resist the use of international scientific terms.

Against the spread of German literature stand hostile forces. Since the World War nations and races who fear German domination have set their hearts

and bodies, and are ready to raise their guns, against German advance to a "world power."

The French speech—smooth, light, happy and expressive, will ever stand as a formidable rival to the Teutonic tongue, and against other forms of speech. French pharmacy is progressive, picturesque and attractive, and through language alone must hold a high place in the world's literature.

The English, Italian and French have technical and scientific phrases with common meanings. Through the aggressiveness of Great Britain on the seas, English has become the language of commerce. The British Pharmacopœia and Codex are Imperial in authority, legalized throughout the British Empire. The literature of pharmacy and materia medica of British origin is not voluminous, but it is conservative, thorough and substantial.

In the English tongue we have the "American Dispensatory" and works of the type of "Remington's Pharmacy," which have no equal or counterpart in any language.

From the British Pharmaceutical Conference, from the AMERICAN PHARMACEUTICAL ASSOCIATION, and from various State Pharmaceutical Associations, there emanates literature upon pharmacy and kindred subjects, large in volume and value, and exerting a tremendous influence upon pharmaceutical practice and thought.

Materia medica and pharmacy in the English language has encircled the globe, and in a very large portion of the earth it is a predominating factor.

With the tremendous prestige already attained through combined British and American influence, the pharmacy of the future, so far as literature and practice are concerned, bids fair to be recorded in the English language.

LANGUAGES OF THE JOURNALS.

A rather incomplete census of the journals devoted to drugs, pharmacy and allied branches reveals the following as to countries and languages:

Argentine Republic	1	Czechoslovakia	7	India	1	Poland	3
Australia	2	Cuba	3	Italy	6	Porto Rico	2
Austria	3	Egypt	2	Japan	3	Roumania	3
Belgium	2	France	5	Jugo-Slavia	2	Russia	3
Brazil	2	Germany	10	Manila	1	Spain	3
Canada	7	Great Britain	5	Mexico	2	Sweden	2
Chile	1	Guatemala	1	New Zealand	1	Switzerland	3
China	1	Holland	3	Norway	2	Syria	1
Columbia	1	Hungary	4	Peru	1	United States	22
						Venezuela	2

ASSOCIATION LITERATURE.

In days long past association meetings were a prolific source of literature. All has now changed. The association meeting is very often the druggist's only vacation; he goes to the meeting to get away from strenuous duty—to have a good time and no one wishes to deny him all the pleasure which he can get out of it.

Usually it is difficult to obtain a quorum for a session devoted to the reading of papers, while the evening cabaret is crowded to the doors. The entertainment committee has a long way out-distanced the committee on papers and queries.

This change has benefited the association by increasing the membership and

attendance, thereby enriching the treasury, but it has not added to pharmaceutical literature. When the papers read at an association meeting are compared with the membership, the contributions will be found to be very small.

A certain association, in order to save publication expense, resolved to omit all papers from their proceedings on the ground that they were of little or no interest.

Through various causes the practice of writing papers to be read at association meetings has not kept pace with the work of the associations. Many contributions of value now lie buried in association proceedings.

MANUFACTURER'S LITERATURE.

Our waste baskets are overflowing with discarded circulars, booklets, pamphlets and volumes which have their origin with the manufacturer of pharmaceutical preparations, and the exploiters of drugs and medicines.

Commonly this, like other pharmaceutical literature, unless it offers a bargain, remains unread. Examination of these productions shows that they are often excellent examples of the printer's art. At times they represent years of research by trained workers in putting them together. The world has been explored, statements and results have been carefully considered and verified.

If one desired to review the history, or to collate the facts upon many drugs and medical agents, as, for example, the cascarras, coca, hydrastis, or in respect to the serums, antitoxins and the glandular substances, he would find it laid before him in full in the manufacturer's literature.

To this type of publication much credit is due, and it is to be hoped that in some way it may be collected and preserved for future use.

BOOKS.

For the real and the permanent in literature we must look to the book. The preacher's trite saying, "Of the making of books there is no end," applies alike to ancient and to modern pharmacy.

Of old there was the herbal—the hand-book. Nowadays we have the text-books, the manuals, the pharmacopœias, formularies and dispensatories. These go to make up literature, but they are restricted to a utilitarian aspect.

We have a few, far too few, books dealing with the historic side of pharmacy, mostly in the French and German languages. The outstanding historical work in English is Wooten's "Chronicles of Pharmacy."

It is to be regretted that no writer has dealt with historic pharmacy as Dr. Walsh has delineated medicine in his "Cures" and "Old-Time Makers of Medicine"—with accuracy and yet with good natured banter and humor. We might wish that some author would depict pharmacy in such a manner as Bolton has covered alchemy in his "Follies of Science."

We could use more stories on the order of Wells' "Tono Bungay," with its glimpses of life in an English drug shop, and the inner workings in the exploitation of a patent medicine. In a novel carrying all the elements of passion, love, politics and religion, Sir Harry Johnston wove into "Veneerings" a plot based on the cultivation of drugs and the exploitation of modern remedies.

We have not too many, but a goodly supply of, stated treatises that are educative and authoritative. Perhaps we would be tempted to read more about pharmacy if there should arise writers who, with vigor, artistry, imagination and humor,

would paint for us pictures of pharmacy as it really exists and moves amid its worldly and human surroundings.

Through the story of pharmacy rightly interpreted will be found not alone commonplace science, but narrative, laws, chronicles, politics, religion, romance, drama, epic, poetry and song—all forms of literature that touch humanity and delineate life.

Pharmacy, pure and simple, occupies but little space in romantic literature. Fiction writers have not dealt very kindly with the pharmacist. The apothecary as pictured by Shakespeare and other writers, is wan, lean, tattered and hungry. In Dickens' works he is made up in looks, voice and manner to appear as the "haunted man."

With many writers the apothecary is associated with poisoners and criminals. From a modicum of scientific knowledge the novel maker constructs a pharmacopœia of his own and, as in the "Monte Cristo" of Dumas, invests drugs with fabulous and impossible powers.

In the true and inner story of any drug, from behind the counter of any drug shop, lies the mysterious, the marvelous, the seemingly impossible—all the elements needed for the romantic tale.

LIBRARIES.

The literature of pharmacy is not wholly covered under the catalog designation—Pharmacy. Its scope is wide, broad and deep. Pharmacy is interwoven into the structure of the healing art, its meshes extend far into the realms of science.

The literature of pharmacy must be sought for in medicine, in the physical sciences—biology, chemistry, philosophy, mathematics, and even in religion. In fact, everything that embraces the evolution of nature and mankind must be considered in a search for the literature of pharmacy. To explore one phase of this literature would require more than one lifetime; it would require many lifetimes to even classify and review it.

The practical pharmacist has little care or comprehension of the literature of his calling. In the average drug store the pharmacopœia, the dispensatory, a recipe book and a few works of reference constitute the library.

The "best sellers" are the textbooks, and to these writers and publishers give their attention.

In the preparation of this paper an attempt was made to survey the pharmaceutical literature available to American students of the art. It was found impossible to complete the task, but certain facts obtained may be of interest.

The Army Medical Library at Washington is believed to contain the largest collection in the world on medicine and allied and associated sciences, consisting of over 300,000 bound volumes, and over 500,000 unbound volumes, together with a large collection of medical portraits and prints. About 4000 of these volumes are devoted to pharmacy.

From this Library emanates that wonderful production known as the "Index Catalogue," the most complete and comprehensive work of its character in the world. In this Index will be found bibliographies of medicines and allied sciences, including pharmacy, in practically all languages. The pharmaceutical titles in this Catalogue run into many thousands.

This Library is available to visitors for research and study, and is conducted under systems which make the volumes readily obtainable. Volumes may be obtained through local medical or public libraries through the inter-library loan system.

In several centers of the United States there are substantial medical libraries, all of which contain a certain amount of pharmaceutical literature.

It is of interest to note that the fifty-year collective index of the AMERICAN PHARMACEUTICAL ASSOCIATION, for the period 1851-1902, contains over 55,000 titles, and over 70,000 references covering the pharmaceutical literature of the world.

The colleges of pharmacy reporting to the writer gave a total of about 150,000 volumes relating to pharmacy and allied sciences in their libraries. Some of these colleges are connected with universities, giving them the advantage of the university library in general sciences.

All of the colleges of pharmacy reported having American journals relating to pharmacy on file. Twenty-six reported no foreign pharmaceutical journals kept on file.

Only a few of the pharmaceutical libraries bind their journals systematically. The problem of binding journals is becoming a serious one for libraries on account of the expense and the room required.

Some of the libraries deem that in many instances journal literature is ephemeral and often repetitive, and thus not to be considered as permanent literature.

Six colleges do not encourage students to make contributions to pharmaceutical literature; forty-six colleges do encourage their students in this respect.

Fifteen colleges reported that the alumni made use of the college library.

Many of the colleges reported that the extension of the courses had given students a greater opportunity to use the libraries.

Several of the colleges have good systems for the assistance of students in library work.

A most unique library relating to pharmacy is the Lloyd Library, Cincinnati, Ohio, established and given to the world by the members of the Lloyd family. It contains over 52,000 volumes, about half of which are pharmaceutical. This Library is very complete in odd, scarce and unusual volumes, in historical literature in sets, volumes of proceedings, and in its collection of American and foreign journals. This Library is a great storehouse of pharmaceutical literature and is accessible to every student and searcher.

NEW FORMS OF LITERATURE.

There is coming a new form of pharmaceutical literature. This is taking shape in addresses on pharmacy given before Kiwanis and other social clubs, in speeches to radio audiences, and in other ways. Newspaper and magazine articles offering pharmacy as a theme are beginning to appear. Pharmaceutical bureaus are sending to newspapers and magazines matters of public interest pertaining to pharmacy.

Through this means the calling is placed in a proper light before many hundred thousands of readers and hearers.

Still another style of literature is presenting pharmacy in a dramatic form. LaWall, Eldred, Ruth and some others have staged pharmacy in plays and tableaux,

with excellent effect. Undoubtedly, the dramatization of pharmacy will secure for it a hearing.

Any pharmacist, if he will, can establish a Pharmaceutical Bureau in his own town. Whenever a misstatement is made in regard to the drug trade, when the calling is classed with bootleggers and with dope sellers, this is the opportunity to unite with the editor and set things right.

The local paper should carry a notice of the meeting of a pharmaceutical association, and to this should be added the names of local members and the positions which they occupy.

When a pharmacist is made an officer or a committeeman, when he makes a report, an address, or reads a paper, these are news items that should appear in his local paper. Such things would give a lift to pharmacy and are a boost for the individual.

Shrewd politicians keep the press well supplied with photographs and news items. Every pharmacist should establish his own local press agency.

The newer forms of pharmaceutical literature, especially as pertaining to the enlightenment of the public, are full of promise.

AS IT APPEARS TO THE READER.

The reader of pharmaceutical literature assumes the right to criticize. The author in return retorts to his critic, "Write a better one."

The larger bulk of printed matter offered to the reader is unattractive from a typographical standpoint. It is put together with solid type in long paragraphs, heavy and redundant in words, repellent to the eye, and tiresome to the brain. Only when the urge is strong will the reader venture to dig through either book or magazine. Perhaps there is too much of it.

Scientific dissertations appear to be cast in a rigid mould which no writer ventures to change. In many instances the author's aim seems to be directed towards forestalling criticism. He gives pages of puzzling tables and long drawn out detail as to methods followed in his investigations. In the end he foregoes making conclusions or interpreting results, possibly in the fear that the reader will not agree with them.

The terms and the language of such expositions are usually those of the expert, beyond the ken of the average reader. Possibly all this is correct. They are written from a laboratory point of view; they are intended for an audience having skill equal to that of the writer; they are beyond the grasp of the average reader.

Stated volumes related to pharmacy are constructed with solidity and rigidity. Their pages are crowded with text matter, largely encyclopedic in character, usable only as works of reference. One finds in the pages descriptions and statements that have been repeated for centuries, put down without variation in form or phrase.

Sometimes it is feared that the writer simply follows precedent, and erroneous statements are passed on, unverified and unchallenged. Modern volumes are illustrated, some of them profusely, thus relieving the solidity of the text.

The ancient volumes, as shown in the herbals and so-called dispensaries, were made attractive by their quaint and highly artistic illustrations. The classic authors spoke as with the authority of the gods. They believed that their statements were irrevocable and unchangeable. It is to be admitted that in many,

many instances their conclusions have passed through the centuries unchanged and uncontradicted. Their concise, clear definitions and epigrammatic sayings, even when translated, form delightful reading.

Medieval writers and those of the later centuries, particularly up to the 18th, not only made their books attractive through pictures, but the authors enlivened dull descriptive text with reflections—philosophic, religious, moral and humorous. Their pages are filled with humanities, entertaining and enlightening and worth reading centuries after they were written.

As yet no writer has arisen to place pharmacy in a modern setting, as has been done in other arts. We need an "Outline of Pharmacy," along the lines of the 20th century "Outlines of History," "Outlines of Literature," "Outlines of Art." We need volumes that we can take up for an hour and find in them edification and pleasure.

NEW READERS WANTED.

The thing that seems to be needed in pharmaceutical literature is more readers. There is need to redeem the enormous waste in the volumes that remain unread. There is need for utilization of the vast energy that now lies dormant in the printed page.

To read and inwardly digest pharmaceutical literature will give us better pharmacists and better merchants. In part, the pathway to better clerks, better salesmen, better business and better pharmacy lies through the tangled mass of books and journals. Amid this labyrinth the younger reader may well exclaim, "How can I understand unless some man shall guide me?"

An old preceptor made it a practice to place a book or a journal in the hands of an apprentice, point out a chapter or an article, talk about it and tell the young man to come back in a week and discuss his own findings.

If the older generation of pharmacists do not have the time or the inclination to read the literature, our hope lies in the young. Hargraves might well tear the wrappers from his unread journals and pass them on to his clerks.

More than one proprietor has adopted a workable plan of distributing journals and books among employees, asking them to read and note any items of interest, and return the copy marked with their initials.

The college student should certainly become schooled in the use of the literature of his art. Correspondence with colleges of pharmacy during the preparation of this paper revealed some of the methods by which this is carried on in these institutions.

In some instances the library and journals are made accessible to the students without any systematic attempt to guide them in the use of the literature. The librarians in many colleges give particular attention to the younger students and guide them in the selection and the use of the works.

The teaching staff in some institutions instruct entering classes as to methods of utilizing the library. The student is required to look up references pertaining to the subject of a lecture, and in other cases he must search out and report to the instructor references pertaining to the subject under review.

In more than one of the colleges a professor gives special instructions on methods of searching and abstracting current literature. One professor, at stated

times, takes his class into the library and explains its scope and methods of use, thus converting the library into a laboratory, with the students delving into the books and journals.

One teacher, at least twice in each term, spreads before his classes some of the masterpieces of literature, ancient and modern, placing in their hands actual demonstrations of the historic background of pharmacy.

Another affable instructor invites his boys to his own house, gives them a light refreshment, during which he exhibits a few outstanding specimens of unusual books and journals devoted to pharmacy including, where available, pictures of prominent writers, and points out the way to the unexplored land of the literature of the art.

In a few colleges literary or library clubs assign subjects for research, discuss methods of utilizing the library, and guide the younger students in literary work. To forestall monotony at these meetings the romantic, picturesque side of pharmacy is shown forth in the lore of magic, alchemy, poisons, astrology and like themes, not forgetting the historical side, illustrated in picture and story.

For the older school of pharmacists pharmaceutical literature was a substitute for the college class room. For the present-day student it should form the basis of a life long post-graduate course.

For the young, who have not yet realized the value of the literature of their art, and to whom perchance general literature is more attractive, we might suggest that they take up the story of alchemy and pharmacy as revealed in Chaucer, Shakespeare, Ben Johnson, Scott, Dickens, Thackeray, and a host of other weavers of romantic tales.

Pharmaceutical literature is so abundant as to be bewildering, and the new reader is perplexed and discouraged at the lack of coherence and the flood of repetition. The younger reader can perhaps work out according to his individual bent what line he will pursue. No one would desire to select for him. If he attempts to cover all lines he will become entangled and make small gain. We can only offer suggestions born of experience. Let him faithfully read one journal in order to keep abreast of his advancing art and the ever changing conditions of the calling.

If he is studiously inclined let him select one subject, one drug, one chemical, one preparation, one phase of pharmacy, and explore that from the beginning down to now. Such an attempt will possibly occupy years of time, but it will be well spent, and it will afford the searcher many happy hours. He will be lead through and even beyond the entire realm of pharmaceutical literature, and ought to emerge well versed along the lines of his art.

The literature of pharmacy must have readers or pass out of existence. We are told that somewhere from three to five thousand young men and women enter the ranks of pharmacy each year. As far as possible all of these should be readers and students of the literature of the art. How else can they hope to keep pace with its progress?

A consistent, studious reader of pharmaceutical literature will maintain his standing as a pharmacist. Failing to read the modern journals and literature the druggist will fall behind in methods of good merchandising.
