

Perhaps the most urgent need for well-trained Chinese in pharmacy is in connection with our hospitals. Every Mission Hospital, that I know of, would like to have better dispensary service. Only a very few ever have had a foreign pharmacist in charge of the pharmacy work. First, because of the expense, and second, because of the lack of candidates for this service. In most of the hospitals the dispensing is done by a nurse who has been given special training in pharmacy. A man, so trained, can do the routine in dispensing and the hospital is able to get by on a minimum expense for the pharmacy service. All responsibility, of course, falls to the doctor in charge.

Some hospitals are beginning to ask for thoroughly reliable and responsible pharmacists for their dispensaries. Such pharmacists are not available. If they were—"would the hospitals be willing to pay for the services they would expect?" I have been told that they would. If so, some one should be training men and women in China for these positions.

It is not likely that persons of training below that of a full college course would be suitable for the position of full responsibility as pharmacist in one of our mission hospitals in China. Such a person would have to have a high educational rating, perhaps more so in China than in America. Such positions, then, should be filled by graduates with a regular baccalaureate degree in pharmacy. This would give the position a rating, in rank and salary, on a par with the position of graduates of other colleges. Without doubt such a course would attract the type of men we should like to have.

To establish such a school in some one of our universities in China would not require a great expenditure. These schools already offer good courses in the sciences, prerequisite to and allied with pharmacy. Courses in the pharmacy subjects could be offered with an added minimum in staff, equipment and materials.

As I see it, American pharmacy could not render a better service than to establish a good college of pharmacy in China, a country whose people look to America for help and whose youth beg for a chance to go to school.

A COURSE IN PHARMACEUTICAL LITERATURE

BY H. A. LANGENHAN.

During the past year several inquiries were received relative to the use of pharmaceutical journals in teaching pharmacy. In response to these an outline of the course listed as Pharmacy 125-6-7 (current problems and pharmacy laws), was sent. The favorable acknowledgment and suggestion that this outline be published accounts for its appearance. Details are not given. They are left to the "imagination" of the instructor. Many conditions control the details of the work, *e. g.*, the number of students, the availability of the journals, the "ambition" of the instructor, etc. During the past three years the details as presented by the instructor and reports received fluctuated a great deal although the outline as a whole was adhered to. Inasmuch as the object of the course is to create an interest in journal literature and a desire on the part of the student to continue

utilizing journals after he leaves school, the details of the "modus operandi" for instilling this interest is of lesser importance.

The outline is given in several divisions, of unequal length. No attempt has been made to place it on the hour basis either for instructor's summary or student's report.

PHARMACY 125 (CURRENT PROBLEMS, ETC.).

1 Hour per Week, 1st Quarter, 12 Periods.

Class-room work consists of general outlines and survey by instructor or report by students on assignments.

General: (Instructors' Reports)

- (1) Pharmaceutical journals.
 - (a) History and development
 - (b) Classification
 1. Type
 - a. Scientific
 - b. Commercial
 2. Source
 - a. Private ventures
 - b. Association organs
 - c. House organs
 3. Geographic
 - a. National and Foreign
 - b. Distribution in U. S.
- (2) Supplements to Journals.
 - (a) YEAR BOOKS (Am., Brit., Ger., etc.)
 - (b) Directories, etc. (e. g., "Era Directory," etc.)
 - (c) Guide Books, etc. ("C. & D. Diary"—*Druggist & Chemist*—Mark. Rep. Guide Book—Red Book, etc.)
- (3) Colleges of Pharmacy.
 - (a) Historical development
 - (b) Types
 1. Private
 2. State
 - (c) Geographic Distribution
- (4) Textbook in Pharmacy and Source.
- (5) U. S. P. Revision Committees and Relation to Pharmacy Faculties.
- (6) Source and Distribution of Pharmaceuticals, etc.
 - (a) Manufacturer, large
 - (b) Wholesaler
 - (c) Manuf. of single article
 - (d) Retailer

STUDENT ASSIGNMENTS.

Correlated with Instructors' Reports.

No. 1. Pharmaceutical Journals.

- a. Select the latest issue of the journal assigned and report on the following:
 1. Date of Vol. 1 and Number of present volume
 2. Editor and place of publication (present)
 3. Type of journal
 4. Size of journal
 5. Amount of advertising
 6. Type of advertising
 7. Amount of reading matter
 8. Type of reading matter

9. Source (private, association or house organ)
10. Miscellaneous

No. 2.—Review journal assigned from viewpoint of market reports and price lists. Note whether only chemicals, pharmaceuticals, or sundries, etc., or a mixture, are listed. Estimate number of page devoted to reports and price lists.

No. 3. Oil, Paint and Drug Reporter—Drugs & Chemical Market.—Prepare a brief summary of the market conditions on assigned topic:

- | | | |
|------------------------------|---------------------|--------------------|
| 1. Drugs and chemicals | 6. Berries | 11. Spices |
| 2. Botanical drugs (general) | 7. Flowers | 12. Essential oils |
| 3. Balsams | 8. Herbs and leaves | 13. Gums, etc. |
| 4. Barks | 9. Roots | |
| 5. Beans | 10. Seeds | |

No. 4. Prepare Card Index of All Pharmaceutical Journals Found in the Library.—Use following form:

Issued monthly.

Title—JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

Editor—(1925), E. G. Eberle.

Published at—253 Bourse Bldg., Philadelphia, Pa. Issued monthly.

Type—Scientific Association Organ.

Advertising—20 pages.

Subscription—\$5.00 per year including membership and YEAR BOOK, \$4.00 to non-members
Size, 7" x 10", 450 pp.

Vol. in Library—Vol. 1 (1912) to Vol. 14 (1925), inclusive.

Precursor. Proceedings of AMERICAN PHARMACEUTICAL ASSOCIATION.

(See card index under Proceedings.)

No. 5. Colleges of Pharmacy.

- a. Refer to assigned catalog and report names and degrees of the Dean and pharmacy college staff.
- b. Prepare a list of chairmen of U. S. P. conventions and of revision committees since 1820.
- c. Compile a list of textbooks used in pharmacy proper. Give author's name and title. Classify texts according to
 1. General—ex. Caspari, "Treatise on Pharmacy"
 2. Special—ex. Scoville, "The Art of Compounding"
 3. Prescription writing and Latin
 4. Materia Medica and Pharmacy

No. 6. Pharmaceuticals.

- a. Report on the text material of the catalogue assigned. State number of sections or groups, e. g., Flex., Tablets, etc., in each. Note particularly the specialty sections.
- b. Prepare a list of manufacturers of:
 1. Biologicals
 2. Chemicals
 3. Pharmaceuticals
 4. Glassware
 5. Machinery
 6. Labels, boxes, etc.

SECOND QUARTER (PH. 126, 12 PERIODS).

1. General Instructions on Method of Abstracting, Compiling Indices, etc.

Each student is assigned a journal (no specific year) and asked to report on and turn in a brief abstract, with composite index, on a special topic, reviewing one article only.

- Subject No. 1. Pharmacy legislation
2. Compressed tablets
3. Hypochlorite solutions

4. Preparation of syrups
5. Iron preparations
- 6-10. New remedies.

As a final report each student is assigned a certain subject, *e. g.*, Syrup Ferrous Iodide, and asked to assemble all information, available in form of a topic, indicating references properly in footnotes and correlating the information assembled.

THIRD QUARTER (PH. 127, 12 PERIODS).

Laws Affecting Pharmacy.—A study of the statutes and rulings. Assignments are given for reports on articles appearing in recent journals on federal legislation or any state legislation. All assignments are reported verbally in class and discussed by all.

COMMENTS ON OUTLINE.

The "instructors' reports" need not be commented upon. A preliminary study of each subject will bring out more material than can be included within the time assigned to the course.

STUDENT ASSIGNMENTS.

- No. 1. Each student brings his assigned copy to class and presents the report orally. The analysis of each journal offers some interesting contrast.
- No. 2. Information is sought for sources of standard quotations and price lists.
- No. 3. Whereas this assignment may be of no special value to the retailer because of the quotations as given, the general market surveys, the brokers' quotations and import reports, bring out discussions on the middleman's profit.
- No. 4. This furnishes the student with a catalog of the volumes available in the library. In preparing the special topic towards the end of the course, year books, digests, etc., are used as an index for material. Reference to the card catalog enables the student to ascertain at once whether the original article is available. It also gives the student a record of journals should he care to subscribe after he enters the retail pharmacy.
- No. 5. This acquaints the student in part with the writers of many of the articles abstracted during the second quarter's work. It may be of interest to know that last year one student reported that Professor Day was a Botanist, Explorer, Professor of Pharmacy, Author, and Dean of Purdue. Inasmuch as this includes five men discussed in class the result is not necessarily hopeless.
- No. 6. An attempt is made to familiarize the student with the leading pharmaceutical houses, the scope of their products. Quotations, discount and quantity prices are discussed. Attention is called to major products of the house, such as biologicals, chemicals, galenicals.

During the second quarter the student is instructed in the method of abstracting, compiling and the more important, "easiest" method of finding the necessary articles. Year books and Digest are first used as an index. Then the compiled index of the PROCEEDINGS A. PH. A. as well as of the *American Journal of Pharmacy*, finally the annual index. As the general topic is the same, a report on twenty to thirty papers oftentimes covers many phases of that particular subject. The final report is begun as soon as the student has been instructed on abstracting. An official product is selected as the subject and in the general write-up, the pharmacopoeial text of each revision in which the article appears is analyzed and included in proper sequence.