

NATIONAL PLANT SCIENCE SEMINAR.

WHY PHARMACOGNOSY?

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If there is any single problem which confronts all teachers of Pharmacognosy alike, judging from discussions on teaching methods held at past sessions of the Plant Science Seminar and from conversations with individual members, it is the problem of how to present that subject in an interesting and attractive way. I do not presume to be an expert on the teaching of pharmacognosy but wish only to present a few ideas learned from a somewhat limited number of years of experience.

It may be said, and I believe without fear of contradiction, that the majority of students are not interested in pharmacognosy as much as they are in other phases of pharmaceutical study, such as pharmaceutical chemistry, operative pharmacy, dispensing practice, etc. In discussing the teaching of pharmacognosy and botany, Dean Teeters said: "Our professional student is interested in any subject in proportion to the use he can make of the information in his particular field." Many students, particularly if they have had drug store experience previous to college work, come to school with the impression that in every-day pharmacy practice little use is made, directly or indirectly, of information gained in pharmacognosy courses. They consider such courses as among the unnecessary evils of their work and are intent on getting by them as rapidly as possible, not realizing until after graduation that they passed up an opportunity for gaining considerable worth-while knowledge which can easily be put to good remunerative use.

In order to overcome this prejudice the younger teacher of pharmacognosy, I believe, is likely to attempt to justify his subject at the very outset of the course. In my judgment this is not the best procedure. To let the various phases of the subject justify themselves as the courses proceed seems to have a much more telling and lasting effect upon the student. Furthermore, a whole-hearted enthusiasm for his subject on the part of the instructor is considerably more effective in putting the work across than any attempt at justification in the beginning, and while this enthusiasm may not overcome entirely the disinterest on the part of some students, it will tend to make the subject less boresome to those whose interests lean naturally toward the other aspects of the pharmacy curriculum and even more interesting to those who may happen to like pharmacognosy. It is difficult, in face of the opposition to pharmacognosy which one encounters in students, practicing pharmacists and even in teachers of other pharmacy subjects, not to wonder if after all there is not some justification for their views. Any sharing of this prejudicial viewpoint must be guarded against, for, if acquired in the least degree, it is likely to be reflected in the work of the instructor; nothing is more quickly noticed than the least bit of laxity on his part in his work and the corresponding effect will be noticed in the students' response. On the other hand, to have a sincere interest in one's work is to be able to stimulate class interest and overcome in a large measure whatever prejudice exists at the beginning. I know of no other medium through which any one interested in or contemplating specializing in pharmacognosy can stimulate and increase that interest than attendance at sessions of this organization and by making use of the associations and intercourses thus made possible with those who have shown by a large part of their life's work their enthusiastic belief in the worth-while nature of their speciality.

There are a number of ways in which the presentation of pharmacognosy may be made more attractive. I do not mean, in what I have to say, to detract at all from the botanical aspect of the subject. We have heard much in various papers concerning the need for chemical reinvestigation of our vegetable drugs. We have found at Minnesota that the students are interested in any chemical aspect of pharmacognosy. This has given us the opportunity of using chemical demonstrations to arouse the students' interest. Such experiments as the acid hydrolysis of starch following the various stages from amylopectin through erythropectin and achropectin and finally to the reducing sugar, glucose, with iodine and Fehling's tests, the precipitation and subsequent examination of osazone crystals, or the color tests for alkaloids, glucosides, cell-sap colors, etc., prove very striking and interesting. Most students, I believe, look to demonstrations such as these to break the monotony of time-consuming and patience-testing searches for some exceedingly elusive microscopic element.

*Chairman's Address.

The isolation of a plant constituent such as a volatile oil, starch, inulin, a sugar or plant protein is also a valuable aid in holding a student's interest. These experiments can be selected so that they can be performed in a reasonable space of time and any experiment which ties the botanical or biological to the chemical side of pharmacognosy is of value.

Most students are aroused to interest when the matter of biological assay is mentioned and whenever such demonstrations are made. It is not difficult nor does it necessitate a great deal of equipment or time to demonstrate the effect of digitalis upon the heart of the frog or the cat, and the effect of ergot upon the cock's comb or the isolated uterus can be shown in a short space of time. Even though such demonstrations do not come within the scope of pharmacognosy proper and the teacher may tread upon the toes of the pharmacologist, there is no harm in using them in awakening the interest of the student pharmacist in the physiologically active vegetable substances he is called upon to handle during his professional career.

Much has been said in previous papers at these sessions concerning research possibilities in pharmacognosy. They have shown that such possibilities are practically unlimited in their scope. Work done on insulin with its suggestion of the possibility of some such principle being present in plants and similar work have shown the urgent need of a reinvestigation of the chemistry of vegetable drugs. The status of the botanical identity of such drugs as *Cactus Grandiflorus*, *Manaca*, *Cascara Amarga*, *Tonga* and *Psyllium* presents another line of reinvestigation open to pharmacognosists. It is not difficult for an instructor to gain the aid of some few students in carrying out in part, at least, the work on such problems. We have found that almost any student is willing to put in time outside his regular class work for the privilege of carrying on some experiment in plant cultivation, or some histological examination or biological assay, if he knows it is to be of value in adding to the general information on the subject concerned. In so interesting the student it is very likely that he may be induced to further specialize in pharmacognosy. The same might be said in connection with medicinal plant culture. Many of our Minnesota students are interested in the spring work of plating and transplanting our seedlings and watching them develop. When once started in such work, they find it both interesting and attractive.

Many more illustrations might be cited, such as the consideration of commercial applications of pharmacognostic principles to determinations of identity, purity and adulteration of commercial products, the history and romance connected with our vegetable drugs, most of which are ancient in their origin. It makes no great difference what is the nature of the factor introduced to enhance the study; the only requisite is that it awakens some sort of interest either in some phase of the study itself or in the monetary gain aspect.

One additional factor which makes the teaching of pharmacognosy difficult is the attitude of our state boards of pharmacy toward the subject. In some states, while the candidates for registration are required to identify and show a knowledge of a number of important vegetable drugs by macroscopic examination, they are seldom if ever asked questions concerning proper methods of preparation of such drugs as digitalis, belladonna, etc., nor are they expected to know very much about the official standards of purity and strength to which such drugs must conform. Yet they are expected to know how sulphuric acid or arsenic oxide and other chemicals are prepared. The examinations in pharmacognosy and botany of candidates for registration in England might well be followed in this country. It would seem that some united effort on the part of this organization might induce our boards of pharmacy to adopt some type of examination in which the individual candidate is required to know at least some of the outstanding and diagnostic microscopic elements found in our important vegetable drugs and standards therefor. The effect of state board examinations of this type upon students would be very helpful to any instructors in such a subject as pharmacognosy. Pharmacognosy is being recognized more than ever by our pharmaceutical educators as being an essential part of a board pharmaceutical training. This is evidenced particularly, I believe, in a report made to the American Association of Colleges of Pharmacy in Miami last year when its committee on Curriculum and Teaching Methods, in considering a paper by Dean Sturmer entitled "Remarks on the Four-Year Course," reported in part "that it is the opinion of this Association that a professional course in pharmacy is not planned as a preparation for a specific job; it is intended rather to provide a broad education which will prepare the student that he may have the resourcefulness to fit himself into any given job within the field of pharmacy and adjust himself better to the vicissitudes of life." If they recognize as worth while the training given the student by the pharmacy colleges of to-day, our

state boards should also recognize pharmacognosy as an important and essential part of a broad pharmaceutical education.

THE CONSTITUTION AND BY-LAWS OF THE NATIONAL PLANT SCIENCE SEMINAR.

Article I—Name and Objects.

This organization shall be called the Plant Science Seminar. Its objects shall be as follows:
To provide opportunity for:

1. The formation of acquaintanceships and the establishment of friendships with persons interested in Pharmacognosy, particularly Botanists working with drug plants, Phytochemists, Pharmacologists, Drug Collectors, Drug Growers, Drug Importers, Distillers of Volatile Oils and others interested in drug plants.
2. Acquiring a personal knowledge of drug plants (both wild and cultivated, living and in herbaria), and of the experimental and commercial production and handling of drugs in various sections of the United States and foreign countries.
3. The presentation (exchange) of knowledge along all pharmacognostical lines.
4. Personal investigative work or research under particular conditions, such as supplies of special materials, availability of special apparatus, the presence of specialized teachers, etc.

Article II—Membership.

The members of the Seminar are those persons interested in pharmacognosy, who have registered for two annual meetings of the Seminar and who have been approved for membership at a business meeting of the Seminar. Members only shall have the right to hold office or to vote. Associates are those persons who are not members but are registered at any annual meeting of the Seminar.

Article III—Officers.

The officers of the Seminar shall be a Chairman, a Vice-Chairman, a Secretary-Treasurer and an Executive Committee of five members consisting of the Chairman, Vice-Chairman, Secretary-Treasurer and two Past-Chairmen. The officers shall be elected annually from the membership, and shall hold office until the installation of their successors.

Article IV.

Amendments to this constitution can be made at any annual business meeting upon the recommendation of the Executive Committee and upon approval of two-thirds of the members present at the annual meeting.

BY-LAWS.

Article I—Duties of Officers.

The officers shall perform the duties customarily pertaining to their respective offices, shall report annually to the Seminar, and shall serve without remuneration. The Executive Committee shall arrange for the annual meeting and shall have charge of the business of the Seminar in the interim between the annual meetings. The Chairman and Secretary of the Seminar shall be the Chairman and Secretary, respectively, of the Executive Committee.

Article II—Fees.

There shall be no membership fee. There shall be a Registration Fee of an amount to be fixed annually by the Executive Committee and payable by those in attendance at each annual meeting.

Article III—Annual Meeting.

The annual meeting shall be held at a place convenient to and during the week preceding the annual meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION. The program for the annual meeting shall be of such a nature as to provide opportunity for (1) "botanizing" trips, (2) inspection or presentation in exhibits and lectures, of local plant industries, (3) "round-table" discussions on important pharmacognostical subjects, (4) social visiting. "Entertainment" and the expense of the program shall be kept at a minimum. Likewise provision shall be made for a minimum "living expense" for those in attendance.

Article IV—Publications.

The Executive Committee shall prepare a synopsis of the proceedings of the annual meeting for publication in the JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION and in such other journals as may desire it.

Article V—Amendments.

Amendments to these by-laws may be made at the annual business meeting upon the recommendation of the Executive Committee and approval of a majority of the members present at the annual meeting.

PAN-AMERICAN MEDICAL CONGRESS.

The fourth meeting of the Pan-American Medical Congress will be held in Dallas, Texas, on March 21st-25th. An elaborate program has been prepared and it is hoped to have a section on pharmacopœias. This is the first time that the Congress has held sessions in this country.

Surgeon General Hugh S. Cumming, Major General Robert U. Patterson and Rear Admiral Charles E. Riggs will attend. Surgeon General Cumming is president of the English Committee and Dr. Carlos Enrique Paz Soldan, of the University of San Marcos, Lima, Peru, of the Spanish Committee. Among others who will participate are Dr. John A. Farrell, associate director of the Rockefeller Foundation, international health division; Dr. Gegorio Arsoz Alfaro, of Buenos Aires; Dr. Octavio Montoro, of Cuba; Dr. Jose Torres Torija, Mexico.

Dr. Bolivar J. Lloyd, medical director of the United States Public Health Service, and Dr. Sergio Lazo Mencses, of Ecuador, are secretaries of the committees. Dr. John O. McReynolds, of Dallas, is president of the Congress.

There will be moving picture demonstrations and scientific and commercial exhibits. Also there will be clinics in all the hospitals of Dallas under the direction of the local profession participated in by visiting physicians. Two hundred members of the Pan-American League will serve as interpreters and associate sponsors.

TEXAS PHARMACEUTICAL ASSOCIATION.

The fifty-third annual meeting of Texas Pharmaceutical Association will be held in Galveston this year. Arrangements are under way for a large delegation of Texas pharmacists to attend the meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION at Madison, Wis., August 28th-September 2nd. Indications are

that a party, including members of families, of approximately one hundred will be made up. Aside from the greater interest which has been developed in Texas in the AMERICAN PHARMACEUTICAL ASSOCIATION this attendance is a compliment to former president, Walter D. Adams, who was recently elected member of the Council. Texas pharmacists have a fund well under way to equip and endow the editorial offices in the Pharmacy Building at Washington. An effort will be made to bring a succeeding meeting of the AMERICAN PHARMACEUTICAL ASSOCIATION to Texas.

USE OF THE NATIONAL DRUG STORE SURVEY.

The Committee on Use of the National Drug Store Survey, at a meeting held in Washington, December 13th, decided that short articles emphasizing some of the important and valuable information contained in the *bulletins* of the United States Department of Commerce, relating to the survey, should be issued each month. A series of eight has been arranged for. Dr. E. L. Newcomb is secretary of the Committee.

The first *bulletin* sent out is entitled "Causes of Drug Store Failures." This is an analysis by the National Drug Store Survey Committee on "Use of Some of the Valuable Facts Revealed by the United States Department of Commerce," and should be helpful in studying business situations in drug stores. The complete *bulletin*, which is Commerce Bulletin No. 59, entitled "Causes of Failure among Drug Stores," by Victor Sadd and Robert T. Williams, can be obtained from the Superintendent of Documents, Government Printing Office, in Washington, for 5¢. The *bulletin* analyzes in detail the business histories of thirty drug store proprietors who had become bankrupt in recent years. Among the reasons for failure are high rents, lack of records and lack of analysis at various periods so that an understanding may be had of business conditions.