

## EDUCATIONAL PROBLEMS IN PHARMACY.\*

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There is an old saying, "It is only the fool who rushes in where angels fear to tread" which may be somewhat apropos and fitting for my suggestion of this subject for my talk to-day. From time immemorial to the present, all problems of education have provided a fruitful field for discussion and if I may venture a guess, they will ever continue to worry and annoy those who are charged with the responsibility of trying to guide the ship of pharmaceutical training in uncharted seas. At any rate, perhaps never in the history of Pharmacy has the subject given such concern to those of us who will be held responsible by future historians as it does to-day. Are we drifting toward the rocks enshrouded in fog, or are we facing the calm open sea with no compass and little if any knowledge of the stars and celestial regions? If you will excuse me for asking these questions, it will afford some consolation. Frankly, I am looking for advice and guidance.

## MERCHANDISING VERSUS PROFESSIONAL PHARMACY.

The first question which requires answer will be, "Is Pharmacy a profession, a business or a merchandising racket?" The answer to this question must certainly be obtained if we are to make a curriculum and manage a College of Pharmacy. If chain, department stores and unscrupulous manufacturing houses continue to dominate and control and make it a merchandising racket, are we justified in trying to run colleges to furnish recruits who may give the semblance of respectability and semi-professional atmosphere? It seems to me that we have arrived at the time when a man who studies Pharmacy must agree and choose to make of this calling a profession rather than a very questionable business. If you want to find out for yourself, go into the nearest chain or department store and tell the clerk you want something for a lame back. If you get out without buying five or six dollars worth of worthless remedies it is because you lack the money. Some may say, to relieve the conscience, that it is not for us to worry about what the student does once he completes the work for his degree; that the training merely provides a means to earn a living.

## STATISTICS.

Most of you will agree that we have two or three times more pharmacies or drug stores than we need. (At present (1) over sixty thousand in the U. S. A.) We have probably well over 200,000 persons who are licentiates, assistants and clerks in the United States. In California (2), we have over 3200 pharmacies and more than 12,000 licentiates and about twelve hundred registered assistants. It is perfectly evident we have no legitimate need for all of these people, the major portion of whom come from outside our state. (Yet we have much complaint that we do not recognize reciprocity.) Our own college, over a period of sixty-three years, has furnished approximately only 2300 graduates. The two Schools of Pharmacy in California last year added little more than a hundred graduates.

The present-day merchandising pharmacist cannot hope to obtain the confidence or respect of scientific medicine. If we do not soon provide a class of

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educated persons who can meet the physician on an equal basis and counsel with him we shall, and rightly so, lose all contact with scientific medicine. The progressive manufacturing houses are going to the physician and doing for him the work which the well-trained and informed pharmacist should be doing. Many of these manufacturing companies do not hesitate to furnish samples and facilities recklessly. This encourages physicians to dispense them, and the samples frequently reach the patient who immediately calls for them by name and shops around for the lowest price.

Our future pharmacists, in my judgment, must be fully on a par intellectually with the physician and much better trained in Chemistry, Physics and Pharmacy. He should be regarded as a counselor and an advisor as well as a clever laboratory technician, especially skilled in Chemistry, Bacteriology, Serology, Pharmacology and Toxicology. The pharmacist of to-morrow must be a skilful artist and scientist in selecting, preparing, standardizing and dispensing of pharmacological remedies and his advice and counsel should be available just as that of the surgeon, the diagnostician or the radiologist. Medicine is not practiced, at least in the cities, without frequently calling in consultation well-known experts in specialty fields. There is no reason why the ideal pharmacist who is a thorough specialist in his chosen field may not some day in the near future enjoy this prestige and honor. He, at least, should be well able to convince the physician of the advantages of having his prescriptions carefully and skilfully filled. He should certainly have as much right to contact physicians as the big commercial and manufacturing concerns which find it very profitable to do so. Indeed, some of these well-known organizations give prizes or scholarships in medical schools and maintain a representative on the ground whose business it is to advise and acquaint students and practitioners constantly with their preparations. This should be a cue to the modern pharmacist who must by education and skill meet this competition and go it one better.

#### PROFESSIONAL PHARMACY.

It would appear, then, that only the professional pharmacist should in the future survive. He needs no expensive, high rent corner stores to meet the needs of legitimate medicine and pharmacy.

Is professional pharmacy possible? Will it come soon and who will sponsor it? These questions, I believe, must be answered by the College of Pharmacy. To-day we have, in my opinion, few Colleges of Pharmacy in the United States sufficiently well equipped and financed to carry this program to a successful conclusion. It costs money, plenty of it, to finance any high class technical and professional education. The states are to-day staggering under the great burden of taxes for public education. So long as people had income and money the majority were good spenders, especially for education and public betterment. In this reckless well-intentioned spending we have gone to the extreme of training farm work plugs for the race track—an absurd and senseless optimism. Education, like a machine, is only of value for the person who can use it.

#### LIMITATION OF ENTRANTS.

Have we arrived at the time where a Committee should be appointed to give information and advice relative to limitation of entrants to our Colleges of Phar-

macy? The raising of entrance and scholarship requirements will quickly do the required work but until intelligent coöperation of the profession of Pharmacy is obtained, we may expect little if any results.

In many countries of Europe, the number of pharmacies is automatically limited—depending upon the population. In some countries with each increase of six thousand inhabitants the establishment of a new pharmacy is permitted by the state. How much better it would be if we had some similar regulation.

#### FIVE-YEAR PLAN.

Some of our better Colleges of Pharmacy are anxious to extend the college training to a five-year period. Personally, I believe this will shortly come. With the junior colleges taking care of the two years of basic science work, this should not be an unreasonable or expensive requirement. In this program, the student could, if qualified, obtain his Masters Degree. In Universities which have Medical Schools, I believe a curriculum worked out jointly by both colleges leading to the field of Medical Technology and Toxicology has great possibility of usefulness for both professions. Many of the medical technicians at present are broken-down nurses or high school girls who require a meal ticket. These poorly and inadequately trained individuals are not qualified to render proper scientific service. The well-trained pharmacist should at once demonstrate his superiority in skilful technique and understanding.

#### EDUCATION.

Older pharmacists as a rule have never, at least in this country, received good and sufficient training to enable or encourage them to continue their studies after leaving college. At any rate, whether it was this quiz-compend training which they received or the worship of money, they quickly became fossilized. Intellectually they died shortly after graduation. The modern professional pharmacist must continue his studies after leaving college. He must attend his weekly and monthly scientific pharmaceutical, chemical and other allied educational meetings.

#### GRADUATE WORK.

What are colleges doing in the way of free graduate meetings where the rank and file of Pharmacy might receive both information and inspiration and encouragement to keep abreast of the times? It is my judgment, and I have been intimately connected with Pharmacy for more than thirty-five years, that the rank and file of our profession is disgraceful in its backwardness; it is utterly lacking in all pretense to keep in touch with scholastic accomplishments and general improvements in methods and technique of the profession.

Professional Pharmacy must endeavor quickly to bridge the ever-widening chasm between medicine and pharmacy. It should leave merchandising pharmacy to the men of bygone days whose training does not fit them to carry on in modern scientific pharmacy. Professional Pharmacy should endeavor to find out whether the large manufacturing houses are friends or foes. If these large concerns are destroying the relationship between legitimate pharmacy and medicine it should be found out and the earlier the better.

The pharmacists of to-morrow must be investigators, interpreters and administrators. Without the investigator and the interpreter, pharmacy cannot hope to



ments. In short, he is the engineer who can furnish expert information and evaluation in the fields of pharmacological remedies.

#### PHARMACY A LIBERAL AND YET A PRACTICAL EDUCATION.

If you take the time to glance at the foregoing graph you will at once be impressed not only with the usefulness of the profession but with the numerous possibilities of allied specialties which can easily be developed. It is a blending of the theoretical and applied education which at once opens several avenues instead of one, which so often is the case in straight academic colleges. Many of our better students will quickly find their talents and go into fields remotely allied to Pharmacy. If they fail to make good in their specialties, they still have their profession of Pharmacy. Our well-balanced and well-presented pharmaceutical educational programs have, I believe, few equals for all around practical usefulness.

#### JUNIOR COLLEGES.

These relatively new institutions will, in the near future, play a very important rôle in our field of education. They can and must take over the burden of the first two years because the present average cost of tuition, \$250.00 or \$300.00 per year in Colleges of Pharmacy, is out of all normal proportion to the remuneration in the calling. Furthermore, a large percentage of our very worthy students cannot finance themselves, at least under present-day conditions. Unfortunately, many of the junior colleges are only mediocre high schools as far as equipment and faculty are concerned, and to make matters worse are badly overcrowded. The student will not be, at best, able to receive the University perspective which we so much appreciate and value. However, in due time these colleges may take on the University atmosphere and methods if entirely separated from high schools. If we, however, set up a good substantial curriculum and proper scholarship requirements, these will probably weed out a high percentage of hopeful but incompetent students who would enter the profession.

#### EMPHASIS ON BASIC SCIENCES.

In our California curriculum we have tried to emphasize the subjects which, in our judgment, will be most beneficial in laying a proper foundation for the superstructure of applied sciences which go to make up what we commonly call Pharmacy. It is further my belief that these subjects should be presented wholly as basic sciences without any reference to the possible application. The student should be taught, above all, to think, reason and understand. When he later comes to his application, he will continue to make use of these well-established educational methods.

#### REASONING VERSUS MEMORIZATION.

Here, may I pause a moment to express my disapproval of teaching in Colleges of Pharmacy where memorization is the main thing emphasized. This is further brought home to the student in the State Board Examinations which require only, in most instances, the memorization of an enormous number of antiquated cut and dried answers to questions in Pharmacy as it was practiced twenty to forty years back. This is an every-day picture which most of you see but rarely raise a

voice to correct. This weakness in our teaching and licensure methods is deserving of the most severe condemnation.

#### RATING COLLEGES OF PHARMACY.

The rating of the Colleges of Pharmacy is another subject which probably should not be mentioned. Who shall have the authority and how shall it be done? While the American Association of Colleges of Pharmacy is to be commended for all the good work which it has done in suggesting and encouraging improvement, it is not properly qualified to pass judgment upon its own members. Any attempt which does not take into account the following points is in our judgment quite incomplete:

1. Need for the college.
2. Personnel (faculty and students).
3. Equipment and buildings.
4. Financial support and endowments.
5. General morale.
6. Educational perspective as evidenced by the curriculum and especially the basic science foundation.
7. Productive work—research and general usefulness to the profession and the State.

It is regrettable we have not some qualified body or educational group capable of making such a survey of our American Colleges of Pharmacy and rating the same justly. It is quite obviously unfair to ask us to do our own evaluating. I venture to say that if such a survey were made by a qualified group of educators outside the profession, not more than 25% of the present-day schools would be considered adequate.

#### CONCLUSION.

In any great modern engineering problem every figure must be verified; all materials whether stone, sand, cement or metal must be tested, checked and double checked before the same may be accepted and used. Our problem, then, is one in engineering, so let us proceed with the methods and instruments of precision to carve out of this present-day chaotic mass called Pharmacy a *Profession*—built upon sound basic education which can weather the storms of adversity and scientifically serve the Medical Profession and the Public Health requirements.

#### REFERENCES.

- (1) U. S. Census and Costs of Medical Care.
- (2) California State Board of Pharmacy.

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NOTE: *The passing of Dr. Carey, has presented difficulties in the publication of this paper; thanks are extended for the helpfulness of Dean T. C. Daniels, Dr. F. T. Green and the family of the deceased.*

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#### KING GEORGE VI, PATRON OF THE BRITISH PHARMACEUTICAL SOCIETY.

**K**ING GEORGE VI has consented to be patron of the British Pharmaceutical Society and British pharmacists hail the event as a most happy one and a recognition of the Society's long and honorable history. The Society celebrated the Coronation with a banquet in Guildhall on April 6th. The Lord Mayor of London was one of the speakers and prominent British pharmacists were well represented by more than eight hundred guests.

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