

# THE DEPARTMENT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

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DEPARTMENT.

## THE EDUCATIONAL MOVEMENT IN PHARMACY.

BY HENRY C. BIDDLE.\*

The following address by Dean Henry C. Biddle of the College of Pharmacy, University California, appeared in a recent issue of the *American Pharmacist*. I believe it is worthy of greater distribution and I am therefore using it in this Section. I wish to commend it to the attention of all pharmaceutical educators.—C. B. JORDAN, *Editor*.

There are two issues whose attempted solution is the subject of unending discussion—one is the economic situation, the other the educational. In neither case has a perfect solution, or even a "best method" ever been evolved, nor is such anticipated. In each case what is sought is a more efficient method of procedure. This is particularly noteworthy in studying the advance in pharmaceutical education during the last few years.

In 1925 a three-year curriculum took the place of the earlier training of two years, and in 1932 the four-year curriculum becomes the minimum requirement of the American Association of Colleges of Pharmacy.

Many of the Schools of Pharmacy have already anticipated the forward movement, and to-day more than seventy-five per cent of the State Colleges are offering a four-year curriculum in Pharmacy, either as a minimum requirement, or in conjunction with the three-year program.

### FIXING AN EDUCATIONAL POLICY.

In studying the curricula presented by different institutions, it soon became apparent to the national association that these curricula lacked that definition in educational policy which would be acceptable in academic circles. As a certain educator is reported to have stated: "You pharmacists don't appear to know what you want educationally. Find this out and we shall be glad to coöperate with you."

In view of the existing confusion in this matter, the American Association of Colleges of Pharmacy in session at Rapid City, South Dakota, in August 1929, appointed a committee of five deans—of whom the speaker had the honor to be one—to study the situation, and, as the results of this study, to present before the national convention to be held in Baltimore, Maryland, in May 1930, an acceptable educational program. The task before the committee was not a simple one, since it involved not alone the formulating of a general educational policy, but also the harmonizing of interests of quite divergent educational points of view. So important were the issues at stake, however, that the association decided to devote an entire session to the consideration of the report.

As a result of the deliberation held in Baltimore, the report of the committee of five was unanimously adopted practically as presented. The educational policy

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as set forth thereby became the accepted educational policy of the American Association of Colleges of Pharmacy, or as one has observed, a yardstick for measuring our educational procedure.

Under such circumstances a brief résumé of the outstanding features of the report as adopted merits our attention.

#### WORK AND OBJECTIVES OF THE COMMITTEE.

As a preliminary point of approach, consideration was given by the committee to the earlier studies of Dr. W. W. Charters and his associates, particularly regarding their ideas as to the activities and duties of a pharmacist. The conclusions of Charters and his co-workers may be summarized under three heads; the professional knowledge of the pharmacist, his general knowledge and the character of the man himself.

(1) "The professional knowledge of the pharmacist," said they, "must include an ability to read, intelligently, the U. S. Pharmacopœia and the N. F., to fill prescriptions accurately, to understand what drugs are to be manufactured and what are to be purchased." This knowledge should include, further, a familiarity with the commercial phases of pharmacy and the federal and state laws governing the profession of pharmacy.

(2) In his general knowledge the pharmacist must have at his command, information regarding the control of insects, fungi, etc.; he should know more about the nature of disease and be able to disseminate information regarding public health; he must be able to give advice, as well as furnish material, in cases of first aid; and in addition to these, because of the very nature of his position, he should possess a wide knowledge covering many matters.

(3) As to his personal qualifications, the pharmacist must be a cultured, intelligent individual, possessing acceptable social qualities and a high professional morale. He should be progressive in continuing after graduation to advance in knowledge and skill, and, in the case of some individuals, may develop research.

Such were the general conclusions reached by Charters and others as to what the pharmacist should know and be.

It has been pointed out on a number of occasions that there are two quite divergent views regarding the objective of pharmaceutical education. One has for consideration the preparation of the so-called practical pharmacist, the other has the wider vision of developing the potential capacities of the individual so that he may be in better position to adjust himself to meet the responsibilities of a pharmacist in many directions.

The committee held that the latter objective is the better, even in the training of the "practical" pharmacist so-called.

The educational policy presented attempts to offer to the student such training that he will later be in a position, not only "to render the community in which he goes to live and practice his profession, intelligent and constructive pharmaceutical service, but will be prepared by his training so to develop and improve himself when he is out of college that he can satisfactorily meet the changing demands that are sure to occur throughout his service." The program thus keeps clearly in mind the needs of the practicing pharmacist, and the question as to what training in four years will best prepare him for his profession.

The "educational policy also includes the preparation of a man, who is inclined to cope with the scientific problems of pharmacy, to begin research in the field of his choice. This means that the undergraduate four-year course prepares him for the graduate college so far as possible. It provides the 'student' with the opportunity for advanced study, by offering him objectives and additional undergraduate courses."

It was not in any way the purpose of the committee to present for consideration an inflexible program. The objective, rather, was the formulation of a flexible educational policy which would emphasize among other matters:

- (a) The basal and cultural subjects of fundamental significance.
- (b) The natural sequence (where this sequence was of importance) of these subjects with reference to one another, and with reference to the later courses of scientific, cultural and technical or professional character.

#### THE EDUCATIONAL POLICY.

The educational policy as adopted by the American Association of Colleges of Pharmacy includes the following outstanding features:

1. "The *curriculum extends* over a period of four full academic years of approximately 36 weeks, with a minimum of five days per week in accordance with recognized academic procedure." Further, not less than 120 units or semester hours will be required for graduation.

2. The policy lays emphasis upon the importance of *study*. "Each hour of recitation requires on the part of the average student two hours of preparation. Three hours of strictly laboratory work are equivalent in value in certain courses to the time required to accomplish one hour of recitation."

3. The entire educational program outlines not only the general training desired in the four-year curriculum, but also the selection of subjects recommended in the high school. This was felt necessary because of the unequal preparation of many students from the lower school.

- (a) During the first and second years of the four-year curriculum are presented the basal and cultural subjects in which fundamental training should be offered as a foundation for later scientific and professional courses.

- (b) In the third and fourth years are given the more strictly professional courses in pharmacy, pharmacognosy, pharmacology and related scientific subjects. Certain freedom of election is recommended in these years, as well as in the first two years. This enables the student to place additional emphasis upon those subjects which meet his particular requirements. Thus, the election may take the direction of fuller general culture, larger preparation for general, retail or manufacturing pharmacy, or additional training in scientific and special subjects.

4. The degree to be awarded on the successful completion of the four-year curriculum is that of B.S. in Pharmacy—a degree in accord with the ordinary standards of academic procedure.

Such in brief summary is the general educational policy of the four-year curriculum in pharmacy, as recommended by the Committee of Five, and as

adopted last May in Baltimore by the American Association of Colleges of Pharmacy.

#### ADVANTAGES OF A FOUR-YEAR CURRICULUM.

Certain questions have been raised as to the need, or even the advisability, of a four-year curriculum in pharmacy. "Is there enough in pharmacy," it is urged, "to warrant an educational program of four years?" Another question: "Is there enough in the average pharmacist to justify expending four years' training in his education?" Each of these questions is misleading, in that one underestimates the possibilities of the profession, the other attempts to cast ignominy upon the man in the profession. Both questions fail to recognize the part that education plays in enabling a man to make the most of his natural abilities.

The latter question, indeed, requires no answer. At the same time it may be of interest to note that in seeking civic leadership, two cities about San Francisco Bay have in the past two years selected a pharmacist to fill the office of mayor. And of these, Berkeley—with its academic and "high brow" reputation—has just recently reelected to this high office, by a practically unanimous vote, a pharmacist. Verily, there are occasions when pharmacy cometh unto her own!

Many arguments might be advanced in favor of a four-year curriculum. Such advantages might be presented as: the elevation of *professional standing*; the opportunity for *advanced study*; the enlarging of opportunities for *coöperation with the physician*; a more intelligent grasp of problems *affecting the economic situation*; a fuller preparation for *diversified activities*, as retail pharmacy, exclusive prescription pharmacy, wholesale trade, manufacture, federal and state positions, teaching and research.

In a few words, however, may I emphasize one advantage which the longer curriculum affords—a widening horizon for action—a broader vision of life. It is this which enables a man to employ his talents most advantageously in the field of achievement and it is this broader vision as one element which education makes possible.

A number of years ago a pharmacist in a large city found himself in competition with certain chain stores. As an independent pharmacist the outlook appeared almost hopeless. Instead of becoming discouraged, however, he said: "What the other fellow is able to do, I can do." He made a thorough study of the economic situation, his training making this possible. To-day he is the head of a unique and successful chain of pharmacies.

In August of 1929 a number of us, on our way to attend the national convention at Rapid City, South Dakota, visited a pharmacist in Denver, Colorado, who had caught a vision of coöperation with the physicians of that metropolis. This man, through his scientific training, has built for himself a patronage and a reputation which place him as one of the representative citizens in that city.

At the beginning of the War certain individuals predicted that Germany, because of her control of inexhaustible deposits of potassium salts, would be invincible. Nobody at that time knew how, economically, to extract such salts from the brine of inland salt lakes. Then arose a chemist with a vision, and from his studies was developed a successful process for the extraction of potassium salts from brine. During the War, and since the War, hundreds of tons of these

salts have been obtained per day from the brine of Searles Lake in California at a cost below that of the production in Germany. In 1927 this chemist, Dr. John E. Teeple, received the Perkin Medal, awarded for notable achievement in science.

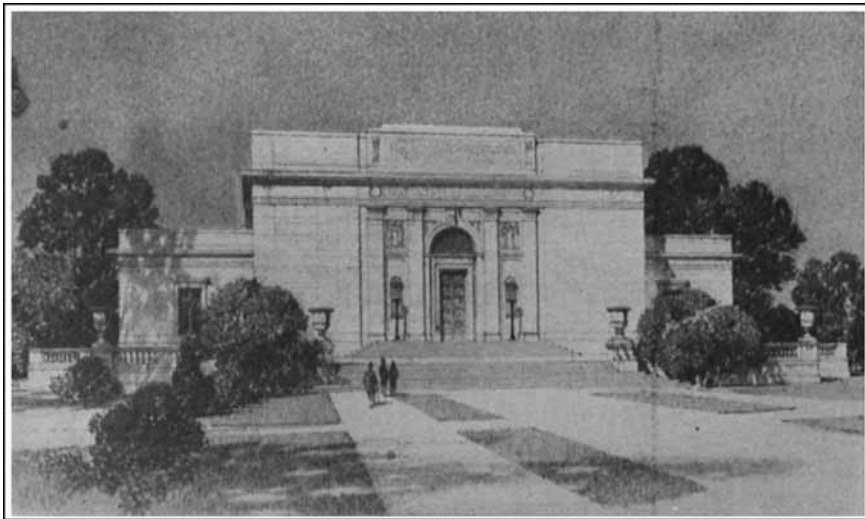
Every pharmacist markets milk of magnesia. Some three years ago a California pharmacist, with training and vision, saw the possibility of preparing this product from the waters of San Francisco Bay. Last December in one month he sold and shipped three carloads of milk of magnesia of the highest quality, all prepared in his manufacturing plant from the salt water of San Francisco Bay.

It was the teaching of the late Russell H. Conwell, the eminent lecturer and founder of Temple University, that the world presents in opportunity "Acres of Diamonds" for the man of thought and vision. This should be one of the educational outlooks of the pharmacist.

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#### THE HEADQUARTERS BUILDING.

THE November issue of the *National Geographic Magazine* is devoted to "Washington through the Year. Our Colorful City of Magnificent Distances" as a feature of the Bicentennial of the Birth of the Father of our Country. Although as stated, "it has been both an interesting and difficult task to represent the composite picture of the National City of mellow yesterday and majestic to-day within 100 pages, when to mirror all of Washington's countless facets, would overflow a



Architect's Sketch, American Institute of Pharmacy, Washington, D. C.

volume of a thousand pages," this number gives a splendid idea of the capital which will soon match in beauty and grandeur that of any nation on earth—and in which each American citizen may take personal pride.

Of special interest to pharmacists is the following quotation from this number:

"Along Sixteenth and Seventeenth Streets, in late years, have risen many palatial buildings of monumental type, semi-public in character, such as the Scottish Rite Temple, the National Geographic Society Group, the National Education

Association offices, the Concoran Gallery of Art, the American Red Cross building, Memorial Continental Hall and Constitution Hall of the Daughters of the American Revolution and the Pan American Union, and on old B street, now renamed Constitution Avenue, stands the building of the National Academy of Sciences, which with certain buildings to be erected, including a Public Health Service Edifice and the AMERICAN PHARMACEUTICAL ASSOCIATION<sup>1</sup> Building, will serve as a frame for the Lincoln Memorial. Like it, they are also of the monumental classical type and reveal the work of distinguished architects."

The architect for the Pharmacy Building, Mr. John Russell Pope, has completed the design for the structure, which is well known to pharmacists and approved by the Commission of Fine Arts, and the erection of the building will be begun as soon as the plans of the Government for the development of the area in which it is located are completed.

In his report to the Miami meeting Chairman Dunning said, "The development of plans for such an important area requires time and careful consideration. The delay, while very trying to us, is more than compensated for by the assurance that our building will be surrounded by such splendid structures and that the adjoining area will be protected against change and deterioration."

Pharmacy is fortunate to have such a commanding location for its building in the National Capital.—E. F. K.

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<sup>1</sup> See map in *National Geographic Magazine*, November, page 521; about half way down on left, the site is diagonally opposite the National Academy of Sciences.



Front view and show windows, Lascoff Pharmacy, New York City.