

THE SECTION ON EDUCATION AND LEGISLATION.

The First Session of the Section on Education and Legislation was called to order by Vice-Chairman Rudolph Raabe, Wednesday, July 29th, at 2:30 P.M. Chairman B. V. Christensen took the chair. He announced the appointment of the Committee on Nominations, as follows: *Chairman*, A. B. Lemon, C. W. Ballard, R. A. Lyman. Chairman Christensen stated that the Secretary had sent in no report and that the work during the year had been done by him with the assistance of the vice-chairman, Rudolph Raabe. He asked Mr. Raabe to take the chair while he read the annual address. This follows:

ADDRESS OF THE CHAIRMAN OF THE SECTION ON EDUCATION AND LEGISLATION.

A CENTURY OF PROGRESS IN PHARMACEUTICAL EDUCATION.*

BY B. V. CHRISTENSEN.¹

The progress in pharmaceutical education and the raising of the standards of pharmaceutical practice have been the leading causes in the development of pharmacy to the status as it exists to-day. The time has long since past when anyone, whether he had training or not, could open and operate a drug store without leave or license.

A century ago it was the custom of physicians in this country not only to compound and dispense but in many cases to manufacture as well. In those days the drug stores were patronized by physicians largely as sources of supply for the crude drugs required for manufacturing. In the early days of the past century in some of the larger cities of the United States were found a few trained apothecaries who had emigrated from the Old World where means for pharmaceutical education had been provided. The better class of physicians were glad to turn to such men for assistance and in turn gave them every possible encouragement. It is to the foundation laid by such influences that pharmaceutical education in this country owes its origin and advancement.

INDEPENDENT COLLEGES.

The first attempts to provide education for pharmacists in this country were made by corporations of local druggists called colleges, probably due to the influence of the trained apothecaries from Europe. These colleges were not only organized for the improvement of their calling but for mutual protection as well. This is well illustrated in the case of the first college, namely, Philadelphia College of Pharmacy, organized in 1821. This was evidently stimulated by an attempt on the part of the medical faculty of the University of Pennsylvania to regulate the education and practice of pharmacy in Philadelphia, which resulted in a counter movement by the local druggists and the organization of the Philadelphia College of Pharmacy (1). Similar colleges were organized in other large cities such as Massachusetts College of Pharmacy in Boston, 1823; College of Pharmacy of the City of New York, 1829; Maryland College of Pharmacy, Baltimore, 1841; Cincinnati College of Pharmacy, 1850; Chicago College of Pharmacy, 1859 and St. Louis College of Pharmacy, 1864.

These colleges were what might be called evening or vocational schools, *i. e.*, instruction consisted of evening lectures given by practicing physicians and pharmacists and was intended to supplement that given to apprentices in the drug stores. Libraries were built up, museums established and journals, such as the *American Journal of Pharmacy*, 1829, were published as a part of the work of these colleges.

These colleges were primarily responsible for the organization of the AMERICAN PHARMACEUTICAL ASSOCIATION. This means, of course, that the better class of druggists was responsible. In August 1851, the New York College of Pharmacy invited the other colleges to send delegates to a convention to meet October 15th to consider means for securing legal control over the importation of European drugs. After attending to the matters for which this convention was called, resolutions were adopted recommending that a convention be called to meet in Philadelphia in October 1852, for the purpose of organizing a national association of druggists. This was done and hence, the AMERICAN PHARMACEUTICAL ASSOCIATION.

* Miami meeting, A. Ph. A., 1931.

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STATE SUPPORTED EDUCATION.

It appears that the attempts at local control of education and the practice of pharmacy proved ineffective. The AMERICAN PHARMACEUTICAL ASSOCIATION, therefore, urged pharmacists to form state associations to promote their individual interests and advance their professional standing. As a result, organization of State Associations closely followed the organization of the parent association and the organization of State Associations was followed by state legislation controlling the practice of Pharmacy.

The control of pharmacy by the state brought about a very significant change in pharmaceutical education. It appeared to be the attitude that inasmuch as the state required a certain amount of education for the practice of pharmacy, it was the duty of the state to provide such education. Consequently, we find that the establishment of departments and colleges of pharmacy in state-supported institutions closely followed state legislation.

The following tabulation, giving the date or organization of state associations, the date of legislation and the date when pharmaceutical education was first provided by the state, shows the close sequence of organization of state association, legislation and state education (2).

State.	Date of State Association.	Date of First Legislation.	State Pharmaceutical Education Provided.
Michigan	1874	1885	1887
Wisconsin	1880	1882	1883
Indiana	1882	1899	1884
Iowa	1880	1880	1885
Kansas	1880	1885	1885
Ohio	1879	1884	1885
South Dakota	1886	1890	1888
Minnesota	1883	1885	1892
Alabama	1881	1887	1895
Washington	1890	1891	1895
North Carolina	1880	1881	1896
Oregon	1890	1891	1901
Tennessee	1873	1893	1901
West Virginia	1881	1881	1901

Some of the older states in the East have not yet made provision for education in pharmacy, while some states have both state supported and independent schools of pharmacy.

LEGAL RECOGNITION OF EDUCATIONAL TRAINING.

About a century ago it was the custom to train men for the trades and professions on the basis of the apprenticeship system; *i. e.*, a young man who desired to become a pharmacist would enter an apprenticeship agreement with a practicing druggist. After a certain period of study and practical training under the guidance of the druggist he would secure a shop of his own and enter into the profession as a full-fledged pharmacist. This was essentially the general plan followed by the trades and professions. However, with the establishment of trade and professional schools, the apprenticeship system has been gradually modified in some instances and in others entirely displaced. At present we have a combination of educational training and apprenticeship as a prerequisite for practice in some of the trades and professions and in others educational training alone is required.

In this connection it is to be noted, *first*, that the tendency is toward the substitution of educational training for apprenticeship training, *i. e.*, with an increase in educational training there has been a decrease in apprenticeship training. *Second*, the tendency is toward an increase in educational requirements, *i. e.*, the time required to complete an educational course as a prerequisite for practicing a profession or trade is being increased, *e. g.*, the course in Pharmacy was recently increased from a two-year course to a three-year course. *Third*, that where educational training has entirely displaced apprenticeship there is a tendency also to eliminate the state examination.

What is the status of pharmaceutical education with respect to these tendencies? While we have had colleges of Pharmacy since the organization of the Philadelphia College of Pharmacy in 1821, it was not until about 1885 that educational training in this field began to receive legal recognition. Up to 1865 there were only seven colleges of Pharmacy in the United States, all of which were of the so-called independent type. During the period 1883 to 1901, departments of Pharmacy were organized in seventeen State Universities, and coincident with this innovation came the recognition of educational training as equivalent to apprenticeship. Hence, about 1915, it had become the general practice to recognize a year of college work as equivalent to a year of apprenticeship and, therefore, in a state that required four years of drug store experience, for instance, a young man could attend college two years and serve two years apprenticeship and thus become eligible to take the State Board examination. A few years later some states permitted a complete substitution of four years of college work for four years of drug store experience.

About 1920 a definite movement was inaugurated to make college graduation compulsory as a prerequisite for certification as a pharmacist. As a result of this movement, it was reported in April 1931, that 38 states (3) had adopted the college graduation requirement and similar legislation was then pending in other states.

Coincident with this movement, another was inaugurated to increase the college course from a minimum of two years to a minimum of three years. Consequently, in 1923 a resolution was formally adopted by the American Association of Colleges of Pharmacy providing that beginning with September 1925, a minimum three-year course would be required of all member schools or colleges. In this connection it might be mentioned also, that at the annual meeting of the American Association of Colleges of Pharmacy, held at Portland, Maine, in August 1928, a resolution was adopted providing that beginning with September 1932, a minimum four-year course would be required of all members. Many of the colleges have been offering an optional four-year course for several years and there are already eight schools requiring a minimum of four years.

PRESENT TENDENCIES.

Even now before the inauguration of the minimum four-year course, there are other educational propositions which have been advanced for consideration, namely (a) elimination of the drug-store experience requirement, (b) elimination of the State Board examination and (c) the five-year minimum undergraduate course.

There are now some states that permit a complete substitution of college graduation for drug store experience and others that permit a complete substitution of four years of college work for four years of drug store experience. The argument is advanced that if a prospective pharmacist is to be required to spend four years in college, he should be eligible to take the state examination upon graduation. At a joint session of the American Association of Colleges of Pharmacy and the National Association Boards of Pharmacy in 1930, a motion was adopted that the joint meeting approve "that at least twelve months' practical experience in a drug store under the supervision of a registered pharmacist be required for registration (4)."

There are some who believe that graduates of a four-year course in a state-supported college of pharmacy should be automatically certified as registered pharmacists just as graduates of state-supported law schools are now automatically admitted to the bar. Whether or not these propositions will eventually materialize is a question, but if examinations are not eliminated there will undoubtedly be a radical change in the character of the examination.

That the completion of the Junior College be the next prerequisite was suggested by Dean Wullig in a paper before this section in 1929 and from which I quote: "The five-year minimum undergraduate course is the next objective in pharmaceutical education. It should be the present requirement and would be if all pharmaceutical practitioners and educators valued their profession as the members of other professions, with which pharmacy is on a parity or higher, value theirs. Viewed from the standpoints of practical responsibility and public necessity, pharmacy in its true aspects, is not secondary to medicine and certainly not to dentistry, law, education, theology, business, engineering, etc., all of which in their respective best schools are already on the minimum five-year or higher basis. . . I venture to predict, on the basis of my faith and confidence in the wisdom and integrity and also in the sagacity and discernment of what is best for pharmacy, of the present and particularly of the coming generation of pharmacists, that the five-year course will become the accepted minimum very soon (5)."

Finally, it must not be forgotten that there are now four colleges of pharmacy that are offering graduate work leading to the degree of Doctor of Philosophy in Pharmacy and several that are offering work leading to the Master of Science degree. This is a significant and important advancement in pharmaceutical education and it is worthy of note that many of those who have been granted the Ph.D. degree have been recruited to the ranks of the teaching profession. This is a fortunate circumstance for it ought to result in higher teaching standards and continued progress in pharmaceutical education.

There are undoubtedly other factors that have influenced the progress of pharmaceutical education in this country but too much cannot be said in commendation of the efforts and influences of the various state and national professional associations. Many men have attributed their individual successes in this field to their memberships in such associations and very likely the power and influence of these associations has been due to this high quality of membership.

The pharmacist is now coming into his own and he is taking his place in the society of scholars. His profession is now regarded as a learned one. There is much of real inspiration in the record of progress in pharmaceutical education during the century just passed. Therefore, it is not for us to rest on the laurels of our predecessors, but it is for us to continue and even surpass, if possible, this record of progress.

BIBLIOGRAPHY.

- (1) E. Kremers, *Bibliographic Guide for Students of the History of Pharmacy*, page 49.
- (2) *Ibid.*, pages 52, 53, 54.
- (3) *JOUR. A. PH. A.*, 20 (1931), 373.
- (4) *Proceedings N. A. B. P.*, 1930, page 90.
- (5) *JOUR. A. PH. A.*, 19 (1930), 394.

R. A. Lyman asked the Chairman relative to the time when college graduation was made the prerequisite to licensing. It was stated that graduation was required in New York about 1906 or 1907 and in Pennsylvania about 1907.

The status of pharmaceutical education was further discussed and motion made to publish the address, this was unanimously carried.

Chairman Christensen announced the reading of papers. These were taken up in the following order.

"The Next Prerequisite," F. J. Wulling.

"A Course in Pharmaceutical Sundries and Sick Room Supplies," C. W. Ballard.

In discussing the paper by C. W. Ballard, A. B. Lemon stated that he was particularly interested in it, because he remembered well when the subject was prepared for the Charters' Report. He said that pharmacists should have information relative to all things sold in the store and therefore these subjects have a rightful place in the pharmacy curriculum.

The next paper on the program was "Five Years of Intense Testing," by A. B. Lemon.

D. B. R. Johnson inquired whether the author of the paper thought it wise to try the intelligence test on the faculty. In answer Mr. Lemon said that at the institution with which he is connected the subject had been taken up and this has now developed into a kind of clinic on teaching methods.

Dean Johnson said that an efficiency and intelligence test was employed at the University of Oklahoma, also, that the state employs a man who visits the high schools with a view of applying the intelligence test in a general way; it has been found that this had its value in stimulating the interest of the students.

Dean Dandreaux stated that he was interested because higher exactions meant that better students were admitted to pharmacy schools.

Dean Lyman said that the higher requirements encouraged a better class of students to enter pharmacy. He inquired of the author of the paper what effect it would have on the students to advise them of their standing as far as the intelligence test is concerned, especially the psychological effect.

Mr. Lemon replied that they did not inform the students unless it was requested. He did not feel that the plan had met with the success that he had hoped for.

Dean Raabe inquired relative to the effect on the members of the faculty. The author stated

that it was an easy matter to find instructors for the slow sections of the student body but it was more difficult to find the instructors for the more alert.

The next paper was on "Student Activities in the College of Pharmacy," by H. C. Biddle.

Other papers were read by title and in abstract, as follows:

"The Pharmacist in the Federal Civil Service," by Paul G. Thomas.

"Microbiology *vs.* Bacteriology," by Fanchon Hart.

The First Session of the Section on Education and Legislation was then adjourned.

SECOND SESSION.

The Second Session on Education and Legislation was called to order by Chairman B. V. Christensen, on July 30th, at 8:10 P.M.

The reading of papers was continued.

The first one on "California Junior Capper Kelly Bill," by W. Bruce Philip and Fayette W. Philip.

Mr. McCollum asked whether the manufacturing of new brands of preparations was started by this measure. The author answered that new brands may be started. He said that manufacturing firms were taking advantage of the bill.

Dean Dandreaux realized the difficulty of having such a measure passed, and that it was gratifying to note California has made a step forward.

New York Pharmaceutical Association has gone on record favoring a bill somewhat similar to the California measure.

J. W. Slocum inquired whether any druggists were members of the California Legislature. The author replied that there were druggists in the Legislature but there was no dissenting vote. No objection was offered by the chain stores and support was given by a number of trade organizations.

Mrs. Philip said that a number of years ago the druggists in California decided on several measures and made strong efforts to pass them, but there were objections then, and the legislators advised them that if the druggists would get together and decide on what they want that the Legislature would give favorable consideration—that is the secret of the recent success.

The next paper on the program was entitled "The California Anti-Discrimination Act Enacted in 1931," by W. Bruce Philip and Fayette H. Philip.

The next paper was entitled "Inspections," by John E. Kramer and read by C. Leonard O'Connell. (Printed in August JOURNAL, page 790.) The next paper entitled "Pharmaceutical Engineering," by Arthur E. Peterson and Robert J. Ruth, was read by A. B. Lemon. (It is printed in the September JOURNAL, pages 912-918.)

The next paper of the program was "Are Beginning Pharmacy Students up to the Standard?" C. B. Jordan and H. G. DeKay. This was illustrated by lantern slides showing averages for the years 1926 to 1927 up to and inclusive of 1929 and 1930.

A. B. Lemon stated that this paper was very much in line with the discussion at the first session of the section. He said that in certain colleges of arts and sciences they have been devoting at least a week to the orientation of their students. This has also been done in certain pharmacy schools. At Buffalo this has been found of value. He endorsed the tests.

Dean Raabe stated that evidently there is quite a difference in the high school training received in different states.

C. W. Ballard asked the author whether the effect on the student was satisfactory; that is did it stimulate him? He thought it had a good effect on some students while on others it had not.

The Committee on Nominations reported the names of officers as follows: *Chairman*, Rudolph H. Raabe; *Vice-Chairman*, Charles W. Ballard; *Secretary*, Charles J. Clayton; *Delegate to the House of Delegates*, B. V. Christensen. In due order the nominees were elected. Following this the Second Session of the Section on Education and Legislation was adjourned.
