

THE DEPARTMENT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

PRESIDENTIAL ADDRESS: SOME PROBLEMS IN PHARMACEUTICAL EDUCATION.*

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To-day as the American Association of Colleges of Pharmacy convenes for its twenty-seventh annual meeting, its position and influence as one of the dominant forces in pharmaceutical education in the United States is unquestioned. Since its organization in Richmond in May 1900, many of the ideals of its founders have been slowly but steadily achieved. Although much has been accomplished, there is still much to be done. Gathered together as we are in this historic city in the midst of the celebration of a great historic event, the spirit of the Sesqui-Centennial of the Signing of the Declaration of the Independence of the United States is everywhere present. As you know, this great international exposition "endeavors to visualize the spiritual, scientific, economic, artistic and industrial progress that has been made in America and in the world during the fifty years that have elapsed since the time in 1876 when the nations of the world



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joined in celebrating the Centennial of our country's independence." Hence, it would seem appropriate upon this occasion to review briefly some of the important accomplishments of the Association and to discuss some of the educational tendencies which in recent years have become quite distinct.

According to Rudd, thirty years were required to organize this Association, for he reports that in 1870 a conference of delegates from various colleges of pharmacy met in Baltimore for the purpose of discussing uniform requirements for graduation. It appears that this group continued to meet quite regularly until 1886. During the next fourteen years there was no concerted effort in this country for the betterment of pharmaceutical education. However, progressive educators were restive, and, when in 1900 the call was issued for the Richmond meeting, delegates from twenty-one institutions representative of all sections of the country responded. Although the minutes of the organization meeting of the American Conference of Pharmaceutical Faculties are not very extensive, it is evident that all in attendance were eager in ways not at that time very clear to them "to promote the interests of pharmaceutical education." As is commonly the case with associations such as this, considerable time was required to perfect the organization and to allow the educational ideals of the delegates to crystallize some of which as

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expressed at that time are still to be attained. Thus, Remington in his presidential address in this city twenty-five years ago said, "One of the most important questions of to-day is to secure from the legislature of the various States the recognition of the possession of the college diploma before the candidate is permitted to take the State examination." Without doubt the discussion of such splendid educational goals as this did much to stimulate the organization of the National Association of Boards of Pharmacy in 1904. Since that year those charged with the educational preparation of prospective pharmacists and those responsible for the establishing and the maintaining of the legal requirements for the practice of the profession in the various States have met in annual meetings, and in recent years in joint sessions which have been mutually helpful and extremely beneficial to the advancement of pharmacy as a whole.

One of the first problems attacked by the American Conference of Pharmaceutical Faculties, as this organization was known until last year, was that concerning preliminary education, that is, the admission requirements to the member colleges. The minimum admission requirements were so low in 1900—students possessing a grammar-school preparation were freely admitted to the study of pharmacy—that twenty-three years had to elapse before this organization could insist that students desiring a collegiate training in pharmacy must possess a preliminary education substantially equivalent to that which had long been demanded for admission to our standard colleges of Liberal Arts. The struggle to attain this goal was all too long. The deterrent effect upon the progress and the status of pharmacy of the educational shortsightedness of those who so long opposed this advance can not be overestimated. It is to be keenly regretted that the great commonwealth, which in 1905 enacted the first prerequisite law, was the only State represented in the Association in 1923 to insist that civilization and pharmacy had not advanced sufficiently in twenty years to warrant the making of graduation from a high school an absolute admission requirement to its colleges of pharmacy. We all rejoice that the time is near at hand when the various educational requirements of our Association will also be operative in the great Empire State.

Another problem early discussed at the annual meetings was the curriculum. Indeed, there should ever be discussion of this subject, for education should always be in a state of flux. At first the standardization of the content of the curriculum was the subject of consideration. However, as absolute uniformity in curricular matters in the member colleges is not obtainable or even desirable, standardization has been partially effected through the Syllabus and the adoption of a minimum educational content as expressed in teaching hours. This was done first with respect to the course of instruction generally given at the time the Association was organized in 1900, namely, a course of two-years' duration. This short course, although much too short to train adequately men and women for the responsibilities of present-day pharmacists, was tolerated as the minimum college course until only a year ago. In other words, it required twenty-five years to advance the minimum college course from two to three years. May the next advance be accomplished in much less time!

From the beginning the Association has given much time and thought to the discussion of the degrees to be conferred upon the completion of the various courses offered by the member colleges. Last year at the Des Moines meeting this dis-

cussion was brought to an end, temporarily at least, by the adoption of the by-law whereby "the degree of Graduate in Pharmacy shall be given for the minimum three-year course of 2250 hours." I believe that the cause of pharmacy would have been much better served had the conferring of the degree of Graduate in Pharmacy been discontinued with the passing of the two-year course. It appears, however, that a considerable number of the delegates to the annual meetings have not had a clear conception of what is to be accomplished educationally by the longer course and interpreted the longer requirement for graduation to mean merely the devoting of more hours to the same subjects taught in the shorter course in the hope that the instruction might be thus more intensive and the product upon graduation better prepared for the profession. Naturally, with this conception prevalent, the urge to continue the old degree for the lengthened course was in some quarters rather strong. To my mind, as the result of our action last year, graduates of those colleges electing to confer the degree of Graduate in Pharmacy upon the completion of the three-year course will be given degrees that are not fully distinctive and characteristic, for pharmacists in particular and the educational world in general have come to regard the degree of Graduate in Pharmacy as representing two years of college work. Inasmuch as the degree of Pharmaceutical Chemist has long been conferred upon the completion of a three-year course and consequently has been so regarded in academic circles, it is to be hoped sincerely that the member colleges, which have just introduced the three-year course, will provide instruction well above the minimum requirement of 2250 hours and confer the degree long recognized as representing three years of professional training.

The building of strong three-year and four-year curricula will be assisted greatly by the splendid, exhaustive and discriminating report of Dr. W. W. Charters which is now in press. While this study, conducted under the auspices of the Commonwealth Fund, has considered but one phase of the profession, namely, the neighborhood pharmacist, it is epoch-making for American pharmacy as a whole. The pharmacists and the citizens of the United States are under great obligations to the officers of the Commonwealth Fund and to the director of the investigation, Dr. Charters. As an impartial but seasoned observer and investigator in other fields, Dr. Charter brought to bear upon this study ripe experience and profound scholarship. As you all know, he was most ably assisted by an excellent group of men from this organization who in time and thought gave most generously and with a splendid devotion to their profession. Therefore, the Charters' report represents the best thought of the present day concerning the personal qualifications, academic preparation, activities and duties of the American community pharmacist. These are so varied and important to the community and to public health in general and involve such a broad and intimate knowledge of scientific principles and methods that it is not surprising that Dr. Charters should conclude by saying, "After a careful study of the pharmacy curriculum, with an open mind for a period extending over more than two years, the director of the study is definitely convinced that pharmacy is a profession rather than a trade. The materials that the pharmacist deals with are in many cases so dangerous in their effects upon physical well being, and the problems that face him in the handling of these materials, and in his contacts with the public, require so much intelligence, if they are properly performed, that it is absolutely essential for him

to have a rather wide and intimate acquaintance with the fundamental sciences upon which the art depends; and since the distinction between the trade and the profession lies essentially in the fact that the trade needs to know only the methods in order to be proficient, while the profession needs to know the principles upon which the methods depend, it follows that pharmacy is a profession rather than a trade."

This cogent and decisive statement by Charters may well be considered as one of the most important pronouncements concerning the status and dignity of pharmacy as a profession that has been made in the last quarter of a century. It should hearten those who have so courageously fought the long and at times discouraging battle for higher standards in pharmaceutical education. It truly marks the beginning of a new era educationally and professionally. It is to be hoped sincerely that Dr. Charters may be able to continue his studies relating to a model curriculum based upon the wealth of material he has accumulated. This Association should bring its influence to bear in all ways which are deemed wise to make this further study possible.

Another great advance since the organization of the Association is that relating to the legal requirements for the practice of pharmacy in the various States. As already stated the National Association of Boards of Pharmacy was organized in 1904. Up to that time there was no united effort to improve materially conditions in regard to the educational requirements for registration. Experience was the dominant factor. However, during the last two decades, civilization and education have changed, indeed have advanced, so much that professional education has become the chief essential for registration, and in fact, in some States is the only requirement. As C. W. Johnson said two years ago, "We have seen the apprentice system gradually replaced by systematic training in colleges."

A year ago, Day, who for nearly ten years served most efficiently as the Chairman of the Committee on the Distribution of Information Concerning Prerequisite Legislation, reported that twenty-seven States had enacted prerequisite laws. It was the opinion of this committee that the movement for higher legal requirements had advanced to such a stage that the National Association of Boards of Pharmacy is in a better position to urge the enactment of prerequisite legislation than is this Association. It was recommended that this committee be discontinued, and this was done. However, this action does not mean that pharmaceutical educators in about twenty States should be inactive and depend entirely upon the efforts of the State Boards and of the National Association. Progress in these matters can only be made by concerted effort and usually the educator is expected to take the initiative. As one who has only recently had some experience along this line, let me urge those here from States where prerequisite laws have failed to pass to renew their efforts and those from States where such laws have not yet been considered to assume active leadership. This Association should combine with the National Association of Boards of Pharmacy, not necessarily officially, in an aggressive campaign in the matter of the educational requirement for licensure with a slogan something like this: "The enactment of prerequisite legislation in every State in the Union by 1930."

It is obvious that, due to the impetus already obtained by this movement favorable action by legislatures is now more readily secured than was the case

only a few years ago. With the advanced requirements for admission and for graduation now well established in the member colleges of the Association, special effort should be made to have the legal requirements placed on a correspondingly higher plane. In this connection it is interesting to point out that during the current year the Association had members in thirty-two States, aside from the District of Columbia, the Philippines and Porto Rico. However, only two-thirds of the States so represented insist, or will soon insist, upon attendance at an accredited college of pharmacy as a prerequisite for licensure. In other words the Association has member colleges in eleven States without adequate educational requirements for the practice of pharmacy on the statute books. I believe that it would be wise for the Association to so amend its by-laws relating to the qualifications for membership that in the future only applications from colleges in States with adequate prerequisite legislation will be considered. I appreciate that in many States apparently insurmountable difficulties must be overcome to secure such legislation, but with this suggested limitation placed upon our membership the arguments of the educators for improved conditions in such States would, it seems to me, be greatly strengthened. For reasons which I do not need to enumerate, such an action by the Association would tend to bring the practicing pharmacists, especially as represented by State associations, the educators and the Board members of those States closer together, and to a realization of the fact that materially higher educational standards are now in force in a majority of our States. In essence, the Association could then insist upon some guarantee, as evidenced by State legislation, that the educational ideals of its new members are substantially those of the national organization. From the foregoing it is quite obvious that in spite of the very material progress which has been made, we must still say as did Remington twenty-five years ago, that prerequisite legislation is "one of the most important questions of to-day."

Earlier in this address I referred to the statement made by Dr. Charters that pharmacy is without question a profession, as being one of the most important pronouncements concerning the status and dignity of pharmacy that has been made in the last quarter of a century. A second extremely important finding of the Charters' investigation is the conclusion reached relative to the time as expressed in years that should be devoted to the collegiate training of students of pharmacy so that they may be adequately prepared to serve the profession and the community as set forth in the report. Charters says, "No attempt has been made to estimate accurately the length of time it will take to complete a college course in pharmacy. Yet, if the student is to receive a cultural training and adequate instruction in both commercial and professional pharmacy, the length of time would probably not fall far short of four years."

I am confident that everyone who has been privileged to examine the Charters report has been impressed with the wide range of the activities of the neighborhood pharmacist and the vast amount of scientific and commercial information he must have at his command. The pharmacist of the Charters' report is a man of real significance and influence. He is given an extremely important place in the circle of professional men. With the rapidly increasing interest in health matters in this country, the scientific demands upon the pharmacist will tend to increase rather than to decrease. Hence, with the status of pharmacy as a profession established

and the minimum time necessary to train adequately the modern pharmacist conservatively placed at four years, it behooves this Association to face the problem of so organizing its curricula as to meet the standards set forth in the Charters' report.

Minimum educational requirements have been advanced rapidly in recent years, but it is obvious that the splendid progress already achieved is not sufficient to place pharmacy in the commanding position that Charters visualizes for it. In rather plain language he says that high-school graduation and a three-year college course are not sufficient. This was seen by those educators who thirty years ago organized four-year courses. The success of the students who have been wise enough to pursue such longer courses, at a time when the conventional requirements were extremely low, has fully justified the action of those far-sighted educators who endeavored to furnish the profession with superiorly trained men.

While a considerable number of the member colleges have for some time been offering four-year courses leading to the degree of Bachelor of Science in Pharmacy, the honor of being the first institution to make this longer course the minimum requirement for graduation belongs to Ohio State University where it became effective with the freshman class last fall. By taking this action Ohio State University has rendered a great service to pharmaceutical education. Following the splendid example thus set is the action recently taken by the University of Minnesota where, beginning with the Fall of 1927, all students entering upon the study of pharmacy with a view to graduation must complete the four-year course. In other words, the colleges of pharmacy of the State universities of Ohio and Minnesota are doing real pioneer work and have set an educational standard which the Association must endeavor to reach in the near future.

There has already been much discussion as to how long it will be before the Association must seriously consider the question of a four-year minimum requirement for graduation. Thus in 1923 before the three-year requirement became effective, in his presidential address LaWall said, "The next logical step will be the inauguration of a minimum four-year full-time course in 1930, leading to the bachelor's degree." To which he added, "I do not make any recommendation concerning this step for I feel that within a short time it will be looked upon as so obvious and necessary that no opposition will be found." In the three years since LaWall made the above statements, two institutions have voluntarily adopted this higher requirement and the Charters' report, which at that time was scarcely begun, clearly points to the need of more extensive college training than is now generally furnished.

While I do not wish to recommend that the Association consider at this meeting the fixing of a definite date when the four-year course shall be made the minimum requirement for graduation, I share the opinion of Dye, Wulling, LaWall and others that it is only a matter of a few years when such action must be taken. Accordingly I believe it would be wise to authorize at this meeting the appointment of a special committee to study this question. Such a committee should have in mind not only the splendid ideals set up by Charters and the question of not permitting prerequisite legislation to lag too far behind our educational requirements, but also all of the other phases of the problem which in some parts of the country are very perplexing. This committee should be prepared to submit

definite recommendations at the next annual meeting. According to Section 7 of Article VI of the by-laws relating to Qualifications for Membership, action on such recommendations could not be taken until the annual meeting in 1928. That is, two years would be given to the study of this question as to when the four-year course should be made the minimum requirement for graduation.

It might be well to point out at this time that the educational preparation of pharmacists in this country is materially lower than in some of the countries of Europe, particularly in Germany and Holland. In those countries a preliminary education equivalent to what is commonly regarded as the completion of two years in an American college is required for admission to the study of pharmacy at the university. Furthermore, the same preliminary education is demanded for pharmacy as for the study of medicine and dentistry. It is very gratifying to note that in Germany, for example, the three health professions—medicine, dentistry and pharmacy—are all on the same basis as far as the requirements for admission to the study of these professions are concerned. At present in Germany the usual training at the university extends over a period of but four semesters or two college years. However, there is a very strong sentiment as expressed by Geheimrat H. Thoms of the Pharmazeutisches Institut of the University of Berlin, in favor of extending the university training to three years so as to be able to introduce among other courses instruction in prescription practice and manufacturing pharmacy, which subjects are not now taught. I do not wish to be understood that I consider our conditions to be the same as those abroad and that therefore European requirements should be introduced. The point I wish to make is that in some of the older countries of Europe an education substantially equivalent to four years of college training has been long demanded of prospective pharmacists and that in the very near future this requirement will undoubtedly be advanced to five years.

This passing reference to pharmaceutical education in Europe is made primarily for the purpose of emphasizing the fact that in those countries where pharmacy stands high professionally, materially higher educational standards are insisted upon than are now in force in the United States. That American dentistry has assumed the importance of a special branch of medicine and "is now on a high plane, in striking contrast to the disrepute in which it once was held," as expressed by one of the speakers at the International Dental Congress recently held in this city, is due in large measure to the great advance made in dental education in the last two decades. Similarly, as one of the direct results of the present higher standards in pharmaceutical education, a marked change for the better in the attitude of the physician and dentist toward the pharmacist is in some centers already noticeable.

Closely related to the question of better trained pharmacists is that of better prepared teachers in our colleges of pharmacy. Two years ago C. W. Johnson discussed briefly in his presidential address the need of well-prepared teachers, and more recently in a very timely article in the June number of the *JOURNAL OF THE AMERICAN PHARMACEUTICAL ASSOCIATION* entitled, "What Should a Pharmacy College Professor Know?" LaWall also touches upon certain phases of the subject. The lengthening of the minimum college instruction to three years will now permit many of our colleges to expand some of the courses already given and to introduce new and advanced subjects. Furthermore, the Charters' report clearly indicates

that the old curricula should be enriched. These new and longer curricula make it necessary for some of our colleges to enlarge materially their staffs of instruction. In adding new members the administrative officers should exercise the greatest possible care in the selection of thoroughly trained men. The fact that pharmaceutical education is now entering upon a new era should certainly not be overlooked in this respect.

The prospective teacher of pharmacy should be as well prepared as the university teacher of chemistry, physics, or mathematics. As is well known, in our better institutions of higher education, a recent graduate with the bachelor's degree, even though he possess exceptional ability, is rarely entrusted with teaching duties. In some cases he may be appointed to an assistantship in laboratory courses. Instructors giving actual class-room work are commonly required to have completed at least one year of graduate study. That is, the possession of the master's degree is usually insisted upon for such appointments. In fact, in some institutions, the doctorate from a reputable graduate school is now quite generally made a prerequisite if not for the lower teaching ranks, certainly for appointment or promotion to the higher ones. My observations fully confirm those of C. W. Johnson, who says: "Young men who show ability for teaching will train themselves properly for it if we do our duty in guiding them." The urge for advanced preparation is already present, especially among many of the younger teachers in our colleges of pharmacy. This is clearly shown by the increasing number of them in attendance upon the summer sessions of our universities giving instruction in pharmacy and allied subjects. Thus, for example, this summer at the University which I represent, in a total of thirty-four advanced students enrolled in the College of Pharmacy, sixteen or practically fifty per cent of them possessed some degree in pharmacy below that of the Bachelor of Science in Pharmacy. Also, the number of teachers in colleges of pharmacy in various parts of the country who were at the same time registered in the Graduate School, admission to which is granted only to those who hold a bachelor's degree which can be evaluated as the substantial equivalent of the arts degree, was surprisingly large. I say surprisingly large for I have been most intimately identified with the administration of summer instruction since 1908 and have watched with great satisfaction the increased interest in the subjects of the pharmacy curricula which has been quite evident in recent years.

I am fully aware of the fact that academic training is not the only qualification to be considered in selecting men for teaching positions. However, it is common practice in filling important university teaching positions, to place academic training and scholarly achievement among the most important qualifications which are to be met before candidates are given further consideration. Indeed, in at least one of our States, the possession of the master's degree has already been made a prerequisite for appointment to high-school positions, and this advanced requirement has given the secondary schools of that State a very high standing. Surely the time has come when the Association should give serious thought to the question of insisting that the staffs of instruction in our member colleges be placed on as high a plane as possible. Even a cursory examination of the faculty lists of many of the colleges represented in the Association will reveal the fact that a comparatively large percentage of the men engaged in the training of pharmacists

have had little or no academic experience beyond the bachelor's degree, and that the number with the highest scholastic training, such as is usually demanded in other educational fields, is exceptionally small. To my mind these facts explain, to some extent at least, why it has required such a long time to advance the educational standards of the Association.

It is no longer necessary for our young men and women seeking a career as college teachers to go abroad to obtain adequate training as was the case twenty-five or thirty years ago. In the last two decades strong graduate schools have been developed through the United States with excellent teaching, laboratory and library facilities. Then too, the means for professional betterment of those already on the teaching staffs have been greatly improved through the granting of leaves of absence with full or partial salary, through the remarkable development of summer study, and through the introduction of extension and week-end courses conducted by our great universities. With all these factors in mind, I desire to urge the administrative officers of our colleges to use every possible means to improve the academic standing of their teaching staffs, and to demand of all new appointees the highest possible preparation. Some of the many extra-curricula activities in which our teachers should engage are set forth by LaWall in the paper already mentioned.

The training of approximately eleven thousand students in the colleges of pharmacy of the United States is to-day a task of much greater responsibility than it would have been a decade ago, for the students now entering pharmacy have, due to their better preparation, a much broader vision and a deeper insight into the problems confronting them, than those of the generation now completing the old requirements. Then, also, the fact that a splendid professional consciousness has been aroused in the educator and practicing pharmacist through the Commonwealth study, must not be overlooked. Furthermore, the effective and speedy attaining of the high ideals of service established for the pharmacist in that report is primarily the task of the educator. In speaking of the change that characterizes the advance of a trade to a profession, Herbert Hoover recently said: "The distinction which marks the term profession, in law, engineering and medicine, is the incorporation into the daily task of a responsibility to the community and insistence upon a high sense of service."

As said earlier, much has already been accomplished since the organization of the Association twenty-six years ago, but from our discussion to-day of a few of the current problems in pharmaceutical education, it is quite obvious that much still remains to be done.

NOMINEES OF THE AMERICAN PHARMACEUTICAL ASSOCIATION.

The following were nominated for the offices of the AMERICAN PHARMACEUTICAL ASSOCIATION: For *President*: John Culley, Utah; Charles W. Johnson, Washington; W. Bruce Philip, California.

For *First Vice-President*: W. H. Glover, Massachusetts; Ambrose Hunsberger, Pennsylvania; Edward Spease, Ohio.

For *Second Vice-President*: Joseph Jacobs,

Georgia; W. P. Porterfield, North Dakota; Henry Ruenzel, Wisconsin.

For *Members of the Council*: H. V. Army, New York; J. G. Beard, North Carolina; George M. Beringer, New Jersey; T. J. Bradley, Massachusetts; Charles J. Clayton, Colorado; Robert P. Fischelis, New Jersey; William D. Jones, Florida; B. M. Keene, Indiana; L. L. Walton, Pennsylvania.

For Officers of the ASSOCIATION, the House of Delegates and the Sections, see the Roster.