

Section on Education and Legislation

Papers Presented at the Fifty-Ninth Convention

ARE THE PRESENT DAY NEEDS OF THE PRACTICAL PHARMACIST MET BY THE PHARMACEUTICAL CURRICULUM?

L. E. SAYRE.

An individual engaged in the manufacture and vending of drugs can only serve efficiently the social body of which he is an organic part by reason of careful training to such service. If, like the poet, the pharmacist needs to be born to his task, it is equally requisite that his innate capacities be thoroughly and systematically perfected. The nature of his profession is such that failure to perform his duty involves something more than the mere sacrifice of his own success; it involves injury to the well-being and health or after life of those whom he is intended to serve.

Yet, while it is a matter of the utmost importance that the pharmacist be fully equipped for his vocation, there is another consideration calling for almost equal emphasis; namely, that the pharmaceutical student be not obliged to spend his time in any activity which does not really prepare, or in any activity offering really valuable preparation, longer than necessary. While he is learning, he is on expense; and he feels that his time should be worth something to him. Moreover, those branches which have little bearing on his future work may have a tendency to obscure those possessing real value. Hence the importance of securing a pharmaceutical curriculum that, while it meets the present day needs of the practical pharmacist, does so at a minimum expenditure of time and money.

Three questions at once present themselves for consideration. Are we going to plan the curriculum of the pharmaceutical student with reference to the progress we would like to see his profession make, or shall we base it upon the need of the public for protection against incompetent servants; or shall we strive merely to make of him an accurate and reliable business man?

The importance of providing for the advancement of pharmacy cannot be overestimated. Lack of attention to this matter on the part of those most deeply concerned has already permitted a lamentable decline in the profession. The pharmacy of today offers greater complications than that of fifty years ago, since it takes more of a chemist to detect error than to manufacture; and inadequate preparation for the work invites imposition. Moreover, as methods of drugless healing, legitimate and otherwise, flourish, the dependence of therapy upon pharmacy diminishes; hence the druggist whose early training has given him a mental equipment of the mere facts of his trade must supplement his stock of goods with notions and stationery in order to make a living. Yet the retrogression we have

seen will be exceeded by that we may see if Schools of Pharmacy do not arouse themselves to the needs of the future. When graduation from a pharmaceutical course marks a real commencement in a career progressive enough to keep pace with the standard set by the other professions, the pharmacist does not enter avenues of trade, but instead takes urinalysis, microscopy, and other laboratory burdens off the shoulders of the physician. Thus, and thus only, will pharmacy become in the fullest measure what it has been and should be—an honored and honorable profession.

Many of the best schools of pharmacy already recognize this need. Courses are gradually lengthening out so as to include more of both basic and special sciences; and the training is in all ways more thorough. Looking over the curriculum of the various schools, we find prominent a tendency toward building up courses of study with direct reference to the advancement of pharmacy as a profession.

Yet there is danger in too extreme an adherence to this point of view. There is very possibly a tendency on the part of some of the best colleges to become too scientific. We must not with gazing at stars lose our consciousness of present day needs. The public demands efficient service *now*; and the facility with which this demand is met determines broadly the whole welfare of the future. Thus preparation for public service is in the highest degree important; and between it and preparation for scientific progress there must be active coordination. We can dispense with neither.

The public is peculiarly at the mercy of the decisions of the pharmacist, be he wise or unwise. The degree of responsibility for common welfare which the pharmacist must carry is correspondingly great; and for such responsibility, the curriculum of training schools should be designed to fit him. Heedlessness in mere details may be fraught with grave consequences. I quote from a letter by Wilhelm Bodemann to the *Pacific Pharmacist* regarding an experience with graduates of pharmaceutical schools:

“Three happened to come at the same time, just as I took a prescription calling for ten grammes chloral hydrate in two ounces of vehicle. Dose, a teaspoonful. I asked them to put it up for me. The one with the blue ribbon parchment asked me if I had a solution of bichloride of mercury for dispensing purposes—that’s the way he was going to put this recipe calling for chloral hydrate. I asked the three of them how much of a dose they would have of the chloral hydrate. They all *guessed* it wrong; none could *figure* it.”

We scarcely need to comment on the inability of these young men, from whatever schools they were graduated, to protect the public from its own ignorances. The curricula of pharmaceutical schools should be so planned as to admit of an abundance of actual practical experience in making up prescriptions.

Thus we note the importance of both of the first two questions in making up a pharmaceutical curriculum. The third remains to be considered. Should business training be included in the course of study? Unquestionably, since modern practical pharmacists are more often concerned with the purchasing and vending of pharmaceutical supplies than with manufacturing them, students must be in some wise prepared for this phase of their work. Business training is a factor

important enough to make or mar future success. To give it precedence over scientific training would be a grave mistake; yet, if Schools of Pharmacy are to graduate students really prepared to enter upon their vocation, there must be included in the course of study something of practical business training.

While this paper was under contemplation, the author sent out a number of circular letters to members of the laity and heads of Schools of Pharmacy inviting answers, with suggestions, to the three questions we have been considering; namely: Shall the present needs of pharmaceutical education be viewed from the standpoint of pharmaceutical science and progress; or, shall it be viewed from the standpoint of the public which is to be protected from incompetency; or, shall we admit the business point of view? The responses were enthusiastic and to the point. One writer says:

"The present needs of pharmaceutical education should be viewed, according to my judgment, from both the standpoints covered by your first and second questions, with the emphasis decidedly upon the first."

Another writes:

"I fail to see how a comprehensive course of pharmaceutical education can or ought to be viewed other than from the standpoint of pharmaceutical science and progress and at the same time also from the standpoint of the public, aiming to protect it against incompetency. I realize the difficulty of a nice balance of both of these requirements. Both are essential, yet I sometimes feel that the tendency of the pharmaceutical pedagogues is toward the idealistic rather than the practical. While these high ideals as to the necessity of pharmaceutical progress along the lines of the sciences, is to be encouraged, I have seen a great deal that makes me believe that much is so top-heavy that it becomes impractical, and fails from its impracticability to fit the student to properly discharge his duty as a protector of the public."

The further need of business training was touched by a number of these correspondents. One of them says:

"Pharmaceutical education cannot ignore the proper business development of the student, so as to equip him with the knowledge of business methods that will aid him in the earning of a livelihood. The sole aim of pharmaceutical education should never to be made the teaching of business methods or the development of trade traits; yet, a proper acquaintance with the methods of business is certainly essential."

Another writes:

"It seems to me that if practicing pharmacists cannot supply in their own establishments the business training that they require their clerks to possess, the latter should be required to attend a business college. Yet even upon completion of a business course the young men could not possibly be qualified in every sense to carry on the work of the average drug store without considerable practical experience in the drug store and drug store laboratory. The pharmacists who demand fully trained assistants without in any way assisting in their training are, in my opinion, unreasonable."

In addition to the latter citation we need only reiterate that business training should be an addition to, not a subtraction from the course. The best interests of

the public will be served when our professional pharmacist has business ability enough to make the profession sufficiently lucrative. And, too, the profession will be best served as it will attract virile and progressive men. Indeed, the need of lengthening the course for a number of other reasons should be recognized. Even the two-year man can scarcely do justice to the fundamentals and still have time to master urine and stomach analyses, and other subjects looking toward that advancement of the profession that we deem desirable. Ample time should be given to chemical analysis, research, and theoretical and practical pharmacy.

So far, we have been considering only those pharmaceutical schools whose curricula are shaped by necessities of the present and ideals for the future. We, unfortunately, have in large numbers, however, a class of schools which exist solely for the purpose of preying upon a gullible public. In six months, or even less time, they graduate students with just a sufficient smattering of the essentials to enable them to get past pharmaceutical boards too much interested in the lucrative side of pharmacy. The information possessed by such candidates is not thoroughly enough grounded to enable them to adequately or safely serve the public. Yet they are permitted to compete with legitimate men to the injury of the profession. I have in mind two such instances. In the one case a young man too poor to stay in school over twenty weeks "passed the board." He returned in a year as proprietor of two stores, having been helped to them by a capitalist relative. The father of the other bought him a drug store after the completion of an *eight weeks* course. He wanted a correspondence course from us to help over his difficulties. That such men become competitors is not the most serious consideration, is evident.

Even if such courses could really give the fundamental knowledge requisite in any adequate way, they must absolutely lack provision for the practical experience in handling drugs that makes an essential part of the training of a good pharmacist. The student has no time to acquire familiarity with the very tools of his trade.

The better class of pharmacists owe it both to themselves and to the public to resist the encroachments of this class of schools and their graduates in every possible way. Something can be effected through legislation. Pharmaceutical requirements may be raised and schools of pharmacy thus obliged to lengthen their period of training. As an example of what has been accomplished in the West we may cite North Dakota, where the applicant for registration is required to have been in attendance at a school of pharmacy at least one year and to have had three years' experience in a drug store in 1914, after 1915 not less than two years' attendance at a college and two years' apprenticeship in a drug store.

Notwithstanding these exceptions, however, in looking over the curricula of the syllabus and the various accredited schools, we are inclined to believe that the needs of the practical pharmacists of today are quite fully met; and taking into consideration the demand of the public for protection, on the one hand, and on the other, advancement of the profession from both a practical and a scientific viewpoint, we feel that the present courses as outlined by various teaching colleges are not too extensive and make no greater demands of the student in his preparation for future service than is at the present time required of the practical pharmacist, and that, when diplomacy has successfully paved the way through the

mire of financial and other considerations, the customary over-burdened two-year course should be extended by at least one year.

It is a matter of encouragement to educators that Boards of Pharmacy and State Associations are taking more interest in pharmaceutical curricula. The graduation prerequisite question has been taken up in at least three legislatures—California, Illinois and Washington. While their legislatures have failed to give adequate support to such a measure, the failure has not been due to lack of support of earnest, thoughtful and, I may say, progressive pharmacists. In the State of Washington, we are told, the Board of Pharmacy was in favor of graduation prerequisite requirement but the Association was lukewarm. When State Associations and Boards of Pharmacy work together with the teaching institutions insisting upon a properly balanced curriculum in our colleges, keeping in mind the three elements referred to in this paper, the present day needs of pharmacy are more surely and satisfactorily to be met, than they can possibly be when these factors of education are for any reason not properly co-operative and co-related.

THE MAKERS OF MEDICINES.

The revolution which has taken place in the making of medicines during the past half century was made most manifest by a gathering held at the Waldorf-Astoria Hotel on February 6 and 7. Here were gathered some forty makers of medicine, representing a capital of probably fifty million dollars, whose annual output probably approximates seventy-five million dollars a year in value. Never before in the history of medicine has there been such an aggregation of vast interests affecting the makers of medicines gathered in one small room. Fifty years ago such a gathering would have been impossible. Then the individual pharmacist made his own fluidextracts, his tinctures, his pills, and even his plasters. Then there were no biological products used in medicine except vaccine virus. Serums were undreamt of. Galenical preparations made direct from the drug by the individual retailer had not been replaced to the extent they now have been by alkaloids and active principles extracted by chemical manufacturers. Then every pharmacist was a manufacturer, even if he did no more than make tinctures and pills. Now the pneumatic pill machine makes and coats with gelatin a million pills in less time than it took the oldtime pharmacist to make a hundred. And it does the work on the whole better. The workman who makes quinine pills in the modern laboratory does nothing else. He becomes a highly specialized expert. The product is uniform and niceties of composition and manipulation are worked out in a way which could only be done under the modern method of specialization.

—*American Druggist.*