

# SECTION ON EDUCATION AND LEGISLATION

## AMERICAN PHARMACY.\*

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Every true student of nature believes in a Divine Providence and in his precepts. Human nature as well as mundane have not changed since creation. Virtue and vice, with all the passions engendered by environment, remain as in the beginning and will remain the same to time everlasting. Natural forces determine the essential facts of history. Men of vision may show the way in which these forces are to express themselves, "As you sow the seed, so will you reap."

Let us keep this truism in mind and review our past history. The factors that enter into our discussion are many and are embodied in the great law of nature, the division of labor. Pharmacy and its followers, the colleges, law, associations, boards of pharmacy, the manufacturer, our national standard and the public, all contribute to this national institution, American Pharmacy.

Born and raised in an atmosphere of pharmaceutical endeavor with thirty odd years of experience in the business combined with my modest but sincere efforts in pharmaceutic training justify the privilege of expressing an opinion upon a subject which is touching the vanity of the American pharmacist.

First of all, let us not blind ourselves to facts, let us be honest with ourselves, the public and the Government. Claims of intellectual superiority for our calling avail us nothing. Efficiency must be proven. Can we do so? Are we entitled to recognition in the management of governmental affairs or not? Can we give force to the will, efficiency, courage and capacity to far-reaching plans?

What took place in Cincinnati seventy-five years ago, repeats itself in other centers of activity. Local activity becomes regional and finally national in character. I have been in touch with pharmacy since April 14, 1865, and have been a participant in the changes that have taken place.

Pharmaceutic history reveals the fact that in the early days pharmacy and medicine were under the influence of English thought and customs. It was but natural that such should be the case. Up to the Civil War, there was but little deviation from English thought, customs and practices. German influence was just beginning to manifest itself but became submerged by the natural forces produced as a result of the Civil War. After the Civil War, German influence became a strong factor both in medicine and pharmacy. In the early 70's it was the predominating influence and held its position until the early 80's, when American thought, customs and practices became the natural forces for the essentials of American pharmaceutical history.

### EARLY EDUCATION STATUS.

Prior to the Civil War and during the reconstruction period, pharmacy and medicine were under control of truly professional men, broadly educated, not only

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in their chosen calling but also in science generally, including history, language and literature. Their education represented foreign thought directly and remained under foreign influence. American individuality had not as yet materialized, notwithstanding the fact that the opportunities for the interchange of thought were extremely limited up to this time. The American "melting pot" had as yet not evolved fixed American institutions which form national characteristics. We fail to appreciate this fact, the then existing conditions, and wonder why these pioneers in American pharmacy and medicine held so tenaciously to foreign customs and practices. We wonder why these men kept in touch with European thought and progress and yet were put to their own resourcefulness under environments so vastly different from European. At that time it was the best thought and they recognized the value of the old teachings by the mere force of isolated environment. They builded thereon for a better and higher humanity.

One need but read their history and gracefully acknowledge them as true heroes of American medical and pharmaceutical progress. They fully recognized, as men of vision, their children's shortcomings in the opportunities in acquiring education in the broad sense, such as they had enjoyed upon foreign soil. The American centers where such might be acquired were few and beyond the financial reach of most of them. As a natural sequence, we find the inauguration of a kind of "round table education" involving all branches of the then existing sciences, supported by foreign literature received during very uncertain periods of time. The theoretical education thus imparted, non-compulsory but self-seeking, was under constant surveillance through a system of practical apprenticeship. Idealism so essential to true culture, and refinement suffered, but in its place we find the sturdy practical experience superiority founded upon self and producing national strength. This is clearly manifested by these men of vision in shaping their limited forces to yield the greatest amount of efficiency. They were in touch with every European progress, ready to accept or reject every advance made by methods of verification, observation and improvements. They lacked the means for the interchange of thought and it is only within recent years that we became aware of this fact. We are all too prone to look upon the past under present conditions.

#### AMERICAN PHARMACEUTICAL ASSOCIATION.

The men of vision realized that the opportunities for the interchange of thought had to be increased and they found the way for the expression of this natural force in the formation of the greatest association aiming at the highest ideals in American pharmacy. Notwithstanding its many trials and tribulations, be it said to the credit of this Association, that it has always maintained its constitutional ideals and at no time has its standard been lowered. Behind it has been the force of will, efficiency, courage and capacity for the preservation of its ideals. I deem it the greatest honor, and every pharmacist, no matter where located, should likewise deem it an honor to belong to this association, the American Pharmaceutical Association. This association is not alone national but also international in character and ranks second to none in the "World's Congress of Educational Institutions."

#### AMERICAN PHARMACEUTICAL ASSOCIATION PRODUCTS.

"Round table instruction" was succeeded by teaching institutions devoted to pharmacy and the allied sciences so far as they related to the practice of phar-

macy. In the very early period through the 70's these schools succeeded beyond expectation, the "round table instruction" had borne good fruit—a factor which was not sufficiently appreciated at the time. Records of those days prove conclusively that seekers of pharmaceutical knowledge were versed in English grammar; immaterial as to their nationality, they looked up to the teaching institutions of pharmacy as superior to themselves and worthy of the highest respect. They manifested this spirit in all inquiries for information through the channels of sealed letters couched in correct English. This material of preliminary education of "round table instruction," which was the basis of success of the old line pharmaceutical colleges, soon became exhausted and with its loss the educational success of the colleges decreased.

#### COMMERCIALISM.

The commercial phase in all lines of human activity made itself manifest about this time (early 80's) and likewise left its impress upon pharmacy. The practice of pharmacy as well as the teaching of pharmacy came under the dominion of commercialism. Exploitation of certain products not strictly in the domain of practical pharmacy, such as gelatin-coated pills, pepsin, malt extract, ergotin and so-called "elegant" preparations, was in its infancy but still upon a strictly ethical and hence legitimate basis. The future-seeing men soon recognized the drift of the times characterized as the "age of specialization." The old-time method of teaching in colleges of pharmacy continued, but soon proved to be on a faulty basis. The lack of general education and the lack of practical pharmaceutical knowledge failed in appreciation. Retrogression of discipline in reasoning power in an age of universal education and prosperity was considered an impossibility.

#### A NEW LINE OF PHARMACEUTIC COLLEGES.

The awakening finally came, but too late to overcome the position gained by commercialism. All efforts now centralized in pharmaceutical training devoted to theory combined with practical technique in the laboratories of the institution. The motive behind the movement shows true honesty of purpose and unselfish devotion to the progress both in the science and art of pharmacy but also short-sightedness in failing to recognize the value of true preliminary training and education.

The demands upon teaching institutions as to facilities, equipment and teaching corps increased tremendously and fostered a commercial spirit more intense than ever and not to the interest of true pharmaceutical education. This led unscrupulous men to the establishment of "diploma mills" and as a result the sincere efforts for higher pharmaceutical education suffered almost beyond redemption. The standard of pharmaceutical education and concomitant preliminary education became lower, cheaper and less secure, and as a sequence we have inherited the common knowledge of inferiority. The abuse of ethical principles affected the manufacture of pharmaceuticals in like manner. Exploitations of remedial agents to the medical profession and to the laity through the channels of the pharmaceutical calling destroyed all confidence once reposed in pharmacy. Intellectual progress in pharmacy became too general to be of any value. Abuse of every principle of common decency brought in the majesty of the law.

Men of education both in medicine and pharmacy visioned the inevitable result and hoped to maintain the welfare, health and happiness of the public by correcting all the evils by legislative restrictions. The intent again was sincere, primarily for the benefit of suffering humanity, but in reality for the restoration of medicine and pharmacy to their former standing. These legislative movements were encouraged by disinterested parties for the benefit of political influence and parties. This is proven by every measure enacted, for the means for the enforcement of acts are vague and lack sincerity of purpose. The enforcement of violations was left to men deficient in education or wholly disinterested and hence without knowledge of any nature pertaining to the practices of medicine and pharmacy; in charge of men forced to ignore moral courage in carrying out the spirit of the law. Measure after measure has been introduced under plea of higher education for the protection of the public, but all have been failures, more or less, for the one and single reason.

Schools of medicine and pharmacy multiplied without the "warrant of long-felt want," notwithstanding the restrictions placed upon facilities, equipment and teaching corps demanded long ago by law in almost every state of the union but opportunely enforced by the commissioner of education of the respective states.

#### STATE AND NATIONAL EDUCATION COMMISSIONERS

These general educational departments collect data of all kinds that have little bearing upon education. Teaching corps seem to be beyond their jurisdiction; education is a sham and a cheat unless carried on by able, accomplished teachers. The dignity of the profession of the teacher is beginning to be understood; the idea is dawning that no office can compare in solemnity and importance with that of training the mind. Institutions of learning, like human beings, are desirous of recognition, to be something or some one well thought of, and hence these institutions are diplomatic in answering all questions, relevant or otherwise, to the best of their knowledge and belief. Many of the institutions receiving state aid and having many interlocking departments of study, find it convenient to duplicate valuations and thereby show that the money appropriated through general taxation has been well spent.

The attempt of universities to corral students under the pleas of higher education and that of the poor boys' opportunity for education under a lower standard than that required for a university degree has not advanced education, pharmaceutical or otherwise. It cheapens true education and gives the impression of sham. History repeats itself as is shown by the excerpt from *Holinshed's Chronicles 1577*:

Cambridge and Oxford, two of the oldest institutions of learning in the world, were created by their founders at the first only for poor men's sons, whose parents were not able to bring them unto learning, but now they have the least benefit of them, by reason the rich so encroach upon them. And so far has the inconvenience spread itself that it is in my time a hard matter for a poor man's child to come by a fellowship. Such packing also is used at elections that not he which best deserveth but he that has the most friends, though he be the worst scholar is always surest to speed which in turn will end in the overthrow of learning.

State universities advertise instruction free to citizens of the state, but to my knowledge I know of none where this is true. Careful investigation proves that the expenses of these "free" courses average between \$60.00 and \$100.00 per

session to the resident students, an intended misrepresentation to the tax-paying public, known for their indifference and lack of study of economic questions affecting their welfare. All these institutions sail under two flags, those students of the university who never become pharmacists and those known as short-course students who do follow pharmacy; the former must be graduates of an accredited high school, the latter need not be; the first receive a university degree, the second do not, but they may get a certificate; the first get a broad education, the second a smatter of knowledge, usually sufficient for a board of pharmacy certificate. The first become representative men while the second seldom do, well aware of their own deficiency. I maintain that these school courses in pharmacy, and for that matter in any other branch of science, have lowered the standard of pharmacy directly and in the estimation of the public mind, indirectly. It is not a question of how good or how poor these courses of instruction are, but the psychological effect upon the human mind. That this effect is not to the interest of pharmacy, not to the interest of the teaching institutions, can easily be ascertained.

#### PHARMACEUTICAL ASSOCIATIONS.

Pharmaceutical as well as medical associations have discussed in conventions the many problems confronting them, educational and otherwise, affecting their welfare. After separating the many elements bound together, they finally resolve to do certain things or recommend that committees do justice to the recommendations adopted without offering the means for carrying out the contemplated acts. Members fail to recognize their importance as individuals or integral parts of the associations and in the reforms suggested. They fall into the profound but common error of mistaking the beginning for the end of the work. Financial as well as personal support is necessary to every movement and as neither is usually forthcoming, but little is accomplished and that little by a small minority of unselfishly devoted men.

The medical profession, notwithstanding its powerful and highly disciplined organization, has reaped the same experience, though much more successful in legislative movements. I believe a psychological effect to be responsible for this success since they recognized that legislation and resolutions did not cure the existing evils by subsequent action. Up to this period, physicians and pharmacists occupied the same plane of intellectuality and education, neither profession could claim educational superiority although the medical profession enjoyed a higher plane of intellectuality in the minds of the public. Medical men of vision were equal to the occasion and as a result of this vision we have "an exposé of medical education;" an enterprise carefully planned and judiciously fostered and which brought about true medical education; pre-medical education based upon thorough preliminary education, to be followed by the medical education.

Pharmacy has not yet reached this stage of development nor anything near like it, notwithstanding the institution known as the Conference of Teaching Faculties. One need but peruse their report of the annual proceedings and fully recognize the reason of their failure. What avails intellectual power without moral power?

#### CONFERENCE OF TEACHING FACULTIES.

The motive behind the movement is truly sincere, but the lack of moral courage to enforce the principles of organization has utterly destroyed the efficiency fos-

tering pharmaceutic education upon a worthy plane. The adoption of the National Syllabus without the adoption of the necessary foundation for its comprehension by students of pharmacy, nullifies every effort towards better trained pharmacists. As a fundamental principle, all members of the Conference must abide by the principles of organization without evasion of any kind under any pretext whatever in order to bring pharmacy to a state of governmental recognition. Sentiments of friendship or comradeship must not prevail. We still can remain friends and yet antagonize each other upon economic principles provided we learn to live more by reason and principle than blind sentiment. The Conference stands for high educational qualification and the enforcement of the principles of true higher education upon a uniform and united basis. This Conference should be the intermediary between the colleges of pharmacy and the boards of pharmacy. Those who cannot follow or will not follow the precepts laid down must step down and out publicly.

#### BOARDS OF PHARMACY.

Boards of Pharmacy were created to curb the activities of "diploma mills" and as such were considered as inspectors of the training performed by the teaching institutions of pharmacy. They have but one duty to perform, namely, to ascertain the fitness of the applicant to the practice of pharmacy. In recent years they have reached out for more power and authority, namely, the supervision of the quality of drugs. We need not discuss the motives that govern this desire or the desirability of such movement. Colleges of pharmacy may train students of pharmacy to assume all the responsibilities incidental to their supplying the public with drugs and medicines of proper strength and quality under the laws of the art and yet such students fail to receive the approval of boards of pharmacy in very many instances. The question is frequently asked why a college-trained student fails and the "quiz compend" student succeeds? It is not an easy matter to place the responsibility. All the factors that make up the pharmacy law of to-day are so closely interwoven that separation of the influencing factors becomes extremely difficult. Foremost, all the various state laws require practical experience in a drug store where prescriptions are filled and this implies that the products entering into the prescriptions, that is, the products of the U. S. Pharmacopoeia, are manufactured in that pharmacy, but unfortunately, this is now seldom the case. The commercial phase dominating all lines of industry reduces to a minimum the production of pharmacopoeial products in a pharmacy proper. Colleges of pharmacy were supposed to rectify this deficiency in manufacturing by a course of laboratory training, but unfortunately, the opportunities for repeated operations for the same product cannot intelligently exist in a teaching institution. Boards of pharmacy fail to recognize this fact which is clearly shown in all state board questions. Questions involving principles of action in the making of pharmacopoeial products seldom appear in the tests and hence the really qualified applicant gets no opportunity to express his fitness and must of necessity fail because he lacks the memorizing faculty demanded by boards of pharmacy as the criterion of fitness.

Some institutions shape their courses accordingly; they may reap a large percentage of successful candidates, but these will never be a credit to pharmacy

nor will they ever make any effort towards a higher and efficient pharmacy. The plea that some boards of pharmacy fail to require or to recognize preliminary education of pharmaceutical training offers no excuse for violating the cherished principles underlying a higher and truer American pharmacy. Colleges of pharmacy and boards of pharmacy are both sincere in their aims, namely, the advancement of the interests of American pharmacy, but unfortunately, there is no real coöperation between them. Boards of pharmacy will remain supervisors of colleges, but as such they should go beyond their common functions and mutually interchange suggestions and work in harmony upon specifically agreed lines. The idea that a person is proficient in one state and not in another is simply preposterous. It discredits not alone the pharmacist but also the examiner.

#### UNITED STATES PHARMACOPOEIA.

Any one familiar with the official text for the practice of pharmacy must admit progress with each succeeding revision. The last or the ninth revision shows beyond question the most advanced progress over all other pharmacopoeias. The standard of identity and purity and the methods of determining purity and strength are so rigid and so exact and based upon the very latest approved methods, that this official text-book becomes worthless to the average American pharmacist of to-day. Is there any valid reason that such a condition should exist? Does the American pharmacist lack the training and knowledge necessary for the comprehension of the pharmacopoeial text or is it only indifference on his part due to a commercial phase? On the other hand, it has been questioned whether certain pharmacopoeial standards, such as the saponification value, iodine value of fixed oils, are safe criterions of purity; that assay methods under pharmacopoeial quantities are not real indices of strength; that outside of a few waters and syrups the pharmacist is restricted to hypercritical limitations not to the interests of the pharmacist nor the practice of pharmacy; that these restrictions are to the benefit of the manufacturer directly. Teaching institutions of pharmacy may devote much time and energy in putting these pharmacopoeial methods to practical application and test in their laboratories but when a spirit of indifference and lack of appreciation pervades the atmosphere of the preceptor, not much interest can be aroused in the student.

The common cry of practical pharmacy and practical pharmacists is fostered altogether too much and under the present status of enlightenment in all science can not redound to the interest of American pharmacy. The practical pharmacist of fifty years ago has no existence to-day. In his place we find the man of "Applied Science." Huxley says:

Applied science is nothing but the application of pure science to particular classes of problems. It consists of deductions from those general principles established by reasoning and observations which constitute pure science. No one can safely make these deductions until he has a firm grasp of the principles and he can obtain that grasp only by personal experience of the operations of observation and of reasoning on which they are founded.

Shall American pharmacy be pure science as represented by the U. S. Pharmacopoeia or shall haphazard, go-as-you-please methods prevail? The result depends solely upon educators.

## THE MANUFACTURER.

The consideration of the manufacturer of chemicals and especially of pharmaceuticals has to my knowledge never been considered as a factor in the plan of pharmaceutical education. He has been ignored altogether, notwithstanding that he has spent millions in furthering the true science of pharmacy. He has searched the world over for crude drugs, determined their value in the interests of humanity by a corps of investigators of recognized ability. Self-preservation is the first law of nature and it is but fair to grant adequate returns to the manufacturer for commercial enterprise and financial sacrifice in his coöperation to the advancement of pharmaceutic knowledge. Rigid methods of purity and identity combined with demands of uniform and definite strengths are undoubtedly to his interest, commercially as well as scientifically. On the other hand, it is commercially and scientifically wrong for pharmacists to buy from the manufacturer in order to put the responsibility of identity, purity and strength upon his shoulders in order to evade food and drug laws. The very act is cowardly and an admission of the lack of confidence in self.

## CONCLUSION.

The opportunities for the interchange of thought have become so general and cheap that any one, no matter what his station in life may be, can secure knowledge in any branch of endeavor without much effort. In contrast with fifty years ago, yea twenty years ago, we can discern the vast difference between past and present opportunities. In the past the means of acquiring knowledge were limited, expensive and not of access to the masses. Under the laws of human nature, this fact has awakened the faculties of the mind to appreciation and energy worthy of a fair measure of judgment of the true and false. To-day, for the same reason, this awakening does not take place and hence we need not expect the power of discrimination. Public opinion, the opinion of the masses, has no stability and for that reason is easily moved in every line of thought for the lack of reasoning power. External influences readily sway opinion favorable to-day but discredited to-morrow. Men's thoughts are much according to their inclination, to their learning and infused opinions.

Pharmacy and pharmacists have had more than their deserved share of abuse and hence it is not surprising that opinion is not very flattering to them. The art of thinking justly and strongly is not encouraged and hence the stimulus to intellect, reflection, reason and judgment are wanting. Pharmacy cannot be divorced from commercialism nor is it necessary. The fruits of unity, based upon intelligence accruing from education through reason, observation and experience will exalt both the professional and commercial phase of pharmacy. According to the Scriptures, "Grapes will not be gathered of thorns and thistles." Likewise, "Break up the fallow ground and sow not among thorns."

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