

The amount of waste sponge clippings from Tarpon Springs sponge packing houses is not great enough to support wide use of the clippings in a new industry; however, in the waters of the Gulf of Mexico there grow great quantities of a type of sponge (the so-called Loggerhead Sponge) which is not now commercially gathered; it has a coarse structure and very tough fibres; it grows to large size, often several feet in diameter. There seems to be possible extensive use for Loggerhead sponge, after its texture and properties have been more carefully studied; research in this field would seem to offer rich rewards.

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DOES MODERN SOCIETY NEED THE SCIENTIFICALLY TRAINED PHARMACIST?*

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Let us face the question squarely. Is there any real need in modern society for the scientifically trained and liberally educated pharmacist, or is the demand for the four years' course of college training an idle dream of visionary college professors desirous of advancing their own dignity and importance?

It is an accepted axiom of trade that articles which meet a public need will have an assured market. This must be qualified by the statement that the apparent wants of men are frequently at variance with their actual needs; the public may want something very intensely without really needing it, or it may need something very greatly without wanting it, *i. e.*, without realizing its needs.

The progress of civilization has consisted largely in the discovery of useful things by a comparatively small number of thinkers, which the world did not know it needed until after they had been brought into existence. The world did not know it needed, and consequently did not demand telephones, automobiles, radio-sets and a hundred other modern conveniences and luxuries until these inventions had been brought into being and the advantages of their possession were made known.

Publicity is as important as utility in creating demand. The thing or service which meets a public need must be brought to public notice before it will be utilized. Many things of utility have long remained unused until enterprising individuals with a turn for publicity have brought them to the world's attention.

The complete formula for industrial, commercial or professional success is to supply the kind of thing or service which fits a real need of society, and then to adequately acquaint the world of the advantage of possessing it.

If a certain type of drug store represents all that should be expected of pharmacy, a six months' course of training would be ample, but if pharmacy is to render the best quality of service of which it is capable, and the quality which society and the medical profession have the right to demand of it, the four years' college course is not an hour too long.

* Joint meeting of Virginia and West Virginia Pharmaceutical Associations, June 21, 1932.

Unquestionably society needs the quality of pharmaceutical service which only the broadly trained and professionally minded pharmacist can render.

Already the process of supplying this quality of pharmacopœial service and of creating the demand for it is well under way. In all of the larger cities and in many of the smaller ones, there are establishments representing the best type of pharmaceutical practice, the prosperity of which and the rate at which their number is increasing, affording ample proof that when public and physicians are sufficiently acquainted with the possibility of such service, the demand for it will be found to exist.

The joint constructive task now before the colleges of pharmacy and associations is first to supply the men of adequate professional training, and second to promote the growth of public appreciation of the value of scientific pharmacy.

THE RELATION OF THE PRACTICE OF PHARMACY TO THE DRUG BUSINESS.

That there is both a connection and a distinction between the practice of pharmacy properly so-called, and the "drug business" is generally recognized, but not every one has taken the pains to trace clearly the respective connections and differences.

At least since Roman times a distinction has been recognized between the function of selecting and compounding drugs and medicines and the business of handling them as articles of commerce, and higher qualifications have always been expected of the compounder than of the mere seller of drugs.

This ancient distinction between compounding and selling was recognized by the edict of Salerno, issued by King Frederick of Sicily (A. D. 1244), the influence of which can be traced through all the later European regulations of the obligations and franchises of the art of the apothecary.

In Paris, by an ordinance adopted in 1514, defining the special privileges and responsibilities of the apothecary, it was specifically declared that, "though the apothecary is always a grocer, the grocer is not necessarily an apothecary."

In Great Britain the distinction between the functions of compounding and selling was pointed out by King James I, who in the contest between the Grocers' Company and the Guild of Apothecaries, declared that grocers were but "traders," whereas the art of the apothecary was a "mystery," *i. e.*, a technical calling demanding special training and skill.

Many other quotations might be given showing that from a very early period a distinction between the functions of the apothecary and those of the mere trader in drugs has universally been recognized.

In our day the practice of pharmacy, properly so-called, may fairly be said to comprise all of the operations and processes involved in the selection and identification of drugs and medicines, and of their manipulation or combination, ending in a finished preparation, provided with an appropriate label.

All of the respective steps and manipulations from the first selection and identification of the substances to their final assemblage into finished and correctly labeled packages are of strictly pharmaceutical character, and demand a high degree of training and of acquired skill in their proper performance. They demand a knowledge of scientific terminology, of botany and of pharmacognosy, of materia medica, posology and toxicology, of the laws of chemical combination,

of incompatibilities, of the practice of chemical analysis, and of the various forms of manipulation comprehended under the head of pharmaceutical technique.

Not until the final package has been provided with a label correctly indicating its contents, or giving directions for its proper use, can the work of the pharmacist or apothecary be said to be complete. The delivery of the finished and properly labeled package to a purchaser may be done by an errand boy or other untrained person, but to select the proper drug or medicine from the general stock and to see that the appropriate label is attached requires the technical training and skill of the pharmacist.

The business of the druggist or trader properly begins where that of the pharmacist ends, that is, with the identified and properly labeled drug or chemical, or with the finished and correctly labeled medicine, ready for delivery to the purchaser or user without the need of further skilled manipulation or of further directions for use. In short the drug business may be regarded as the distributive side of pharmacy, requiring commercial ability rather than technical or professional knowledge and skill.

The functions of pharmacist and druggist may be and commonly are performed by the same individual, though establishments may range from those in which pharmaceutical service predominates to those in which only a faint tincture of pharmacy remains. Some time in the future there may be greater differentiation between those who make a specialty of pharmaceutical service and those who prefer to do a general drug business, but the two kinds of service are not likely ever to be completely separated.

In drug stores as we know them there are commonly many articles that do not have any recognizable relation to the supplying of drugs and medicines or sanitary appliances. In many cases this combination is a concession to necessity since the amount of real drug business available would not be sufficient to support an establishment dealing in drugs and medicines only. This yielding to practical necessity is unobjectionable, *provided the dominant note of the establishment is that of a pharmacy or drug store.* The display of jewelry, alarm clocks, canary birds and other non-drug items should never be permitted to obscure the fact that the supplying of drugs and medicines constitutes the main purpose and the real reason for the existence of the establishment.

THEORY AND PHILOSOPHY OF THE PHARMACY ACTS.

A due appreciation of the distinction between the practice of pharmacy and the handling of drugs as merchandise is essential to a proper understanding of the theory and philosophy of the pharmacy acts, or the statutes which restrict the practice of pharmacy to those who have been certified to possess certain specified qualifications of education and experience.

Let it be remembered once for all that the purpose of the pharmacy acts is not to protect the pharmacist against competition, but to protect the public health by limiting the compounding and dispensing of drugs and medicines to properly qualified persons. So far as the theory of the law is concerned the purpose of the act is restrictive and not protective.

Under State and Federal constitutions there is no more warrant for legislation to protect the druggist's business interests than to protect the business interests

of any other class of dealers. Anything appearing upon the face of an act, or clearly deducible from its text, indicating that its primary purpose is to benefit the pharmacist rather than to protect the public health, will compel the courts of last resort to declare the law invalid.

Not only should all proposed legislation affecting pharmacy plainly show its purpose to protect the public interest, but in discussing legislation of this character all such phrases as "price protection," "protection of the pharmacist," etc., should be avoided as helping to give color to the charge that they are inspired by purely selfish motives.

It is true that where a high degree of qualification is demanded of the dispenser of drugs and medicines, and where the requirements are enforced, those who take the pains to acquire these qualifications will be protected against the competition of those who are unqualified, but this is purely incidental to the general public benefit secured by the law, and from a constitutional standpoint is unobjectionable.

From a study of the pharmacy acts which have been upheld by the courts it will be noted that their restrictive provisions have applied to acts that properly require the exercise of technical knowledge and skill, *i. e.*, which are truly pharmaceutical, as the dispensing of potent drugs and active poisons, the compounding of physicians' prescriptions, etc., activities that are a menace to public safety if performed by those who have not had pharmaceutical training.

Of the laws affecting the drug business which have been over-turned by the courts, such as limiting the sale of common domestic remedies or of package medicines to stores conducted by registered pharmacists, etc., the ground given for the decision in every case has been that the measure did not contribute to public safety, but was in fact designed to advance the business interests of the druggist, and therefore unconstitutional and void.

It must be evident, therefore, that the business of dealing in drugs and medicines will be restricted by the law only so far as it is tied up with or involves the practice of pharmacy. It is because of these considerations that the professors of pharmacy, so frequently called theorists and visionaries, have insisted that the practice of pharmacy constitutes the only logical and legal foundation for the drug business, and that the sound and comprehensive education of the pharmacist can supply the only basis upon which a prosperous and permanent practice of pharmacy can be established and maintained.

PROFESSIONAL QUALIFICATIONS ARE PERSONAL AND INDIVIDUAL.

Professional qualifications, such as are attested by a college diploma, or by the certificate of an official examining board, are purely individual and personal, and cannot be transferred from one person to another.

Since a corporate body cannot pursue a college course of instruction nor pass an examination, it follows that corporations cannot properly be licensed to carry on professional occupations.

But while corporations acting as such cannot directly render professional services they can, under proper circumstances, undertake trusts which, as an incident to their execution, require professional services, and for which they may employ professionally qualified practitioners. Thus a trust company, while it may

not profess to carry on the practice of law, may as a corporation accept the care of trust funds or trusts affecting real estate, and employ qualified lawyers to care for the legal proceedings which arise in connection with the execution of such trusts.

In the same way although a corporation may not profess to practice pharmacy or medicine, it may own and conduct a hospital in which the necessary pharmaceutical and medical services are entirely in the hands of, or directly under the supervision of qualified pharmacists and physicians.

By the same course of reasoning it has been held that a corporation may own and operate a drug store in which all of the pharmaceutical services rendered therein are directly under the supervision of legally qualified pharmacists.

A DEFINITE PROGRAM FOR PHARMACY NEEDED.

One of pharmacy's greatest present needs is a generally agreed upon program, starting from basic principles and seeking clearly defined and worth-while objectives.

At present there are almost as many proposed programs for the reform of pharmacy as there are writers upon the subject, and nearly as many proposed objectives, but without much agreement either as to the particular things to be done or as to the best methods of doing them. Some objectives are distinctly worth while, while others are best described as picayunish, since their accomplishment would require efforts out of all proportion to their probable benefit, or are objectives that might even be detrimental if obtained.

Unless based upon sound principles, the program will be neither fruitful nor lasting. If it does not propose definite and worth-while objectives, efforts will be wasted upon minor issues that will confuse the main purposes in view and contribute little or nothing to the final result. And finally, unless there can be a general acceptance of the objectives and a general agreement as to the methods of seeking them, progress will be slow, perhaps impossible.

One principle always to be kept in mind is that the advancement of pharmacy should be sought through methods which have due regard to public interest, rather than through some trick of legislation designed to give the pharmacist a special advantage over possible competitors. This should be an invariable policy, not only because it is just, but because it represents the only policy that will place pharmacy on an unassailable foundation. Even if a legislature could be cajoled into passing an act giving special advantages to the druggist the measure can be expected to hold only until it reaches the courts of last resort.

THE APPRENTICESHIP SYSTEM AND PROFESSIONAL TRADITION.

Two invaluable results of the old apprenticeship system were the craft-consciousness if fostered, and the body of professional traditions it developed and preserved, two essentials without which no occupation has ever been able to achieve any considerable degree of professional solidarity or to gain a high place in public esteem.

The apothecary of the 15th Century who served a period of 14 years before attaining the full rank of Master Apothecary acquired a strong sense of craft-consciousness, was saturated with craft traditions and with high ideals of his professional worth and responsibility. These acquirements he in turn passed on to

his own apprentices, and such ideals and traditions have to a large extent influenced the development of pharmacy in Continental Europe.

In the United States pharmacy was compelled to develop largely without the aid of the professional traditions fostered by an apprenticeship system. The system gained a partial foothold in cities of the Atlantic Seaboard but except in isolated cases never penetrated far inland. There could be no effective apprenticeship system without Masters to receive and teach apprentices. Many of those who did accept apprentices were largely self taught.

Under pioneer conditions the same individual was frequently compelled to carry on quite unrelated activities. He might serve as community land surveyor, lawyer and doctor, or perhaps combine the duties of farmer, blacksmith, merchant and preacher. Drugs and medicines were first introduced into the West as part of the stocks of general merchandise, and separate drug stores were gradually evolved from these, their proprietors sometimes being physicians, but in most instances gaining their knowledge of drugs as they went along.

When drug stores had increased sufficiently in numbers to become a separate feature in community life there came the beginning of a class consciousness which resulted in the practice of pharmacy acts, most of which have been enacted within the past fifty or sixty years. We have a written code of ethics, but without the living traditions necessary to make it an effective force, so that it represents the aspirations of the few rather than the accepted practice of the many.

It is upon our colleges of pharmacy and upon our state and national associations that we must rely for the contacts and influences that will gradually create a body of living professional traditions, including a proper sense of professional obligation, and of professional self-respect.

CHEAP CLERKS THE CAUSE OF TOO MANY DRUG STORES.

Any plan to advance the professional and economic status of the pharmacist must reckon with two basic facts, *first*, that the number of drug stores and so-called pharmacies is far in excess of the number fairly required to render all of the pharmaceutical services needed by the present population, and *second*, that as long as this disproportion between supply and demand continues the evils of excessive competition will persist.

When the acts requiring the examination and registration of pharmacists were first adopted it was confidently believed by many that an effective check had been placed upon the opening of unnecessary drug stores. The theory may have been correct, but its execution has been defective. The qualifications to be required of candidates were largely left to the discretion of the boards of pharmacy, and neither these nor the members of the trade at large were prepared to accept such standards as would have effectively barred the admission of half-trained and incompetent men. Almost every attempt to advance entrance requirements has been met by the objection that it would make clerks scarce and enable them to demand more compensation than their employers would be able to pay, the objectors forgetting that the cheap clerk of to-day will become the cheap and incompetent pharmacist of to-morrow.

If like dentistry and medicine, pharmacy had made a radical increase in the educational requirements of those seeking admission to its ranks, the hopes of those

who advocated the pharmacy acts might have been realized. Instead, the standards were made just high enough to create a general impression that pharmacy was a protected calling, and yet easy to get into as compared to other professions, with the result that the really fit men admitted have always been accompanied by a sufficient number of inferior ones to offset the advantages of the restrictions imposed by law.

An abundance of cheap clerks inevitably leads to a superabundance of cheap proprietors. Finding himself in possession of a certificate authorizing him to operate a store of his own, the average young man is not long content to fill the rôle of clerk at an inadequate wage. He longs for the fancied independence and greater profits which he imagines will be his when he becomes a proprietor and his own boss, and as soon as he can secure the minimum of capital and credit required, embarks in business on his own account. Sometimes he is successful, but too frequently finds himself bound in debt slavery for a long period of years. His fancied greater independence turns out to be a myth. By working excessively long hours, he is able to make a bare living, but finds himself tied to a business which he cannot leave without sacrificing all that he had accumulated.

The desire to secure cheap clerks through low standards of admission has resulted simply in increasing the number of unneeded drug stores, and thereby diminishing the profits from which clerks must be paid.

Much more satisfactory would be a situation which, if it could be brought about, would be to keep the number of establishments in reasonable proportion to population and available business, and thus enable their proprietors to pay assistants an adequate wage.

NO UNIVERSAL OR QUICK REMEDY FOR PHARMACEUTICAL ILLS.

The improved economic and professional conditions in pharmacy which we hope for cannot be reached at a single bound, nor through some extraordinary act of the legislature, nor by virtue of some newly invented legal expedient. The accumulated results of the negligence and mistakes of generations cannot be corrected in a day, nor through the operation of some great panacea.

The utmost we can expect of legislation is that it may furnish the conditions under which it will be possible for the pharmacist to work out his own salvation. Carefully constructed and properly enforced laws can be of very great assistance through the creation of sufficient educational standards, the restriction of the sale of potent drugs and poisons to properly qualified persons, and through amendment of the antiquated trust laws which prevent pharmacists from combining for their reasonable self-protection, but in and of itself legislation is of secondary importance in bringing pharmacy to the position which we believe it should occupy among human occupations.

The attainment of such a position involves the development of a degree of craft-consciousness that will unite the loose units of pharmacy into a cohesive body with a strong sense of community interest. It means the development of living traditions of professional self-respect and of professional obligation, and a realization that pharmacy can best serve itself through rendering the best possible service to society.

If we will definitely commit ourselves to an educational program that will place pharmacy on a parity with other liberally educated professions, and labor intelligently and persistently for that goal, there is reason to believe that society will eventually recognize the value of the professionally trained pharmacist, and that there will also remain a field for the activities of the merchant druggist.

AN INTERNATIONAL CENTER FOR CHEMICAL INFORMATION.

The Maison de la Chimie now under construction in Paris is to be the headquarters of the International Chemical Union which had its inception in the efforts of the late William Ostwald. A purpose is to avoid duplication by making this a central station for information. Organization of the library will be the first undertaking; it is to be very complete and to that end chemists are to contribute copies of their published works; lists of chemical substances with papers describing them, etc. The idea is to supply information and the further aim is to compile a comprehensive encyclopedic chemical dictionary. The abstracting journals represent duplication and are limited in degree. The project will be developed and of general usefulness to chemists and scientists generally. The idea of the American Institute of Pharmacy has in it a more or less related purpose.

HOSPITAL TRAGEDY.

Two ordinary white medicine bottles filled with brown liquid were exhibits at an inquest held at Dartford, Kent (Australia), recently. One contained belladonna and glycerin and one syrup of figs.

The belladonna had been given in mistake for syrup of figs by a young nurse to three patients in Livingstone Hospital, and one of them, Mrs. Beatrice Mary Summers, wife of a postman, had died. The other patients were progressing favorably. A verdict of "accidental death" was returned. No rider was added by the jury.

The widower said that his wife was progressing favorably after an operation. "When I visited her on Thursday night," he said, "she told me she was dying. I was asked to leave the ward, and was told that there had been a mistake. I was sent for about eight o'clock next morning, and my wife died shortly afterward."

Megan Davida James, aged seventeen, a probationer nurse, said she was told by a sister to administer aperients which were on a tray in the medicine cupboard. Medicines, embrocations and drugs were generally kept in the same cupboard, and there were no divisions between them.

Witness said she took what she thought was syrup of figs, but she afterward knew it to be belladonna and glycerin. Both were ordinary white glass bottles, and the labels were stained and almost illegible.

Sister Marion Hebborn said she could not say how or when the belladonna bottle came to be in the cupboard.

When the coroner questioned witness on the condition of the bottles she admitted that this should not be so. The witness fainted at this point, and had to be taken out of the room.

A doctor said he found Mrs. Summers showing signs of poisoning. Everything possible was done for her, but she died the next morning. He agreed that the bottle produced was not a suitable one in which to keep poison.

The matron of the hospital, Janet Shields Anderson, said she had asked the committee to provide another medicine cabinet, but it had not been done.

"There is no doubt that there was want of organization and supervision," said the coroner. He alluded to the youth of Nurse James, and said it was advisable that certificates of birth should be asked for when young nurses were appointed. This nurse should have served a much longer probation before taking on such responsibilities as giving medicine, he added. It was a most serious mistake, but all the blame could not be put on the nurse. The coroner said he hoped that the hospital authorities would also see that proper accommodation was provided for the keeping of drugs. The labels on the bottles were most unsatisfactory.—*The Australasian Journal of Pharmacy*.