

THE DEPARTMENT OF THE AMERICAN ASSOCIATION OF COLLEGES OF PHARMACY

C. B. JORDAN—CHAIRMAN OF EXECUTIVE COMMITTEE, A. A. C. P., EDITOR OF THIS
DEPARTMENT.

Your editor is pleased to offer this excellent address of President A. G. DuMez for consideration of the readers. The address emphasizes many important points that should be considered by all retail pharmacists and teachers of the profession.

C. B. JORDAN, *Editor*.

PHARMACISTS MUST RETURN TO THE PRACTICE OF PHARMACY IF THE CALLING IS TO ENDURE.*

BY A. G. DUMEZ.

Pharmacists must return to the practice of pharmacy if the calling is to endure is the opinion expressed by certain members of the medical profession who have taken a friendly interest in us and the firm conviction of those who are looked upon as leaders in our ranks. It is likewise the conclusion which I have reached after as careful an analysis of conditions, past, present and future, as I am capable of making. To demonstrate to you that a turn-about-face on our part is the best, if not the only means, of insuring our future welfare as pharmacists, and to point out to you how this may be accomplished is the purpose of my address this evening.

Pharmacy as originally practiced was in a true sense the handmaid of medicine and the service which it rendered required an intimate and comprehensive knowledge of the materials dealt in, that is the *materia medica* of the day. It then functioned as a trained body for gathering, storing and transforming, or compounding, drugs and chemicals into forms suitable for administration to the patient and, in addition, it served the physician and the public as the only reliable source of information on these materials.

The practice of pharmacy in its beginnings in this country, and even as late as thirty years ago, consisted in the main of the performance of the operations necessary to the exercise of the foregoing functions. Vegetable drugs and chemicals were as a rule purchased in bulk. Some of these were packaged for sale to the public, others were stocked for the compounding of prescriptions; but the greater number were stocked for the manufacture of the galenical preparations, which at that time made up the more important items of our *materia medica* and almost all of which were made by the pharmacist. The furnishing of drugs, chemicals, medicines and other sick-room supplies then constituted the major service rendered by pharmacy. General merchandising, although practiced to some extent, had not yet reached sufficient proportions to be considered a distinct service.

That pharmacy as practiced throughout the land to-day offers a variety of services so different from that rendered even thirty years ago as to almost completely obscure in many cases the purpose it was originally intended to serve, I am confident no one will attempt to deny. That this change in the kind of service

* An address delivered before the Golden Anniversary meeting of the North Carolina Pharmaceutical Association, Asheville, N. C., June 19, 1929.

given, especially in so far as it has disturbed the old relationship of the pharmacist to the physician and to the public, and to the extent that it has over-stimulated the tendency toward commercialism, is largely responsible for the difficulties we are facing at this time is my contention.

There are some who argue that the present unsatisfactory conditions in pharmacy have been brought on by an unduly large increase in the number of drug stores. Others attribute them to indolence on the part of the pharmacist and his failure to keep pace with modern progress in store management and merchandising. Still others hold that they are the result of new competition in the form of the department store, the five and ten cent store, the cigar store and the candy store, many of which now sell merchandise originally handled exclusively by the drug store.

The fallacy of the first argument is readily proven. By referring to available census statistics, I find that the population of this country was 62,947,714 in 1890 and in 1928 it was estimated to be 120,013,000, which represents an increase of slightly more than 90 per cent. During the same period, the number of drug stores increased from 33,000 to 57,000, which represents an increase of approximately 73 per cent. In other words, the population has increased more rapidly than the new stores and to-day the proportion of drug stores to population is about 17 per cent smaller than it was forty years ago. It is true that these census statistics do not take into consideration the changes, if any, which have taken place in the distribution of stores. It is possible that in some localities, the cities for instance, the number of new stores opened has kept pace with the increase in population, or even exceeded it. This possibility, however, adds little force to the argument, as current reports indicate that the same unsatisfactory conditions prevail throughout the entire country whether it be in urban or suburban localities.

The assumption that pharmacists are not as industrious and ready to adopt modern methods of store management and merchandising as other merchants would also seem to be erroneous. We have ample evidence all about us of the merchandising ability of the pharmacist. In fact, this particular phase of modern progress is all too evident in many cases. Pharmacists in general have not only adopted the very latest methods of store management and merchandising, but in many instances they have employed these methods so skilfully that the merchandising phase has almost completely obliterated the professional phase of the calling and still they are not contented. No, this is not the reason for the present unrest in pharmacy.

There is undoubtedly some basis for the contention that new competition from sources outside of the drug field has made marked inroads on the pharmacists' legitimate field of profit. The department stores, five and ten cent stores, candy stores, etc., are now doing a large proportion of the business in patent medicines, toilet articles, perfumes and other items formerly handled exclusively by the pharmacist, but this loss of business is not sufficient by itself to account for the general dissatisfaction that prevails throughout our ranks.

These and the other arguments based on similar premises, when examined individually, can usually be shown to be unsound or to account only for unsatisfactory conditions in certain phases of the calling. Taken collectively, they probably do serve to explain why it is that there is not as much profit to be made

in the retail end of pharmacy as the more commercially inclined members of the calling desire; but they do not explain why it is that the pharmacist is losing prestige with the physician and the public, why he is dissatisfied with his present status nor why he is fearful of what the future holds for him.

I do not wish to be understood as decrying all commercial activities of the pharmacist, nor would I have you believe that I am trying to disparage his efforts to become a better business man as I am fully aware of the fact that as long as pharmacists deal in material things, there must be commerce. I do, however, desire to impress upon you that the real cause of the difficulties in which we find ourselves at present is not an undue increase in the number of drug stores, the lack of good business management or the adoption of up-to-date merchandising methods, but rather the over development of the commercial side at the expense of the professional side of the calling and that progress in the future, and perhaps our very existence, is dependent upon the restoration of professional pharmacy to the important place in the store that it once occupied.

It is an established principle among physicians that to prescribe intelligently for the alleviation or cure of a disease, the cause must first be found. This principle applies with equal force to the selection of the proper remedy for the correction of bad conditions of affairs of any kind and may well be applied to the solution of our difficulties. It is my contention, as already stated, that our troubles are the result of not sticking to our calling as originally practiced. We have forsaken the mortar and pestle in the rear of the store for the more alluring prospects in the front and we have not reaped the expected rewards. What is the remedy?

The remedy, as I see it, is clearly indicated by the influences, which, taken as a whole, are responsible for the creation of present conditions. They are in part mercenary in nature. Undoubtedly, the greed for gain has played its part; but I believe that there have been other influences which have had a greater if not so apparent an effect. The greatest of these influences in my opinion was the lack on the part of the pharmacist of an adequate education to enable him to meet without fear of the consequences the changes made in the last twenty-three years in the legal restrictions thrown about the practice of pharmacy and of a sufficiently comprehensive knowledge of the various sciences to enable him to keep pace with the modern developments in therapeutics.

Only a few years ago, students were graduated from our colleges of pharmacy with what really amounted to but two years of technical education and, if we go back fifteen or twenty years, most of the candidates for licensure had no college education at all. Naturally, in 1906, when the Pure Food and Drugs Act became a law of the land, many of the then practicing pharmacists did not have sufficient confidence in their knowledge of chemistry and the other sciences to permit them to cope with its requirements and then and there ceased to manufacture the galenicals which came within the purview of the act. This statement is not a mere fabrication on my part, but is based on the statements of many of the older pharmacists and on statistics showing the growth in the business of pharmaceutical manufacturing houses immediately following the enactment of this law. The condition became more pronounced as the various states enacted similar legislation. In 1914, when the Harrison Antinarcotic Law went into effect, many pharmacists ceased to make all preparations containing narcotics. Another blow was struck

to manufacturing in the drug store, when the National Prohibition Act was passed in 1919. As a result of this last act, many pharmacists no longer make such simple preparations as tincture of iodine and soap liniment.

Most of the older pharmacists had only a rudimentary education in chemistry and little if any knowledge of pharmacology, bacteriology, serology and immunology. It is no wonder that they found themselves unable to keep abreast of the times in the development and production of synthetic organic chemicals, serums and vaccines and the many other items which comprise our modern *materia medica*. The sad part of it is that their inability to do this very thing has caused the physician and the public to look elsewhere for information on these materials and the pharmacist has been lowered in their regard. It is to this condition, more than any other, that I attribute the growing gap separating the pharmacist and the physician.

To arrest the progress of these sinister influences, which threaten to terminate our very existence, those who are now in active service must return to the practice of pharmacy. We must reestablish ourselves in the eyes of the physician and the public as real practitioners of a professional calling and thereby silence those who say that we are becoming nothing but merchants. In all probability, many of the older pharmacists, and I do not speak disparagingly of them because they have given the best they had in them to keep our banners flying, will not be able to conform completely to this new order of things but they can at least keep their places of business looking like real pharmacies—put back the show bottles in the windows, get out some of the old shelf bottles and give the prescription counter a prominent place in the store. It is upon the service which these accouterments represent that pharmacy was originally built and it is upon this service that it must depend for its survival. Those who are attending our schools of pharmacy at present, especially those who complete four full years of work will receive an education that should enable them to furnish that expert knowledge which the physician requires and to render the highest type of pharmaceutical service to the public. It is to these young men and women that we must look for the complete restoration of pharmacy to its proper position among the medical services and its future development. I am fully confident that the outcome will be to our liking.

BETTER TREATMENT FOR PHARMACISTS IN JAPANESE GOVERNMENT EMPLOYMENT.

Japanese pharmacists in government employment have occupied a very low station and their treatment was vastly inferior to that accorded to physicians. However, due to the efforts of druggists' associations and various other organizations, their positions in the employment of the Monopoly Bureau of the Finance Department was raised to the regular civil service last August and the ordinance concerning the change was promulgated accord-

ingly. This is regarded as the first encouraging sign for the position of pharmacists, and similar improvements in their employment in prisons were provided by the Diet at the time of adopting the budget and the ordinance which will shortly be promulgated. Similar plans are being contemplated by the officials of the Department of Railways, which employs a large number of pharmacists—there are 34 pharmacists in employment in the five hospitals attached to the Department of Railways. Also there are 108 pharmacists employed by 104 medical stations of the same Department.—Abstracted from *The Japanese Druggist*.

THE SENSELESSNESS OF THE PRESENT APPRENTICESHIP SYSTEM IN PHARMACY AND A POSSIBLE SOLUTION OF THE PROBLEM.*

BY RUFUS A. LYMAN.¹

More than ten years ago, the year was 1917, I wrote into my Presidential address before the American Conference of Pharmaceutical Faculties, the following paragraph:

"I cannot close without offering a protest against the apprenticeship system. The tendency in these later years is to increase the length of apprenticeship. The excuse is to make better men. The way it works is to crush the spirit out of a man, who has any spirit, and leave in pharmacy a lot of corpses. I maintain that a well-trained college man going into an ordinary store after graduation is in a position to acquire more information regarding the conduct of a business in six months than the average "flunkey" can who hangs around a store in six years. And yet when it comes to taking the Board examination he and the "flunkey" are brought to the same time requirement. If a well-trained college man cannot learn to operate a certain store in four years, he cannot in five. Cannot we wake up like other professions and devise some common-sense scheme that will not act as a crushing mill to both the individual and to professional pharmacy?"

In connection with this statement concerning the apprenticeship system as practiced in pharmacy, I made a certain recommendation. It was known as Recommendation No. 13. Recommendation No. 13 read as follows:

"That the Conference Committee on relations of colleges with Boards be instructed to express the views of the Conference on the matter of apprenticeship, and that this committee, in conjunction with the proper committee of the Boards, be requested to devise or discover a plan which can be developed that will render justice to all, and that progress in the matter be reported as early as possible."

The statement and the recommendation aroused a lively discussion in the Conference and in the pharmaceutical press at the time. Some member of the presidential address committee insisted the statement meant that the President favored the abolition of all drug store experience. Any intelligent man who can read the English language and can think straight cannot possibly find anything in the statement or recommendation that will justify such a conclusion.

However, the committee thinking there must be some unseen and undiscoverable danger in the recommendation offered the following as a substitute: "that a committee of this Conference, in conjunction with the proper committee of the Boards, be requested to devise a plan that will render justice to all concerned in the matter of apprenticeship."

The two recommendations are identical with one exception. The President's recommendation suggested that the joint committees do something and make a report. The recommendation of the Presidential address committee suggested that the joint committees do something, without making a report. This they evidently proceeded to do in true, heroic American pharmaceutical style. Eleven long years have passed and not a suggestion has been made. Things are "at rest."

I am recalling this bit of ancient history mainly for the express purpose of impressing upon the minds of my hearers and my readers that the writer has never been opposed to drug store experience in pharmacy, if that experience is planned

* Section on Education and Legislation, A. Ph. A., Portland meeting, 1928.

¹ The University of Nebraska, Lincoln, Nebr.

primarily for the purpose of educating the candidate along practical lines and not for the purpose of giving something for nothing to some "wet-eyed, trembling voiced admirer and defender of the poor boy."

A study of pharmaceutical legislation during the last decade shows that the status of the period of apprenticeship has not been materially altered. It is true that in a few states it has been lessened or abolished. It is also true that more liberal allowances are being made for college training as a part of "practical experience," than ever before.

In the great majority of cases, however, the apprenticeship time requirement is what it was ten years ago. And the only qualification for such apprenticeship is stated in the time-honored phrase—"Where physicians' prescriptions are compounded under the direction of a registered druggist."

Recently surprise has been expressed at the enormous numbers of failures before examining Boards in some of the western states. This is nothing to be surprised at when you consider the term of apprenticeship required in these states is from four to five years. In these days of great opportunity for young men, what must be the mental caliber and physical energy of a man who is content to hang around a store for five years for what knowledge he can pick up in order that he may become a member of an honored craft? Any boy with brains and ambition would have gone into some other line of work and would have been definitely established in business or in some place where he was in line for promotion.

This sort of thing more than anything else is what is giving to pharmacy a very ordinary class of men and throwing to medicine, engineering, agriculture and other lines than pharmacy, our brainier students.

If pharmacy is to have a place under the Sun, she must have her share of intelligent students. If pharmacy is to appeal to intelligent students we must quit doing things on a "dinky" scale. During the last academic year some one of my students had heard of one of the research prizes the AMERICAN PHARMACEUTICAL ASSOCIATION makes so much fuss about. He asked me about it. I informed him it was a prize for pharmaceutical research. Immediately he wanted to know its value. I asked the members of the class what they would guess the amount of the prize to be. Remember these students come in contact with other lines of work such as chemistry, agriculture, economics. The guesses ranged from \$500.00 up to \$2000.00. The class snorted in disgust when I mentioned the sum. Hereafter I shall try to keep the announcement of pharmaceutical prizes for research from their attention. They will respect their chosen field more.

I can keep from prospective pharmacy students the size of our research and scholarship prizes but it is impossible to hide from them the apprenticeship system. One of Nebraska's most prominent jurists recently said that it was perfectly evident to a layman that in Nebraska those druggists who defend the present apprenticeship system in our state do so because they want cheap help and not because they desire to render a better pharmaceutical service to the commonwealth.

When the layman sees this and the student knows it, it is time for us to see if we cannot work out as a part of our educational program, a scheme in which the student will receive some directed experience comparable to that which students of medicine now receive in the hospitals and students of engineering receive in the shops.

The Commonwealth study brought out the facts with reference to the need of practical experience. I quote from the published report of that study.

"The objectives of that part of the practice of pharmacy, commonly known as store experience as practical experience, are to acquaint the student with the methods of running a pharmacy and to help him gather information which he may use in the class room as an aid to a more thorough mastery of the subject matter of his courses. No exact amount of skill can be specified. The principle to govern the acquiring of store experience should be that the student ought to secure first-hand acquaintance with store practices under guidance and acquire as much skill as can be developed in a period which stops at approximately the point where his performance of practical tasks ceases to be educative and becomes largely routine and mechanical."

The report also indicates in some detail the character of the information the student should obtain and gives the qualification of the owner and the character of the store in which the student is to obtain such experience.

THE EXPERIMENT AT THE COLLEGE OF PHARMACY OF THE UNIVERSITY OF NEBRASKA.

During the academic year just closed the faculty of the College of Pharmacy placed before the Board of Regents a plan to give practical drug store experience to senior students in the College of Pharmacy, which operates only a minimum four-year course. The experience was to be given in the local retail stores in the city. Any store could be used that met the qualifications laid down by the Commonwealth study and whose proprietor would willingly cooperate with the University.

Credit for the course was made comparable in amount to the credit which the Teachers' College of the University gives to its students for practice teaching in the Lincoln schools. Four hours of supervised work in the drug store give one hour of university credit. To obtain three hours' credit a student must give twelve hours per week to the store for a semester of eighteen weeks. A schedule is prepared for each student and he must hold to this schedule just as if it were a class or laboratory period and the student pays the regular university fee for a laboratory course and he receives no monetary compensation from the proprietor of the store. He is there to learn.

When the plan was first suggested to a group of druggists several months before it was initiated it was received with enthusiasm. As the time for putting it into operation drew near, difficulties began to show themselves. First, after the stores had been selected, there was the problem of assigning the students to the stores. Students have their preferences. So have proprietors. Yet it was obvious that if progress was to be made, when a student was assigned to a store he must stay there whether he liked the proprietor or the store or whether the proprietor liked him. He could no more change because he did not like the proprietor than he could change instructors in the university if he did not like the instructor. Neither did it seem possible to make a change if the proprietor did not like the student any more than it would be possible for an instructor in the university to put a student out of the class room if he did not happen to like him.

Great care had to be used, therefore, in the first assignment of students. This was accomplished largely by Mr. William Brookley who is an officer of the State Association. Mr. Brookley so placed the students that no unpleasantness developed during the year, between proprietor or apprentice. This I consider a remarkable piece of work.

The supervision of the work for the university was carried on by Professor J. B. Burt, head of the Department of Pharmacy.

When the assignments were being made I was interested in finding that every proprietor intended placing these men in the prescription department. The prescription department was the very place where the University did not want the men placed. At least not for the purpose of compounding. They had been trained in the laboratories so they were qualified to compound better than to do any other one thing. What the University expects of these men is to learn how to run a drug store. They were to learn everything possible about operation, from the prescription department to the pop-corn machine. Then the proprietors requested that I furnish them with a guide so they would know just what to teach. I suggested that each proprietor should go at it just as if he wanted to train his apprentice to run his own store while he was absent upon his vacation.

I thought I had at last clarified the situation when to my amazement one of the most outstanding and constructive druggists in the state came and said, "Doctor you will just have to make a list of the things you want these boys to know." At last I realized the busy retail druggist is not a teacher and I think they realized it too. So the following outline was made, the suggestions being drawn very largely from the Commonwealth study:

Suggestions for the Study of Practical Pharmacy by Students of the College of Pharmacy, of the University of Nebraska in the drug stores of the City of Lincoln, Nebraska:

Proprietary preparations	numbered checks, etc.
Specific remedies	Pricing prescriptions
Patent medicines	Wrapping packages
Cigar department	System of delivery
Soda department	Credit accounts
Operation of frigidaire	Monthly statements
Ordering of supplies	System of bookkeeping
Preparation of syrups, etc.	Discounts
Preservation of syrups	Inventories
Formulas for special dishes	Checking and pricing goods
Sundries	Correspondence
Perfumes and cosmetics	Banking
Soaps	Store policy on returned goods
Rubber goods	Store policy on cashing checks
Stationery	Store courtesies, phone, stamps, etc.
Magazines and newspapers	Store policy in building good will and confidence
Bandages, gauzes, cotton, etc.	Selling
Surgical supplies	How to approach customers
Ordering—How to buy—Contact with wholesalers	Sales talks. Selling by suggestion. Special sales
How to keep and care for stock. How to clean, etc. Want book.	Advertising
Keeping the store clean	Newspaper copy
System of arrangement and display of stock	Hand bills
Sale of non-beverage alcohol	Window signs
Keeping records of narcotics	Show card writing
Sale of poisons	Circular letters
System of prescription filling	Window dressing and displays
System of handling prescriptions. Triplicate	Counter displays

This outline is not complete and it may be greatly improved but it served its purpose in furnishing a skeleton to go by and produced some uniformity in the instruction. It will be enlarged upon as time goes on and as the work develops. The proprietor follows the outline as closely as possible and the student is required to pass an examination upon the material covered at the end of the semester.

An amusing incident arises occasionally. One proprietor out in the state wanted to get on the University accredited list so that he might so advertise his store to the public.

I wish to call your attention to the fact that real drug store operation cannot be taught in the so-called model drug store which has become a fad in the pharmaceutical schools just now in order to satisfy the popular demand for business training.

Drug store operation calls for responsibility. Lack of responsibility the college man has to a high degree. Responsibility can be developed only by experience. Responsibility cannot be developed in a model store which is built as a model store. It is still a plaything and there is no way to make it anything else, unless the University should establish a drug store in the city to supply the demands of the community. It would be undesirable to add another drug store to the community.

Judging from our first year's experience I believe it is entirely feasible to work out a scheme for practical experience along the lines indicated in this paper. The University of Nebraska is hopeful that this scheme will give as practical a solution to the apprenticeship problem in Pharmacy as the hospital internship has in medicine. It is our intention to graduate no one without this training.

In closing I wish to say that our experiment has been quite satisfactory to both proprietor and apprentice and I am sure the proprietors who have so finely coöperated with the University have found a great pleasure in rendering this service to the young men going into their profession.

DERIVATIVES OF $C_{16}H_{28}$ FROM ECHINACEA.*

BY E. L. WOODS AND EDWARD KREMERS.

The material for this investigation as well as that employed by Fritz Bischof (see *JOUR. A. PH. A.*, 13 (1924), 898) was kindly supplied by Professor Lloyd in the form of a volatile oil. As shown by Bischof, the volatile oil of Echinacea consists very largely of a tetra-hydro sesquiterpene with two double bonds. Attempts to prepare crystalline derivatives have hitherto failed. With benzoyl hydrogen peroxide an oily compound results that is supposed to contain two oxygen atoms apparently added as oxide oxygens to the two double linkages. When hydrated with sulphuric acid, this in turn is supposed to yield a crystalline erythrol, $C_{16}H_{28}(OH)_4$, hence a saturated compound. The further study of this tetratomic alcohol, it is hoped, will throw light on this interesting hydrocarbon, apparently the first of its kind

* Abstract of a paper before Scientific Section, *A. PH. A.*, Portland meeting, 1928.

to be found in nature. It should be stated that the reduction of azulene, $C_{15}H_{18}$, by palladium hydrogen as carried out by Augsburgers yielded a hydrocarbon $C_{15}H_{20}$, a reduction since verified by R. E. Kremers.

SYMPOSIUM ON PHYSIOLOGY AND BIOCHEMISTRY.

Taking advantage of the meeting in Boston of the International Physiological Congress, the University of Minnesota, through its medical school and the Mayo Foundation, will conduct a program in physiology and biochemistry between July 15 and August 15, 1929. The following foreign scholars will be present:

Prof. E. Laquer, director of the pharmacotherapeutic laboratory of the University of Amsterdam, Holland, whose researches have been on sex hormones and related problems; Prof. Waldschmidt-Leitz, of the German Technical High School, Prague, Czecho-Slovakia was, until recently, an associate of Professor Willstätter, in Munich, whose field is enzyme chemistry.