

mortar. The result, due to a gritty preparation, was an aggravation of the cutaneous symptoms, instead of the improvement obtained with the previous lots. It also resulted in some undesirable publicity for the pharmacy.

More recently (at an excellent clinic on burns, treated by the paraffin method), the chief of the clinic reviewed the various methods employed to treat burn cases. Among the methods was the use of warm water baths. He mentioned those claiming marked success and those reporting failure. To one with a pharmaceutical basis to a biological education it would immediately be patent that the success or failure will depend upon the temperature of the water and upon the length of time and frequency of application.

I recently saw a physician prescribe the Carrel-Dakin solution as a wet dressing on a bandaged hand. The result was an intense burn, as anyone with a good pharmaceutical and pharmacological knowledge would have expected from the group characteristics of the halogens.

These few examples tend to show that there is a gap between the physician and the pharmacist, and aid to locate the same. This is a gap which should be bridged by the pharmaceutical profession.

This is not presented as a criticism of our pharmacy graduate (Ph.G.) courses, which answer a definite need of the community. Nor to minimize the industrial and chemical fields of endeavor for which the colleges aim to qualify their graduates.

I would even urge that the commercial courses, as presented in the Ph.G. years, be made a prerequisite for such advance courses to teach value and methods, thereby to help eliminate the waste and extravagance which is so conspicuous in many hospital and clinical laboratories.

Bridging this gap will redound to the interest of pharmacy and the welfare of the community. The physician looks chiefly to the hospital for knowledge. Such training will also preëminently qualify pharmacists for success in the field of public health and sanitation. It will make untrue any charges that American pharmacy is not qualified to shoulder its responsibilities, be it in times of war or in times of peace.

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#### ABSTRACT OF DISCUSSION.

L. GERSHENFELD: The author has made two remarks in his paper which seem to be contradictory. He states that courses in urine analysis and bacteriology in schools of pharmacy should be optional, and then further on states that bacteriology should be taught in pharmacy schools and not in medical colleges.

H. J. GOECKEL: I said in the paper that some of our colleges of pharmacy give a sort of a course in urine analysis and in bacteriology and that it would perhaps be better if they did not give any of these courses because they did not qualify their recipients.

R. P. FISCHELIS: I must take exception with reference to some of the courses given in the institutions of Philadelphia. I know that the students who qualify in these courses are certainly fitted to do bacteriological work.

H. J. GOECKEL: I still maintain that the graduates of colleges of pharmacy, speaking from my experience, are not qualified properly for this work.

R. P. FISCHELIS: I must protest against such statement going out from this Association unless there is a basis for it. I know bacteriologists who are graduates of these very courses of

which I speak who hold important positions and have shown that they are well trained for the work.

H. J. GOECKEL: I am basing my remarks on my own experience, and I would like to have Dr. Jacob Diner speak on the subject, as I know he is thoroughly acquainted with it.

JACOB DINER: I can only agree with Dr. Goeckel in part. The teacher of the subject should have not only a theoretical knowledge of it but a thorough practical experience and he must everlastingly keep at his work. It is a mistake to make a sweeping remark to the effect that the subjects and courses cannot be given in a school of pharmacy or are not being given. Pharmacists are often better qualified for this work than the average physicians. To them it is scientific work; to many medical students it is drudgery, a subject from which they hope to pass on to what, in their estimation, is more important work. The pharmacist considers such work a privilege, in which he participates with the physician and is imbued with the responsibility involved. In my opinion the educated pharmacist is eminently qualified for this work, and in the selection of teachers regard should be had for their training and experience.

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### WHERE ARE PHARMACISTS TEN YEARS AFTER GRADUATION FROM COLLEGE?\*

BY ZADA M. COOPER.

At various times in discussions arising in this Section or in sessions of the American Conference of Pharmaceutical Faculties, the statement has been made that, if we insist upon high school entrance requirements, graduates of colleges of pharmacy will not remain in retail pharmacy. In other words, a man or woman with four years of preparatory work and two or more years in college will be too ambitious to be satisfied with retail pharmacy, in consequence of which the clerk shortage will become more acute and the proprietor more and more overworked. It would be conceded, perhaps, by most of us, that most localities would be better off with fewer drug stores, even though the reduction in numbers were the direct result of inability to get clerks, but that is not the question. Rather, *is* it true that pharmacists who have graduated from our high schools will not remain in retail pharmacy?

Because I always doubted the probability of their leaving pharmacy to any considerable extent, and to verify my belief, I have gathered together a few figures from the College of Pharmacy of the State University of Iowa. Of course, I know that one can make statistics prove anything and I know, too, that what is true in Iowa may not be true in any other state in the Union. However, I suspect that all of the neighboring states of the upper Mississippi valley would show pretty much the same state of affairs.

During the ten year period ending with June 1918, 10.8 percent of our graduates had not been graduated from high schools, though only during the last three years of the period was there a high school entrance requirement. During the other seven years large percentages were voluntarily high school graduates. The investigation might almost have ceased at this point, for, if they chose to come to a college of pharmacy after having high school preparation one would hardly expect them to quit after graduation to go into something else.

What then actually became of these graduates? This is what I found: only 7 percent are out of the profession, 6 percent probably permanently. Closer examination of these figures revealed the fact that one-fourth of them are practicing

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\* Read before Section on Education and Legislation, A. Ph. A., New York meeting, 1919.