

or even another Sertuerner; yet, with the right spirit, pharmacists in this country need not lose all hope.

Having already related the experience of my matriculation at the University of Bonn, allow me in closing to refer to another experience of the last day spent in Goettingen. The statue of Friederich Woehler was being unveiled before one of the academic buildings; and the four faculties, students as well as professors, were assembled to do honor to the memory of the discoverer of the truth that the substances of animal and vegetable organisms can be produced without the intervention of the life process. It was the venerable Hofmann, the author of so many excellent biographies, who delivered the address. Thinking of the campus with its essentially undergraduate atmosphere, of the laboratory with meager equipment even for undergraduate work that was awaiting him, the American student, who had received so much stimulus from his teachers at two German universities, received the greatest stimulus on that last day when the venerable Berlin professor, in pointing to the difference that existed in the equipment of the new organic laboratory in which the American had been privileged to work for two semesters, and the meager facilities that had surrounded Woehler when he made his remarkable discoveries, said: "*Es kommt nicht auf den Kaefig an. Die Frage ist ob der Vogel der drinnen sitzt singen kann.*" It matters little whether the cage is of wood or gold, the important question is whether the bird in the cage can sing.

THE SCHOOL OF PHARMACY AND THE PROFESSION.*

BY C. FERDINAND NELSON.

It needs scarcely be emphasized that we are living in an age of extreme specialization. A thousand happenings, large and small, significant and trivial, force the conclusion home to us daily. On every side of us, in every walk and avenue of life, wheresoever we chance to turn this minute dissection of things is constantly evident. The division of the world's labor has become tremendously complex. Where but a few years ago one vocation existed ten may exist to-day. The practice of medicine is no longer a single profession, it is rather a dozen separate callings. The engineer is no longer master of his field, but picks out one small corner of it and here does his bit. One lawyer masters criminal statutes, another the law of corporations, a third constitutional or international law. This dentist pulls teeth, another fills them. Specialization rules the day and us. We are its servants whether we will or no, and wherever it leads us we must follow.

The advances in every line of endeavor that have come as a direct result of this concentration have been many and important. It will, however, not serve our purpose to discuss these here except to mention the tremendous impetus that has been given to organized training, to the importance of college and university work in the last decade. The business man, the professional man, the artisan, have all found out that they must be trained rapidly and systematically if they would compete successfully.

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And so of sheer necessity we find ourselves living in an age of extreme educational activity. The school has become universal. Orderly and efficient accumulation and dissemination of knowledge has become imperative. Every state has its large university; there are colleges in the land by the hundreds. Schools of medicine, law, pharmacy, engineering, dentistry, agriculture, forestry, mining, and finance are found in every state of the Union. We go to school to learn philanthropy and social science, how to nurse, how to drive an automobile, and how to play golf. Surely the classroom and laboratory are important factors in modern life.

In the professions, too, the college has become absolutely necessary. No one can become a doctor to-day who has not received a college training. A great many of our engineers and lawyers are college men. In pharmacy the state boards have awakened to the necessity of preliminary study in a school of pharmacy and before long we may well hope to see every young man or woman that enters a drug store equipped with the superior advantages which systematic training gives.

I have dwelt at some length on the point of the importance of the school in modern life because in pharmacy we have been slower to recognize this fact than in any of the other professions. Whether the cause for this lack is to be found in the fact that we have specialized less, and this is certainly true in a professional sense, is, of course, hard to determine. Certain it is that we have rebelled vigorously at each new required educational advance and there has been genuine fear in many quarters that if educational requirements kept on going forward apace, the drug market would soon be entirely depleted of men. We need more than ever to-day to reap the advantages of organized information, to encourage, support, and endow our existing schools so that they may be able to do more and more for the cause of Pharmacy and for the young men that are to enter the calling.

If the college is an important institution in the life of a profession, as we believe it is, we have a right to demand important things from it and on certain points at least we should expect leadership to come from this source. Many pharmacists have in the past wrongfully assumed that the college existed only to supply them with clerks. Were this the only function of a college of pharmacy, the profession would soon be in a sorry plight. On constructive matters, legal or professional, their advice has not been sought enough. This point the profession must sooner or later come to recognize and correct.

But what, we may ask, should the modern college of pharmacy do for the profession of pharmacy? We are all agreed that its first duty is to prepare men to practice retail pharmacy; a second function is to train men to fill positions as pharmaceutical chemists and to supply men for the wholesaling of drugs and chemicals; a third to do research work to advance our knowledge of the uses of drugs and medicines; a fourth to train teachers and investigators so that pharmacy may enlarge the scope of its activities. These are important functions and if done well would seem to be enough. And yet there is another exceedingly important phase of pharmaceutical activity to which we must give a great deal of attention in the immediate future, which the college must take upon itself to solve or at least do all in its power to help the conscientious lover of pharmacy to unravel. It is this problem to which I desire to invite your attention for a few moments.

The one conspicuous and outstanding fact in the retail practice of pharmacy to-day is the disproportion between the commercial and professional activity of the pharmacist. A great deal has been written decrying commercialism and urging us back to the prescription counter. Much has been said about the necessity for the pharmacist being the manufacturer of the drugs he dispenses, but we have entirely forgotten the question of the evolution, or thought of urging the enlargement of the scope and ideals of the profession. Pharmacy is to-day, as it was in its infancy, the science and art of preparing drugs and filling prescriptions. We must not wonder that we have floundered in a sea of commercialism with a barque so small and inadequate and outworn. The wonder is that we have survived at all. The introduction of machinery and the establishment of large manufacturing houses have forever taken from the retail pharmacist the hope of being a successful manufacturer of his own preparations. We must meet this fact squarely and recognize it. It is as useless for the retail pharmacist to compete with the manufacturer in this respect as it was years ago for the trade unions to protest against the introduction of machinery in the trades. The machine conquered, and so will wholesale manufacture of drugs. We should drop this as an ideal for retail pharmacy, but as we drop it put something in its place.

And what has happened to our prescription departments, of which we have been so proud, and upon which so much care has been lavished in the past? A few flourish, some exist, many are entirely wiped out. The average pharmacist to-day despairs of making a living on the strength of his prescription sales. And well he may if he expects only to fill the old style of prescriptions; *i. e.*, drugs, drugs for every ailment known to man. The medical profession has passed this point and we must expect the number of prescriptions written to decrease. But what have we put in its place, a professional void, to be occupied too soon by another side line? Is it not an indisputable fact that the two vital professional elements in our calling upon which in the past we have sought to stand have slipped, or are rapidly slipping, from our grasp? Is it not equally true that we have not sought to substitute anything for that which we were losing?

Pharmacy must revise its ideals and define anew and in broader terms its scope and purposes. The mortar and pestle are not adequate insignia for twentieth-century pharmacy. They serve modern life too poorly, touch it at too few angles, have become of secondary rather than primary importance. And the same holds only too true for the retailing of drugs and chemicals.

This point of view need not shock even the most conservative among us. We have but to look at our sister profession of medicine to find that time and time again it has emerged from out of the hard shell of its former practices and into a newer and better one, repeatedly has it re-defined its scope and broadened its usefulness. And yet it has not changed its name. The physician is no physicist and yet he has insisted upon mastering the technique of the X-ray machine. He claims to be no electrician and yet he will tell you much about the faradic current and the electrocardiogram. He is no engineer and yet he raises his voice on questions of sanitary problems. These things could by no possible stretch of the imagination have entered into a definition of the practice of medicine half a century ago.

May it not be that what we need more than anything else to infuse and rejuvenate the profession which we all think so much of, for to one who has been

behind the counter for years there is a real charm in pharmacy that only he knows, may it not be that what we need is to include in the definition of pharmacy something besides that which we have heretofore always included? Can we not fill the older now empty or nearly empty spaces with something besides commercial side lines? To find this out is a fifth duty of our schools of pharmacy. They should systematically study the problem and we should all help them solve it.

It can be shown with reasonable certainty that pharmacy and medicine are essentially complementary professions and that in the large their business is to solve the problems of health and disease. Anything included under these problems may, therefore, belong legitimately to pharmacy or medicine. Why we should only sell tablets and make tinctures and leave all the rest to medicine is not at all clear. The physician needs our aid along far more important lines and so does the public. Is there any logical reason, then, why we should continue as we do?

Medicine concerns itself chiefly with physical diagnosis and treatment of disease. Prophylaxis is also becoming more and more of its concern. I would like to define pharmacy as the science and art concerning itself with all of the remaining aspects of the two problems previously mentioned. This would give us professional responsibility which we need so badly, and yet not take us too far afield from pharmacy as we now know it. Particularly in things chemical are we fitted for this larger work. Our heritage is chemistry. Much that to-day is important in chemistry was brought to light in the old apothecary shop. We should undertake all of the chemical and even bacteriological work now included under medical laboratory diagnosis. Already we see the signs of the medical laboratory coming to do this work for each community. The pharmacist should anticipate this work because it really belongs to him to do. The municipal and sanitary laboratory as far as health problems are concerned should be in his hands. To the mortar and pestle should be added the test tube and Petri dish. With this combination we may reasonably hold our own—professionally do our bit and do it well. Without anything but prescriptions and patent medicines to sell to the public we cannot hope to survive. We shall drift ever farther into pure commercialism and with it will disappear every vestige of pharmacy as a distinct calling.

ARSENIC INSECTICIDE INDUSTRY PLACED UNDER THE LICENSE SYSTEM.

The Food Administration has issued the following:

With the idea of further conserving the Nation's food supply by protecting it from insect ravages, President Wilson, in a proclamation dated November 15, has placed the arsenic industry of the United States under direction of the Food Administration. The President's action comes in answer to a threatened shortage in the supply of arsenical insecticides, which are the farmer's chief protection for his crops against the onslaught of "biting insects."

All those engaged in the business of importing, storing or distributing insecticides containing arsenic are required to secure a license.
