

Fifth—We have seen that there is a vast latent demand for analytical work of a chemical and bacteriological character from both the physician and the public in general. This work the pharmacist should do and can do by establishing an analytical department (even though it be very small) in connection with his store.

Sixth—That the analytical laboratory will become a source of profit to the druggist, it will serve a real need in the community, and last but not least, by doing this scientific work, the pharmacist will establish himself on a plane with the physician and lawyer and thus elevate his calling to that of a true profession.

SOME THOUGHTS FOR TEACHERS.

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Almost every magazine one picks up and even the newspapers are printing articles criticising the public school system. No part of it escapes; the kindergarten and the university alike get their share. "What is Wrong with the College," "Why I am Poorly Educated," or similar titles are a familiar sight. Apparently, these critics of our schools lose sight of the fact that all sorts of people go to school and *almost* all sorts go to college. They forget that in the manufacture of anything the raw material controls the nature of the finished product; as some one has aptly said, "Critics of colleges never consider the kind of grain that comes into our hoppers."

We, who are teaching in colleges of pharmacy, cannot help wondering if we are in any way concerned with the imperfections, if those faults are in any way reflected in our work. We should expect, perhaps to see the chief evidences in freshmen classes and are at once confronted with the idea that possibly a large proportion of students conditioned or failed during this year can trace their difficulty to the public schools.

In any consideration of the subject, the mentally unfit, those actually lacking in capacity, may be disregarded. There are such, but very few reach college. The individuals who are below the average of intelligence are not many because they are eliminated earlier in their school career. Speaking of average intelligence it can be said with little fear of contradiction that any one of average intelligence who works conscientiously will get through college creditably.

To go back to the original question, there is no doubt that many general reasons are involved. Conditions are similar to those existing in freshmen classes in any professional school or even in the colleges of liberal arts. Perhaps, the whole situation can be summed up under two heads, insufficient preparation and lack of thoroughness in that preparation. Some colleges of pharmacy are handicapped in having students who are not graduates of high

schools, though most teachers will concede that a high school education is little enough general education as a foundation for the study of pharmacy and the sooner all colleges adopt that as a minimum entrance requirement, the better it will be for them and for the profession as a whole.

However, insufficient preparation is a minor difficulty when compared with the lack of thoroughness; the one is within our control, the other entirely beyond it. We can say what the preparation shall be so far as quantity is concerned, but the quality of that work we may not specify. Even if we could, surface indications are of little value. Grades should mean something, they usually do mean something, and yet they may be absolutely worthless in foretelling what the individual may do in college. Doubtless every teacher in every college of pharmacy has had, not once, but again and again, in beginning classes some students who had so little knowledge of the most fundamental things as to arouse the wonder whether they knew the multiplication table or could read the English language intelligibly. Yet those very persons may have presented the best of credentials.

Even men who have done some years of work in a liberal arts college or who have a degree are among the failures in professional schools. The explanation of this is simple. The slipshod superficial work of the preparatory school has been continued, aggravated, perhaps, by the elective system which permits the choice of "snap courses," thereby fixing more permanently the bad habits of earlier years.

If it were possible to trace the real cause it would probably be found in the early years of a pupil's career, possibly at the very beginning. The child gets into bad habits of thought and bad habits of work and as the years go on the habits grow until it is almost impossible to accomplish anything in college. Probably, always in the beginning, these bad habits are acquired unconsciously but later they may be systematically practised. However acquired or however fostered, the result is much the same. It is impossible to rear a superstructure on such an inferior foundation. Sooner or later it is bound to topple.

There is one fault of the public school system that deserves more than passing attention because it is one which is carried right into college. In the words of a great educator: "This part and that part of the individual are developed most methodically with the result that the modern useful mind is full of water-tight or idea-tight compartments, snug places where assorted bits of information are safely tucked away but there is no communication between." Doubtless every teacher has observed this very fact when students fail to apply in one class room what they have learned in another. They appear not to dream that different class rooms are on the same planet. As this same author says further: "They are taught everything except how to pull themselves together, to think and act as entities, as personalities," and yet "Instant command of all the faculties at once is the one thing that life demands of us in its crises."

Educators are fully awake to the faults of the public school system and are, perhaps, doing all that they can to remedy them. At least, that is not our problem and discussion of these faults is unavailing except that thorough understand-

ing of any condition makes it easier to meet. Theorizing is useless, and there is little to suggest as to how we can overcome the conditions. The little that can be done must be largely personal assistance to each individual to help him to undo somewhat the faults, to replace his careless habits with careful ones, to teach him how to study.

Teaching students how to study can be to a considerable degree the outcome of an instructor's method of presentation. For example, the facts in any subject should not always be given directly to a class. If a textbook is used study is not limited to it but reference works are supposed to be consulted. In giving citations exact pages or paragraphs to be read is not as good as to ask that certain points of interest be looked up. Recitations should be conducted in such a way that a student must have read the references in order to recite. In assigning a lesson, attention should be directed to the points that must be investigated, the necessity for knowing the reasons involved in various processes, but students should be expected to dig out the facts themselves. Outside written work should not be resorted to for it puts a premium upon dishonesty. However great the effort on the part of an instructor, some students will not do the reading themselves but trust to providence or their neighbors. On the other hand, many can be induced to search out the subject and once they get the habit, they begin to acquire the spirit of learning which is the secret of success.

We must make our courses attractive and interesting, and attractive should not mean easy. Naturally an easy course may be attractive but the reverse is not necessarily true. In fact, the course ought to necessitate hard work but not disagreeable work. It is for us to make knowledge so vital that students cannot help being interested.

Whether dealing with poorly equipped students or the best, the function of every college is two-fold, one of which is sometimes minimized in practice or lost sight of entirely. The teaching of facts is not likely to be forgotten but it is not so easy to remember that the intelligence must be trained, that sound judgment and good common sense should be cultivated. It is general wisdom and ability to use his accumulation of facts, to correlate them when some specific situation arises, which makes the individual successful. No teacher can be present to direct the application (in real life) of information he may be trying to get into the minds of his class, no teacher can anticipate the emergencies that may arise. The teacher's duty is to try to awaken or to increase the enthusiasm for learning and to do this so thoroughly that students develop power to investigate for themselves and to apply for themselves their stores of information. Students, if they hope to succeed when they have left the college of pharmacy for the larger college of life, must acquire personal initiative, must be intellectually alert. Lyman Abbott summed up the situation in a few words when he said: "Education is not only the acquisition of information, it is even more the development of capacity to deal with the facts thus ascertained, it has come to be the acquisition of power even more than the acquisition of information."

Probably no definite system is available to teachers. There is no royal road to learning either for teacher or student. The ultimate end of independent thought and action on the part of students must never be lost sight of. Eternal vigilance

is the price. It is a laudable ambition for teachers to want degrees and what they stand for, but there is no degree which guarantees ability to teach. Teachers should be men and women with good red blood in their veins, not just "semi-vitalized text-books."

LIQUID PETROLATUM, RUSSIAN AND AMERICAN.

E. H. GANE, PH. C.



Liquid Petrolatum is destined to be, if it be not already, the most extensively used medicinal substance at our disposal.

In the crude form, petroleum has been more or less in use for many centuries, references to it being found as far back as 600 B. C. The use of the highly refined product known as Liquid Petrolatum is, however, of very recent origin, dating back only to the early eighties of the last century. Since that time in one form or another it has been recommended as a cure for almost every ill that flesh is heir to. In addition, it has also been used as a substitute for or as an adulterant of lard, butter and vegetable oils used for culinary purposes and it was investigations into its value as a food that led ultimately to its present enormous vogue in internal medicine.

It was early determined that Liquid Petrolatum had no food value, but passed unchanged through the intestinal tract. Nevertheless, petroleum emulsions, plain or combined with other medicaments, have been largely prescribed for some years and usually with very good results, despite the dogmatic assertions from test-tube investigators to the effect that these preparations were valueless or fraudulent. We know now that, while the claims made for these products were inaccurate, the preparations had real value due to the corrigent action of the petroleum on the intestinal tract.

Liquid Petrolatum as an internal remedy is distinctly an American idea. Little attention was paid to the work of earlier investigators by physicians until a series of papers presented to medical societies in Ohio and Indiana between the years 1900 and 1903 led to its continued use in that part of the country as a remedy for chronic constipation and intestinal obstructions. Since that time its use has been developed enormously, being especially aided by the strong recommendation of the great English surgeon, Sir William Arbuthnot Lane, given at the Congress of Surgeons held in New York in 1912. Much of the credit for its discovery as a therapeutic remedy has gone to Mr. Lane, though many American physicians antedated him in using it.

It is not necessary to do more than mention that the value of Liquid Petrolatum for medicinal purposes lies in the fact that it is inert. It is possibly the only medicine that has no medicinal action, but works purely mechanically. It is