

there is change of valence; but, inasmuch as most of the equations which the beginner meets in his studies are of the interchange type, it is worth while to use it. Of course, card system equations should be promptly translated into the ordinary text-book form, for that, after all, is the end sought, the system being only a means readily to attain that end. After the student has once learned to balance equations of this type he can be more or less easily trained in the balancing of oxidation and reduction equations. It should be observed that, by considering each card as standing for an ion, the ionization theory may be effectively demonstrated. Cards making up formulas of highly ionized compounds may be left some distance apart, while those composing the formulas of un-ionized compounds may be butted closely together.

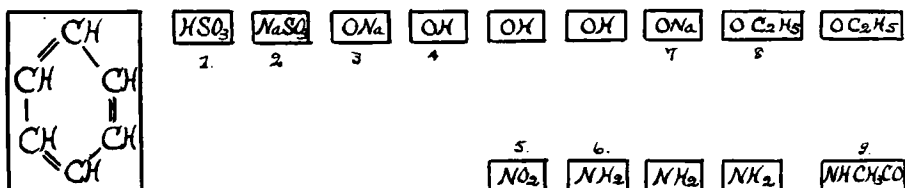


EXHIBIT F.

Some of the writer's pupils have made for home use sets of miniature cards from thick paper or thin cardboard, considerably to their advantage. The mere making of the cards, even though never used, is instructive, as the maker becomes thus impressed with the symbols of elements, the formulas of important groups, and, what is of vast importance to him, the valencies of these.

Enough has been said to give you a fair conception of the possibilities in this system. Actual use of it will bring to light possibilities not suggested in this paper. With the hope that others may have even a greater degree of success with it than the writer has had, he gladly passes it on to his fellow-workers in the teaching fraternity. Should any of them think it worth trying he would be pleased to hear what success they have had with it, and he would be glad to receive suggestions as to how it may be improved.

ENTRANCE REQUIREMENTS TO PHARMACY.*

BY WILLIS G. GREGORY.

Recognizing both the serious shortage in drug clerks and the desirability of attracting to pharmacy the most desirable recruits, the New York State Board of Pharmacy has tried to meet both conditions.

Of course, the temptation is ever present in any emergency to surrender some of the safeguards that have been laboriously constructed through years of endeavor. But unless absolutely necessary, no backward step should be taken.

The problem then was how can present needs be satisfied without the sacrifice of much future good. The Colleges of Pharmacy in our state all reported that high school graduates sometimes declined to study pharmacy because of the

* Read before Section on Education and Legislation, A. Ph. A., Chicago meeting, 1918.

long interval between their graduation and the time they could take the Board Examination, caused by the four-year experience requirement.

To save these high school graduates to pharmacy, as well as to increase the number of young people entering its ranks, it was proposed to credit to such students two years of the required practical experience for their high school course.

Here are some of the considerations that led to this proposal:

A. How many of us honestly think a high school graduate should spend two or three years running errands, washing bottles and tending soda fountain? The conditions of apprenticeship are not the same in any calling as they were in the youth time of many of us.

B. Some of us have had experience with high school graduates beginning behind the counter; not always satisfactory, of course, but in many cases the experience was sufficient to prove that a short period of training gave us comparatively safe and efficient helpers.

Credit for education is not at all a rare thing.

A. In Europe, where three years' compulsory military service has been the rule the college graduates have been credited with two years and obliged to serve only one.

B. In America, where pharmacists are obliged to enlist as privates, medical graduates are at once given a lieutenant's commission.

C. In our new army, where pharmacists have enlisted as privates, many of them have been transferred to the medical corps, where they not only are of more service to the nation, but where also they are relieved of much military drudgery.

D. In this state, three years of study in a practicing lawyer's office, is required for admission to the bar examination, but in the case of a Law College graduate, this period is reduced to one year.

Instances of this character could doubtless be multiplied. The world over, education is recognized as increasing a man's power and value and as enabling him to accomplish any intellectual training in less time than can be done by one less thoroughly trained. Why should not this principle be recognized and applied in pharmacy?

This proposition, which the writer still thinks possesses considerable merit, did not receive unanimous approval, and so it was not pressed. However, there sprang from it another plan, which did not excite opposition and which may be helpful in the present crisis.

Graduates of registered Colleges of Pharmacy with two years of practical experience, including the time spent at college, and 19 years of age, are permitted to take the pharmacists' examination, except practical pharmacy, at once, instead of waiting for 21 years of age and 4 years of practical experience. For such examination, if successfully passed, a new license will be issued, to be known as a "Junior Pharmacist" license. This license will confer upon its possessor similar rights to those now given a licensed druggist. In addition, upon the completion of four years' experience, 21 years of age, and passing the practical pharmacy examination, the "Junior" license can be exchanged without other requirements for a pharmacist license.

The object of this plan is to permit students who go from the high school into the College of Pharmacy, without having secured much previous drug store experience, to take the State Board Examination soon after their college training, while the theoretical and technical part of their education is still fresh in mind.

It is believed that this new arrangement will increase the number studying pharmacy and that these additions will be of good quality. That this innovation in entrance requirements may not prove too shocking to ultra-conserva-

tives, the writer has saved for this last sentence, the statement that this change has been enacted already into the law of the State of New York and the first examination under it has been held.

SO-CALLED COMMERCIAL PHARMACY SHOULD NOT BE TAUGHT AT COLLEGES OF PHARMACY.*

BY FREDERICK J. WULLING.

From a list of suggested titles for papers I will speak indirectly and collectively on the following:

1. Teaching of Commercial Pharmacy—Suggested Methods and Materials.
2. Psychology as Applied to Business Should Be Taught in Our Colleges of Pharmacy.
3. The Qualifications of a Teacher of Commercial Pharmacy.
4. What Percent of Our Curriculum Should Be Devoted to Commercial Subjects?

From these titles it would appear that it is taken for granted that commercial pharmacy, whatever that is, should be taught by the colleges of pharmacy. I dissent from this view unless by the term "Commercial Pharmacy" is meant the commerce incidental to the practice of pure pharmacy. In that case the phrase would be entirely misleading. It is clear that the term has quite another meaning and that by it is meant the commerce in all the multifarious commodities and products other than drugs and medicines carried by the so-called modern drug store. Much of that kind of commerce is not related to pharmacy in any wise, except that it is carried on vicariously by pharmacists. If the same kind of commerce were carried on, as it is in a large measure, in other places of business it would certainly not be called commercial pharmacy. In fact there is no commercial pharmacy at all. The term is an incompatibility. Pharmacy is a department of medicine and not trade. We have the contradiction of persons called pharmacists, specially privileged and empowered by the state to render an important professional service to the people, engaging in trade and calling it commercial pharmacy. There can not be any objection to the trade itself carried on by the pharmacist; the objection is to the fact that it is allowed to overbalance in many cases the activities of pharmacists who are especially licensed to do something else. It is unquestionable that the legislatures when they enacted the pharmacy laws and established the boards of pharmacy intended to have them apply solely to the practice of pharmacy and not to trade. In enacting pharmacy laws the legislatures intended thereby to provide trained and educated persons to render competent pharmaceutical service to the people. Such training is not necessary for carrying on trade nor for the protection of the public in such trading. *In return for the highly specialized service intended and expected by the legislatures they gave to pharmacists all the benefits and advantages of a privileged class by restricting the practice of pharmacy to them and excluding all other persons from engaging in the practice.* It is true that the law does not specifically prohibit licensed pharmacists from engaging in trade while exercising and enjoying the special privileges

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