

It seems to be that the electrical energies of the different media should be investigated, as unusually brilliant and otherwise elegantly appearing liquids may be devoid of active constituents, after filtration. As long as we do not possess positive knowledge about the electrical character of those substances, it may be wise to use paper pulp.

In conclusion, I wish to say to you, that Dr. Lloyd, as well as Eli Lilly & Co. stand ready at all times to render all possible service to further earnest scientific investigation. All inquiries for experimental supplies should be made to Eli Lilly & Co., Indianapolis, Ind., where they will find prompt attention.

INDISPENSABLE INSURANCE FOR PHARMACISTS.*

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History has shown that it is the practice of shrewd, hard-headed, far-thinking men to protect their most valued possessions by some form of insurance. The greater the possibilities that they will suffer a severe loss from destructive forces, the more the desire to protect themselves from these agencies, and to increase the amount of the protection.

Our government has always recognized the wisdom of protection against all forms of invading and destructive forces by establishing agencies to conserve the desirable assets, as well as to repel the destructive invaders.

Our Army and Navy are supported and maintained chiefly to ensure peace to the nation by moral influence, and our Federal Public Health Service is depended upon to protect us from injury from organisms that would greatly distress, if not annihilate us if permitted to carry on their destructive work unimpeded.

Within recent years the wisdom of calling a halt upon the wasteful methods of handling our natural resources has been more apparent, and has given rise to an era of greater conservation, for we must admit that we, in large measure, are guardians of these wonderfully rich possessions for posterity, as they have been handed down to us by our forefathers. This conservation is but another name for insurance against waste and extinction.

Before me, as I pen these lines, lies the advertisement of a large bonding and insurance company, in which is described a form of insurance for almost everything that has a monetary value—even re-insurance of other forms of insurance; but to the pharmacist the most vital form of insurance is not included in the long list of classes of risks, viz., insurance of Professional Pharmacy, the backbone and sinew of the profession.

The omission of this form of insurance is excusable, for it is impossible for any company to write this kind of policy. It can only be obtained by co-operative action of pharmacists in a society, founded upon principles recognized to be honorable, unselfish, uplifting, ethical and of mutual benefit to its members and to society generally.

Such a praiseworthy assemblage of men and women is exemplified by the oldest

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of pharmaceutical associations—The American Pharmaceutical Association, which was organized in 1852, in this city.

Why should a pharmacist neglect to protect his dearest possession—his professionalism, that for which he labored diligently and for which he was educated by special courses of instruction?

In these days of commercial greed and encroachment upon the domain of others' fields of endeavor, our calling has not been protected from the efforts of barons of wealth, to drag our profession down to the level of ordinary bartering and trading, to the great detriment of those specially educated to prepare and dispense medicaments for the sick and dying members of society; and to the ultimate, lasting disadvantage of the public, who oftentimes fails to appreciate the benefits it is enjoying until they are lost to it.

In the effort to find some means to protect us against the dangers which threaten our rights and liberties as a distinct professional calling, it is imperative that each pharmacist should seriously consider the necessity of affiliating himself with the American Pharmaceutical Association, which has an unsullied record of constant vigilance for the interests of pharmacy and its votaries for more than sixty years.

Just as the "Minute Men" of '76 gave instant heed to the call to duty in defense of their rights and liberties so to-day it is imperative for every true and loyal pharmacist to gather under the banner of the A. Ph. A., enroll himself upon its muster-roll and fight in defense of his profession and his existence.

The marvelous word "Drugs" has been seized upon by parties possessed of wealth to serve as a cloak for conducting mercantile establishments that are the worst cases of mis-branding known to me, and as such, should be punished as those who mislabel their goods are penalized by the provisions of the Food and Drugs Act. It is only by concerted, strenuous, untiring effort that we can hope to resist and repel these forces.

Do not be asleep and awaken too late to protect yourselves, but join with us to-day to repel those who would destroy the good name and fame of professional pharmacy.

I have intentionally avoided saying anything concerning the premiums charged by the Association for this insurance. Practically speaking, it makes no charge for the many benefits its members enjoy.

The mere pittance, five dollars per year, charged for membership, which includes The Journal of the American Pharmaceutical Association, is a ridiculously low charge for the post-graduate course of instruction in pharmacy that comes to one by mail in convenient installments monthly, to say nothing of the handsome cloth-bound volume known as "The Year Book," and in these days of enlightenment and advancement no one can worthily call himself a pharmacist who does not keep himself abreast of the times.

To describe the lines of activity of the Pharmaceutical Association is to cover every phase of pharmacy, as its many sections indicate the wide scope of its work.

It is impossible to speak of an effort to uplift, advance or to protect pharmacy without quoting from its archives; hence no one engaged in the drug business can honestly say that he has not and is not benefitted by the efforts of his co-

workers, who have banded themselves together to protect pharmacy, under the respected and revered banner of the American Pharmaceutical Association.

The moral effect of a large membership is well known to all thinking men; hence if the effort of the present members and workers should be reinforced by your co-operation, even greater results could be obtained; therefore why delay doing your part to increase the effectiveness and stability of the protection you enjoy as a member of a respected profession.

Come, join our ranks and help to protect pharmacy against those who would destroy it.

Let me call your attention to the words of Lowell: "No man is born into the world whose work is not born with him; there is always work and tools to work withal; for those who will and blessed are the horny hands of toil."

THEORIES UNDERLYING THE USE OF ANTITOXINS AND VACCINES.*

A. PARKER HITCHENS, M. D., GLENOLDEN, PA.

The action of antitoxins has so definitely passed beyond the stage of pure speculation that I think there will be little difficulty in expounding the theories underlying their use. With regard to vaccines, likewise, we have come to describe more clearly their mode of action without the use of a terminology recognized only by the initiated few.

Out of studies in immunology—the science dealing with the mechanism of contagious diseases—have developed methods by which the body may be assisted either to prevent disease-producing germs from gaining a foothold, or to eliminate them after they have become established.

The disease-producing bacteria are classified in various ways according to their functions. For our present purpose, the classification of most interest is that which considers the bacteria according to their manner of causing disease. Thus we find that one group of bacteria produces definite, soluble, and diffusible poisons and that all the symptoms of the disease are dependent on the action of these poisons upon the tissues for which they have an affinity. The second group of bacteria, on the contrary, do not produce soluble and diffusible toxins in appreciable quantity—their effect is brought about by a much more complicated process. We believe the production of disease by this class of bacteria is not a function in which they alone participate, but is the result of their interaction with the body cells.

Belonging to the first class of bacteria, the only organisms of interest to us are the *diphtheria* bacillus and the *tetanus* bacillus. These produce soluble and diffusible poisons—*toxins*; and spontaneous recovery from these diseases depends upon the generation by the tissues of a substance which will neutralize the toxins—*anti-toxins*. The requisite antitoxins can be easily produced in animals and

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