

tions may be objectionable. In general, however, this characteristic should not militate against its use as an excipient for pills and troches.

As may be seen from the foregoing, although inferior to tragacanth, karaya gum does have valuable characteristics, and its use for legitimate purposes should be encouraged. It is now selling for one-fourth to one-fifth of the price of tragacanth, and on account of its cheapness it is now being used rather extensively in the arts as a substitute for tragacanth. Karaya gum is considered especially worthy of the attention of pharmacists at this time because solutions of tragacanth and other gums¹⁴ are being recommended in quite a number of preparations as substitutes for glycerin, which is now in very large demand for war purposes.

CONSERVATION IN PHARMACY.*

BY A. R. L. DOHME.

These are abnormal times in which we are living, and standards of all kinds have been changed to meet the conditions set by a war which has no standard by which to measure it—exceeding in extent, intensity, destruction and influence on the entire world and everyone in it, that of all previous wars combined. The aim of the war now existing for about four years has been general and mutual destruction of all things. The magnitude of the operations and the world-wide nature of the same has taxed the resources of all nations to the limit. In money, the yard-stick is now billions—a figure previously only relegated to the imagination. In steel, ships, copper and explosives, the yard-stick is nation's entire output; in men, clothes, sugar, flour, cereals and foodstuffs, the yard-stick is the utmost capacity of the earth's productivity and the man power of the earth to supply and produce it. All laws are continually changing and freedom of action, thought or belief no longer exists anywhere on the earth. The press now rules the world and creates not only sentiment, position, influence and power, but holds in the palm of its hand the destinies of life of all peoples and individuals. Absolutism and terror now reign supreme all over the earth. It has become the solemn and serious duty of this great country of ours to step into the breach of the European cataclysm and holocaust and by the power of its manhood, the sacrifice of its people, the use of its vast resources in money and materials and the throwing into the balance of its determination, ingenuity and persistence, stay the onslaught of the Teuton columns and save the world from the rule of autocracy and might, thereby preserving for mankind the institutions of liberty, freedom and the pursuit of happiness. Without our intervention the cause of the Allies would have been lost. What a glorious opportunity for the land of the free and the home of the brave to come to the rescue of a tottering world about to fall a prey to Junkerism and the Divine right of kings. It hence becomes our duty, each and everyone of us, to do our share in every way we can by putting our shoulder to the wheels of the car of liberty and help it arrest the advance and eventually

¹⁴ Anon. "War Emergency Formulas," *Lancet*, 193, 766 (1917). Smith, "War Emergency Formulas," *American Druggist*, 66, 51-3, 102-4, 145-9 (1918). Wimmer, "Emergency Substitutes for Sugar, Syrup and Glycerin," *JOURNAL AMERICAN PHARMACEUTICAL ASSOCIATION*, 7, 39-46 (1918).

* Read before Section on Commercial Interests, A. Ph. A., Chicago meeting, 1918.

smother and destroy the car of Juggernaut, led and kept going by the war party or lauded aristocracy of Germany. Our share is to supply the medicines needed to cure the sick, heal the wounded and sustain the well, as well as to conserve all resources that enter into our lives and our business activities. Let us remember, however, that we must not sacrifice our main vocation and duty, which is the supplying of medical supplies, or in any way weaken or hamper it, by a false conception of a so-called patriotism claiming to conserve our needed raw materials for said medicinal agents.

Some ill-advised persons have apparently, under the guise of said so-called patriotism, appealed to the drug trade to change its formulas of medicines so as to conserve sugar, alcohol and glycerin. Assuming that these persons meant well and were not actuated by a desire to shine as patriots, so-called, I am prepared to prove and am therefore going to assert that their plea for conservation of these three important ingredients of medicines was impossible and in fact, dangerous. In the first place, these products are subject to Federal laws which are an integral part of the statutory law of the land and they cannot hence be altered without subjecting the maker of the product to the penalties of the law. In the second place, a change of formulas established after many decades of experience and study would, beyond question, subject the preparations to change in strength and keeping qualities that might and probably would render them of doubtful value. This probably would endanger the lives of both our soldiers and our civilians and this is something no patriot so-called nor a real patriot would or should dare to do. No chemist or pharmacist to-day can definitely say or determine without prolonged study and observation to what extent a reduction of alcoholic or glycerin strength will alter and depreciate the value or the utility of a medicinal preparation. The whole question was discussed at a hearing held by the U. S. Food Administration at Washington, attended by many of the experts of the Government including Doctors Alsberg and Kebler and by the writer and Dr. Frank R. Eldred, on behalf of the pharmacists of the country. It was first shown that there is no need to conserve alcohol any way, as there is more than enough for all needs for years to come, without considering at all the vast stores of damaged corn all over the land seeking sale for conversion into alcohol, as it is not fit for food. Next it was shown that the amount of sugar used in medicines is less than half of one percent of the amount used in the confectioner's trade alone. Since the latter is certainly a far less essential industry than medicines, whatever conservation of sugar that may be needed beyond that conserved in family use should come from the candy business and not from the drug business. Therefore sugar and alcohol were by mutual consent unanimously eliminated from the materials to be conserved in the preparation of medicinal preparations. When it came to glycerin it was found that the amount of glycerin used in the drug trade was an appreciable percentage of the amount made and used in this country. Thereupon the representatives of the drug interests at once volunteered to undertake a study of the preparations containing glycerin with an eye to reducing the amounts of this substance used in medicinal and toilet preparations. Undoubtedly toilet preparations are less essential than medicines and undoubtedly conservation should be had in toilet preparations before medicinal preparations are changed. At this point of the hearing Doctor Alsberg entered a strong protest against changing any

medicinal formulas except as a last resort and maintained that before such a determination is reached by the Food Administration, other less essential industries using glycerin should be appealed to and requested or instructed to curtail or replace their glycerin. As the Government executive to enforce the Pure Food and Drugs Act, Doctor Alsberg stated that he would protest against changes in official formulas because he would not assume the responsibility incurred by such changes, affecting as they might the lives of our boys in the trenches fighting for us the great battle of human liberty and freedom.

Summed up, therefore, there is no occasion to conserve sugar or alcohol in medicinal preparations and there may not be in conserving glycerin; but if this association desires to do its bit in a useful and practical way, it might name a committee, perhaps called a Conservation Committee, and authorize or instruct it to work upon all official preparations as well as non-official preparations containing glycerin with an eye to reducing the amount of glycerin used in the same. This might also be extended to toilet and cosmetic preparations. There are doubtless some preparations that contain too much glycerin, or rather more than they actually must contain in order to be efficient and permanent. The Allies have recently called upon Uncle Sam for twenty million pounds of glycerin for the remaining six months of this year, which is a material increase over former estimates. Whatever they need to win this war and we can possibly supply, we must strain every nerve to supply, and therefore glycerin conservation may be demanded of us before the end of this year.

DISCUSSION.

A. R. L. DOHME: I was requested by your Chairman sometime during the past year to present the result of a hearing which was given by the United States Food Commission on the question of conservation of alcohol, glycerin and sugar. Concerning these there had been much propaganda spread over the country, rather disturbing to the drug trade in general, particularly as to recommendations looking to the changing of many of our imported formulas with alternatives, given more less at haphazard, and therefore fraught with a little bit of uncertainty and risk, we thought, to the practical interests of the country. In this paper I have endeavored, in a general way, to give you the result of that conference.

J. P. SNYDER: The subject of glycerin conservation is something that I have done some work on. I have been somewhat surprised to find that glycerin did not play such an important part as a solvent as I had been led to believe. I made experiments with camphorated tincture of opium, preparing the tincture according to the U. S. P. formula; also another, leaving out glycerin. Practically the same results were obtained; the analyses checked up very closely.

I also made experiments with ipecacuanha and, according to the results of these experiments, we may conserve glycerin in some of the preparations of this drug.

H. V. ARNY: Mr. Snyder's information is along the same line of a conversation which I had with Mr. Scoville yesterday. He had been experimenting along the same line. We certainly want, as far as possible, to conserve glycerin in preparations wherein it is not essential.

CHAIRMAN R. P. FISCHER: You will recall that Doctor Dohme suggested that it might be well for the Association to appoint a Conservation Committee. Will the Section take some action thereon?

H. V. ARNY: I would move that such a committee be appointed.

A. R. L. DOHME: I am very glad this action has been taken by this Section, because, if we are going to make a strong effort at Washington for the recognition of pharmacy, in which the American Pharmaceutical Association is naturally going to be prominently mentioned, our desire to cooperate with the Government in conservation will help us in our efforts to secure recognition.

You recall, some of you, that were at the meeting yesterday, that Col. Raymond, of the U. S. Army Medical Supply Bureau, gave us a very interesting talk on the pharmacists in the United States Army. While I am not endeavoring to repeat to you exactly what he said, I will say this much, that he said: "If you expect to gain recognition in the United States Army, I think you should be guided by the same methods that the dentists used. The dentists, eight years ago, were in the same condition that you are now, when I addressed their National Association as I am now addressing your National Association, and to whom I said, that if they made themselves indispensable to the Army their recognition would come, and if you make yourselves indispensable and show that your services are as important as many other services to the Army in more ways than one and in as many ways as possible, your recognition will come." It seems to me that this is one method by which we can show our services are indispensable, namely, that we are trying to conserve something that the Government needs.

CONCERNING THREE CARDINAL POINTS IN PHARMACY.*

BY B. E. PRITCHARD.

With half a century to my credit in the pursuit of Pharmacy, I trust that it may not be considered impertinent to mention a few points pertaining thereto that seems to be susceptible to improvement.

When I entered upon this long period of what has proved to be my calling in life, there was nothing of what is now most properly denominated "Prerequisite Attainments" to measure up to before one could cross the threshold of pharmacy. My only attainments consisted of several years' experience as a newsboy on the streets of Pittsburgh, and a very limited attendance at the public school in my home district. At that time the word "Drugs" over the door of a place of business did not produce any greater impression upon the public mind than did that of a grocery, hardware, dry goods, or any of the other myriad stores that lined the public thoroughfare of any town or city. The drug store was simply a store and to the passer-by did not differ from any other store except in the matter of odor, which in those days was much more pronounced than now. It was just about that period in the evolution of things when mystery was beginning to detach itself from the drug business. The globular containers of various colored liquids were still in evidence and their brilliant flashes of light illuminated an occasional corner of a street. I say "occasional" in this connection, for the reason that drug stores were not so thickly strewn as we find them in these days. The title of "Pharmacy" was but seldom given, "Apothecary Shop" being the popular synonym, then most largely in use.

But perhaps all these preliminary remarks may have no interest for you, however much they mean to me as I recall my first introduction into the practice of pharmacy. The purpose I have in mind, however, will become apparent as I proceed to show how unprepared my mind was, and how poorly equipped was my brain to assimilate the complexities and deep things that pertain to the study of pharmacy and the branches of knowledge that necessarily go hand in hand therewith. Through all the years that have gone since my first entrance upon the practice of pharmacy, my ignorance of fundamentals has constantly been "a thorn in the flesh" and has proved a serious handicap in the way of my advancement. Hence, with my own experience to guide me, I feel it my bounden duty

* Read before Section on Education and Legislation, A. Ph. A., Atlantic City meeting, 1916.