carefully prepare and put before the people every year, at the school meeting in September, the amounts of money which it is estimated should be used for school purposes, and facts and reasons why those amounts are needed. There should be a law similar to the school law, relative to public-health affairs. Surely the interests of the health and life of the whole people, including the children, are of more consequence than the school education of the children alone!

All that is required to make this apparent, is such an opportunity as the school laws provide for placing the facts before the people at the time the vote is taken to adopt the estimates of those who have this branch of the public service in charge.

How to get Money for Public Health Work.—Have a public meeting of citizens of the city, village or township, at which meeting the amount of money to be assessed and collected for public-health purposes shall be voted upon. Have the local board of health present to that meeting estimates of the amounts proper to be collected. The health officer should be prepared, and should present to this public meeting the facts, and reasons why expenditures for public-health work are in the public interests. It ought not to be difficult to convince the people generally that the lives and health of the people themselves are of more consequence than any other subject for which they collect taxes.

Let us suppose that opportunity is given the health officer to put before the people of a township, village or city the facts and reasons for public-health work; what can be presented?

This can be presented:

1. The health officer can assure the people that, if they are situated in the average locality in Michigan, the death-rate will average about 17 per thousand inhabitants per year; that, of those deaths, about 11.8 per cent. will be from consumption, 6.5 from diphtheria, 2.7 from scarlet fever, and 3.2 from typhoid fever. He can assure the people that these are all communicable diseases, that they are all preventable through measures which are now well known to sanitarians; and, what is more to the point, he can assure them that reliable statistics, collected by the Michigan State Board of Health, from the experience of local officers in Michigan, have proved that (even after the disease has been introduced) about 75 or 80 per cent. of the cases and deaths from diphtheria and from scarlet fever are prevented by measures which a good health officer, acting in accordance with our present laws, and supported by the people of his locality, can inaugurate and maintain. Knowing approximately the population of the township, village or city, the health officer can readily compute the saving of life which such a saving, as has been proved to occur under such measures, would be for that number of inhabitants. Let us suppose a small city, of four thousand inhabitants—then the deaths from all causes, at the rate of 17 per thousand per year, would be 68; the deaths from consumption (11.8 per cent.) would be 8; the deaths from diphtheria (6.5 per cent.) would be about $4\frac{1}{2}$ (4.4); the deaths from scarlet fever (2.7 per cent.) would be nearly two (1.8); the deaths from typhoid fever (3.2 per cent.) would be a little over two. If 75 per cent. of these deaths were to be prevented, there would be a saving of the lives of about three persons from death by diphtheria, about one from scarlet fever, and one

from typhoid fever. These five persons constitute a part of the productive energy of the city upon which its prosperity depends. They are worth to the city, for what has been expended to raise them, and for what they will earn in excess of costs of maintenance, at least as much each as a good slave would sell for before the war, which was about the same as the statisticians compute as the value of an ordinary laborer—say for the adult person one thousand dollars, and for each of the children one half of that amount. The four who are saved from diphtheria and scarlet fever would be likely to be children, while the one saved from typhoid fever would be likely to be in the prime of life. The actual money value of the five persons, therefore, would be three thousand dollars. If a city of four thousand inhabitants should vote to use three thousand dollars per year in public-health work, I have no doubt whatever but the five lives, above mentioned, could be saved, from those three diseases alone; and probably lives could be saved from other diseases. Then how much better to save those lives, and avoid the grief and sorrow which would result from their loss. Again, the money used would be only the amount which, without effort for restriction, would be lost to the city—the actual outlay would not be at all increased. It seems to me that any meeting of citizens, of ordinary intelligence, could be made to see that the lack of public health work is a wasteful extravagance, and that it is better to use a certain sum of money to pay a health officer than to permit the death of loved ones that have actually cost as much as that sum, and who, if they die, are a dead loss, in more than one sense.

The facts are applicable to every locality in Michigan, making allowance for a greater or less number of inhabitants.

This may seem to be an unusual topic for the annual address which we denominate an "Oration"; but I believe it is one in which the medical profession have great interest, and certainly should have great influence in its decision. I have given you some of the reasons why I favor legal provision for the presentation locally, to all voters throughout the State, of the benefits to be expected from sanitary work, after the manner of the meetings to determine the amounts of money to be raised for school purposes.

I know it is not customary to discuss "Orations"; but this is a practical subject, of considerable general interest to the entire profession; if agreeable to the society, I shall be glad to have the subject discussed.

INFECTED FOOD.

Read before the Michigan State Medical Society, May 5.

BY VICTOR C. VAUGHAN, M.D.,
OF ANN ARBOR, MICH.

Mr. President and Gentlemen:—Numerous examples of poisoning from cheese, canned salmon, sausage and other articles of food, have been reported within recent years. It has also been demonstrated that, in more than one instance, the milkman has distributed the germs of typhoid fever along with the lacteal fluid. There has been a great deal said about the spread of tuberculosis through infected meats. All of these are subjects of the greatest interest to the practicing physician. He does not know at what moment he may be called upon to treat a case of poisoning from canned meats. When he is confronted with an epi-

demic of typhoid fever, he must inquire into its origin, and at all times he needs to know, or wishes to know, all that can be known concerning the spread of tuberculosis. For these reasons, I have been led to collect the best information I can find upon these points, and to present the same in a condensed form in this paper.

The infection of meat and milk may be discussed under the following heads:

1. Meat and milk, even when derived from perfectly healthy animals, often becomes infected with poison-producing germs.

2. The infection may be due to the inoculation of these foods outside of the body of the animal from which they are derived, with specific pathogenic microorganisms.

3. The infection may be due to a diseased condition of the animal from which the foods are obtained.

I wish to give especial emphasis to the question of the infection of meat and milk, and their products, with poisonous saprophytic germs. I desire to emphasize the fact that these foods, even when derived from perfectly healthy animals, and when kept free from infection with specific pathogenic bacteria, may and often do develop most potent poisonous properties. It is not necessary that food be infected with some specific microorganism before it can be rendered unfit for use. A sample of good milk may be divided into two portions, and one of these, under certain conditions, will become highly poisonous in a short time, while the other, under different conditions, may remain good and wholesome. Of two cans of salmon prepared from the same fish, and at the same time, one may become highly poisonous, while the other may remain good.

I will illustrate this by referring to cases of poisoning by frozen custard which I had an opportunity of investigating a few years ago. The milk supply to a certain small village had never been questioned. It was in constant use by some fifty or more people, and no cases of illness had arisen which could, in any way, be attributed to the milk. In preparation for a festival, some gallons of this milk were obtained, and made into custard. The custard was divided into two portions, one of which was flavored with vanilla and the other with lemon. The lemon custard was eaten without harmful effect, while a teaspoonful of that flavored with vanilla caused nausea, vomiting and purging. Of course it was quite natural to conclude that the vanilla was the poisonous agent, because at first it seemed that the only difference between the samples was that due to the use of the flavorings. Fortunately, however, not more than half of the vanilla in the bottle had been used, and the non-poisonous character of this flavoring was demonstrated by Dr. Novy and myself, each of whom took of the remainder without being harmed. The real difference between the portions of custard is explained by the following: The lemon custard was frozen immediately and was sent to the festival, while the vanilla custard stood for two hours before being frozen in a very filthy room, the air of which was said to have been like that of a privy vault. The room had some weeks before been used for a butcher shop, and had never been cleaned, and the bits of decomposing meat rendered the air foul, and supplied the germs with which the custard was infected.

Another illustration of this kind of infection was observed by me in the Milan cases of milk poisoning.

The milk remained good and wholesome until it became inoculated with the germs in the infected pantry.

In these illustrative cases, the facts that the germs did not originate in any specific disease, and that they grew in the food before it was taken into the body of the consumer, demonstrate the correctness of the following proposition:

Some of the bacteria with which meat and milk become infected belong to the saprophytic microorganisms.

But it may be asked, How is it possible for a truly saprophytic germ to induce disease and death? This may occur in either of two ways: 1. The poison formed in the food before it is taken may be the sole and sufficient cause of the symptoms and death. 2. The germ may continue to grow after it is taken into the body with the food.

Let me point out here the fact that the distinction between intoxication and infection is not so easy and certain as we have supposed. It is customary to pronounce those cases in which the symptoms occur immediately, or within three or four hours after eating the food, as due to intoxication; while those in which the first symptoms appear later are said to be due to infection. In the former, the poison is supposed to be formed in the food before it is eaten; while in the latter, it is supposed to result from the growth and multiplication of the germs within the body. That there is a large opportunity for error in this distinction, must now be conceded by all who are acquainted with the more recent researches on the bacterial poisons. We now know that some of these poisons require a period of incubation, when employed in small doses, which often extends over many days. This was found to be true by Brieger and Fraenkel, in their studies of the chemical poisons of diphtheria, and I have observed the same in my experiments with the products of certain saprophytic bacteria found in the stools of children suffering from summer diarrhoea, and in others obtained from germs found in drinking-water. The fact that the first symptoms do not appear until many hours, and even a few days, after the food has been taken, does not seem to be absolute proof that the bacteria continue to live and multiply within the body. In some instances the germ undoubtedly does grow and multiply after its introduction into the body, and it may be found in the intestines or other organs after death. However, a germ may grow in the intestines and still be a saprophyte. The food in the duodenum has no more vitality than that in the nursing bottle. Moreover, the secretions which are poured into the intestine are not supposed to be possessed of vitality. A germ which will grow in milk in a culture flask, kept at the temperature of the body, and produce a poison, may grow in milk in the intestine of the child and produce the same poison, provided it is not destroyed or modified by some secretion of the body.

Some of the saprophytic bacteria with which food becomes infected are under certain conditions capable of living, for a time at least, in a parasitic manner. Thus, Dr. Novy found the same germ in a cheese and in the spleen and liver of animals which had been killed by feeding on the cheese. However, the parasitic nature of this germ, or, in other words, its capability of overcoming the resistance of the living tissue, seems to have been feeble, and instead of increasing in virulence as it passed through successive

animals, it became markedly less toxicogenic, and finally was without effect upon animals. I infer from this, and from similar phenomena which I have myself observed in experimenting with saprophytic germs from poisonous foods, that the toxicogenic properties of these organisms are best manifested when they are grown on dead matter.

The poisonous effects of the bacteria are also largely influenced by the conditions under which they develop. The most important of these conditions are the nature of the infected food, the temperature at which they grow, the amount of oxygen supply, and the time which elapses between the infection and the consumption of the food. I have been convinced that the poisonous properties of certain canned meats are, in some instances, wholly due to the fact that the germs which they contain grow practically without any air supply. The following brief report of a case of poisoning with canned salmon, supports the belief. Early last June, Mr. K., a vigorous man of 34, ate freely of canned salmon. Others with him at the table remarked that the taste of the salmon was peculiar, and refrained from eating it. Twelve hours later Mr. K. began to suffer from nausea, vomiting, and griping pain in the abdomen. Eighteen hours after eating the salmon I saw him. He was vomiting small quantities of mucus colored with bile at frequent intervals. The bowels had not moved, and the griping pain continued. He was covered with a scarlatinous rash from head to foot. His pulse was 140, temperature 102° , and respiration shallow and irregular. The stomach and large intestines were thoroughly washed out, the former by inducing free vomiting by the administration of copious draughts of warm water with mustard, and the latter by injections of large volumes of water. After this 10 grs. of calomel, followed in two hours by a bottle of solution of citrate of magnesia, were administered, for the purpose of cleaning the small intestine. After these medicines had operated freely, the patient began to improve. The next day the rash had disappeared, but the temperature remained above the normal for five or six days, and it was not until a week later that the patient was able to leave the house.

I obtained the remainder of the salmon and submitted it to various tests. In the first place, the absence of inorganic poisons was demonstrated. In the second place, the subcutaneous injection of 20 drops of the fluid expressed from the salmon caused evident disturbance in a white rat, but did not kill the animal. The only germ which could be found, either by direct microscopic examination or by the preparation of plate cultures, was a micrococcus, and this was present in the salmon in great numbers. This germ grew fairly well in beef-tea, but the injection of 5 cc. of the beef-tea culture into the abdominal cavity of white rats, rabbits and kittens, failed to induce death. However, this micrococcus, when grown for twenty days in a sterilized egg, after Hueppe's method of anærobic culture, produced a most potent poison. The white of the egg became thin, watery and markedly alkaline. Ten drops of this, given subcutaneously, sufficed to kill white rats.

Evidently, in the preparation of the salmon, this can was not sterilized. It was sealed, and for months, possibly longer, this germ had grown anærobically, and had elaborated a chemical poison.

On the other hand, I have known of several in-

stances in which canned meats were not poisonous when first opened, but soon became so on standing exposed to the air. In these cases, the meat must become infected after the opening of the can.

Another important factor in influencing the effects of these infected foods, is to be found in the condition of the person eating the food. Especially is this true of the condition of the stomach. A good, healthy gastric juice will suffice to destroy many of the harmful things which man puts into his stomach. The following case, which was under the care of Dr. C. G. Darling, to whom I am indebted for these notes, illustrates this point:

"On April 12, 1892, two young men ate a supper consisting largely of canned salmon. Mr. A. is strong, robust, and drinks occasionally. Mr. B., age 28, has suffered from indigestion for months, and has found it necessary to select his food with care, but on the night in question he proposed the supper of salmon, of which he was very fond. Mr. B. took the salmon from the top of the can. A short time before the supper A. took two glasses of beer, but B. did not take any. The next morning B. had a chill, which was followed by severe headache and pain in the abdomen. However he went to the store in which he clerked, and remained there until 9:30 A.M., when his employer, observing his illness, sent him home. During the day he attempted several times to vomit, but was unable to do so. I was called to see him at 7 P.M., April 13, and found his condition very serious. His mind was clear. He had severe and constant pain in the head; pulse 120 and feeble; respiration 20. There was a slight eruption on hands and face, consisting of slightly elevated red spots, about the size of a split pea. The spots were more abundant on the right than on the left side of the face, probably because the right side was on the pillow most of the time. The eyelids were red and swollen, giving off a profuse muco-purulent secretion. There had been no movement of the bowels for thirty-six hours. I prescribed for him, but afterwards ascertained that the medicine was not procured until the following morning. I visited him at 8 A.M., April 14, and found the temperature 102.5° , the eyelids more swollen, and the eruption increased. During the day and the following night, there were eight movements of the bowels in response to medicine. The patient gradually became unconscious. The respiration was increased on account of the high temperature, but at no time was there any involvement of the lungs. The kidneys remained inactive. There was no profuse sweating. The extreme pain in the head persisted. During the night he was aroused with difficulty, but took medicine and nourishment when they were placed to his lips. On the morning of April 15, the fingers were purple to the second joint, but were very warm. The temperature had risen to 105° in the axilla, and was not lowered by repeated bathing, but continued to rise and was 107° just before death, which occurred at 8 P.M. Post-mortem examination was not made."

I will here make some general remarks concerning the nature of the chemical poisons found in meat and milk, and their products, as a result of infection with these saprophytic bacteria. These poisons may be grouped in the same manner as those which are produced by the more strictly pathogenic germs. First, there are those which combine with acids forming salts, and which are designated as ptomaines. The ptomaines which are found in foods

as a result of the activity of the saprophytic germs may truly be called putrefactive alkaloids. Then there are poisonous bacterial proteids. Poisoning with foods is often designated ptomaine poisoning, but my observation has led me to believe that of these two classes, the proteids are more frequently present in infected foods. It has been asked whether or not it is possible to induce poisonous effects by the administration of these proteids by the alimentary canal. Is it not true that they are non-diffusible, and that they would be inert if given by the mouth? There is not enough experimental evidence in our possession at present, to enable us to answer these questions with certainty, but we have good reasons for assuming that some of them are absorbed from the intestines. In the first place, we must remember that diffusion through a dead animal membrane and absorption by the living intestinal walls are not identical. Unchanged egg albumin will not diffuse through a dialyzer, but that it may be absorbed by the intestines has been demonstrated. Mitchell found that some of the proteid poisons of the venom of serpents are absorbed by the unbroken mucous membranes.

In the second place, the bacteria in the food may penetrate the intestinal walls and elaborate their chemical poisons in the spleen, liver and other organs, as the bacilli of typhoid fever and other pathogenic germs do; or, in other words, there may be true infection.

Since it has been found that some of the bacterial poisons are destroyed by a temperature approaching that of boiling water, it has been assumed by some that this is universally true, and that cooked meat or boiled milk cannot be poisonous, or if so, they cannot owe their poisonous properties to these bacterial bodies. This is an assumption which we are not at present justified in making. Certainly some of the bacterial proteids can be kept for ten or fifteen minutes at 100° C., and for a much longer time at 80° C., without being destroyed. I have isolated one of these proteids, which may be dried at 100° C. to a constant weight without any appreciable decrease of toxicity, and in solution it may be kept for half an hour at 80° C. with no effect. However, prolonged heat renders it inert. I believe that cooking meat or milk lessens the danger of poisoning by them, but it does not do away with that danger altogether.

I have met with poisonous foods in which I have been unable to find either poisonous bases or proteid bodies. Two years ago I was called upon to investigate some mincemeat which, it was claimed, had seriously affected a number of persons. Some of the meat was fed to cats and dogs, and invariably produced in them vomiting and purging. This was equally true whether the meat was given raw or cooked. Notwithstanding this positive evidence of the poisonous character of the food, I was unable to determine the nature of its active constituent. It was tested in the most thorough manner for inorganic poisons, for alkaloidal poisons and for proteid poisons, but with wholly negative results. Furthermore, plate cultures were made, and the isolated germs were fed to and injected into animals without effect. It is possible that the poisonous constituent was destroyed by the manipulations resorted to in the attempt to isolate it. This supposition is probably warranted by the experience of Tizzoni and Cattani, who found that the poisonous proteid of cultures of their teta-

nus germ is rendered inert by the action of strong alcohol.

Among the foods which frequently produce untoward symptoms are milk and its products. I took the ground some years ago, that the severer forms of the acute summer diarrhoeas of children are due to milk poisoning, and I think that the majority of the members of our profession are now convinced of the truth of this belief. When children must be fed upon the milk of the cow, every precaution should be taken to prevent the infection of this milk with poison-producing bacteria, and when there is any doubt, the milk should be sterilized. I also claimed, at a time when the majority of bacteriologists believed that a specific germ for these diseases would be found, that the poisons were generated in the milk by saprophytic bacteria, and that any one of a number of germs might be, in a given case, the source of the trouble. This point is also now admitted to be true.

I have shown that cheese may contain a poisonous base, tyrotoxin, or poisonous proteids. If we expect to find every sample of poisonous cheese containing the same active constituent, we will be disappointed. Indeed, it is, with our present knowledge of the manner in which these poisons are formed, highly unscientific for us to expect to find one poison responsible for the effects which follow the eating of all the different samples of poisonous cheese. We must remember that these poisons are due to a variety of species of germs, and that the chemical nature of the product will not only vary with the species producing it, but with the stage of putrefaction. Indeed, it is altogether possible that different parts of the same cheese may contain colonies of wholly distinct germs, and consequently different poisons. It certainly is a fact that one portion of a cheese may be poisonous and other portions not poisonous. I have seen samples of cheese, the outer portions of which could be eaten with impunity, while the inner portions are highly poisonous both to man and the lower animals. Ehrhart has reported a remarkable instance of this kind.

The method of making cheese is especially favorable for the collection of a large number and variety of saprophytic germs. The milk is brought to the factory by the farmers of the neighborhood. There is, in the majority of instances, no intelligent inspection of the cows. Some of the milk cans are properly scalded and aired, while there is always the probability that others are not. The milking may be done in filthy stalls, with dirty hands, from unclean udders and, possibly, into pails which have not received proper care. Then, I believe that there is no community in which the standard of honesty absolutely prohibits every milkman from diluting the lacteal fluid, and sterilized water is not usually used for this purpose. Moreover, the cheesemaker is not always duly appreciative of cleanliness about the factory and in the manipulations to which the milk is subjected. We need some bacteriologist who will do for the manufacturers of cheese what Pasteur has done for the brewers. The ripening of cheese is due to the growth of germs, and a good cheese could not be made without the help of these industrious little workers. The flavor and value of one cheese differs from another according to the kind of germ which takes part in the making of the cheese. The milk brought in from the various farms should be steril-

ized, and then inoculated with pure cultures of the desired germs and moulds. A plan like this will be adopted some time, and when it is carried out intelligently, poisonous cheese will not be made. Moreover, the flavor and digestibility of the cheese made will be greatly improved. At present, the bacterial flora of the cheese, which we eat, is dependent wholly upon accident. It is probably well that we are not, as we take our coffee and cheese, acquainted with all the varieties of microscopic vegetable life which we are masticating, and which have been gathered from the barnyards of the milkmen.

The treatment of poisoning from cheese is not very difficult. The poisons act so energetically upon the stomach and intestines that relief is generally secured by the vomiting and purging. The most dangerous cases are those in which these symptoms do not occur. In these instances, vomiting should be induced, and the bowels should be washed out thoroughly. At the same time any weakness of the heart should demand the hypodermatic use of digitaline or strychnine, or both.

The preceding remarks apply with greater force to poisoning with canned salmon, lobster, etc. In these cases, as a rule, there is no purging. The pain in the bowels is often very severe, but generally constipation is an accompaniment. With the appearance of the symptoms, the *materies morbi* is in the alimentary canal, and the aim of the physician should be to remove this before absorption can take place. The treatment must be prompt. The administration of antipyretics is, so far as I have observed, useless.

If the absorption of the poison is not prevented, and the patient passes into a condition of stupor, the chances of recovery, in case of poisoning with foods infected with toxicogenic saprophytic germs, are small.

In cases of milk poisoning in infants (or cholera infantum) the discontinuance of the milk is now generally insisted upon, and its practice has decreased the mortality markedly. Even sterilized milk should not be allowed at this time, because it so soon becomes infected in the intestine. The germs which cause the acute summer diarrhœas of infancy grow most rapidly and produce their most active poisons in milk, therefore it should be an invariable rule to prohibit absolutely the use of this food during treatment. This prohibition is the most important part of the treatment. Every case of cholera infantum is a case of food poisoning and should be treated as such.

The infection of meat and milk outside the body with specific pathogenic bacteria is so well known to occur that I will scarcely more than mention it. The frequency with which typhoid fever, diphtheria and other infectious diseases are disseminated by the use of infected milk is shown in the current record of medical literature. Milk has been diluted with water containing the germs of typhoid fever, and the prevalence of the disease may mark the daily rounds of the milk man. Dr. E. P. Christian, of Wyandotte, sent me in 1890, a sample of milk, and one of water from the well of the milk man. In both of these I found a germ which is toxicogenic to the lower animals, and which is more fatal than the Eberth germ. Dr. Christian had learned that the different families, in which he had patients sick with typhoid fever, obtained their milk from this man.

It is unnecessary for me to dwell on this point since all agree that the infection of these foods outside the

body with specific pathogenic germs frequently occurs and is accountable for certain epidemics.

The question concerning the transmission of tuberculosis from cows to man through the eating of the flesh or the drinking of the milk of the former by the latter, is one of great practical interest. I shall not in this paper, however, enter into any detailed discussion of this part of my subject. I will content myself with a statement of the following propositions:

1. The flesh of a tuberculous cow, even when the disease is localized in the lungs, should not be eaten by man.

2. When the tuberculosis is general, there is danger of specific infection through the eating of the flesh or the drinking of the milk.

3. When there is tuberculosis of the udders the specific infection may be transmitted through the milk.

4. That infection with tuberculosis through the intestines may occur has been fully demonstrated by feeding healthy animals with tuberculous tissue, with infected milk and with pure cultures of the germs.

5. Infection by the way of the intestines is most common in childhood, at a time when cow's milk is used more abundantly than at any other period of life. This is shown by the larger number of instances of intestinal and mesenteric tuberculosis as a primary disease, among children than among adults. However, I do not believe that any large per cent. of the total cases of tuberculosis at all ages, is due to the eating of infected foods. In by far the greater number of these cases the pulmonary tuberculosis is the primary disease and the intestinal involvement is secondary, and there is no evidence that the tubercle bacilli pass through the walls of the intestine, through the lacteals and so on to the lungs without giving rise to any lesions before reaching the pulmonary tissue. That infection occurs occasionally through the lymphatics we have stated, but in such instances there are pathological evidences of the route taken by the infecting agent, and the pulmonary involvement is secondary. At present the weight of evidence favors the belief that all cases of tuberculosis in which the primary trouble is in the lung, are due to infection through inhalation; while those cases, in which the primary lesion occurs in any other portion of the body, are most probably due to infection by way of the intestines.

There are other diseases which may be transmitted from the lower animals to man by the eating of the flesh of the former by the latter, but they will not be discussed at this time.

HOW A GENERAL PRACTITIONER MAY TREAT ATROPHIC RHINITIS.

Read before the Kansas State Medical Society, at Fort Scott, May 4, 1891.

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Mr. President and Gentlemen of the Kansas State Medical Society: It is indeed difficult for one whose time is so fully occupied with the practice of a specialty, limited as is the one I represent, to prepare a paper which will afford scope for discussion in a society of general practitioners.

Atrophic rhinitis under its proper name, or under