

Opening Addresses by MR. EMILE BERLINER,
PRESIDENT ASSOCIATION FOR THE
PREVENTION OF TUBERCULOSIS, and Pro-
fessor GEORGE M. KOBER, before a Congressional
Subcommittee on MILK LEGISLATION for the
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MR. BERLINER. Mr. Chairman and gentlemen of the committee. The association which I represent—the Association for the Prevention of Tuberculosis in the District of Columbia—, and of which I have the honor of being president—has for many years taken an interest in the milk question in the District of Columbia. This is founded upon the well-known fact, known to you, that much of the tuberculosis in children—the form which is very dangerous and very hard to cure, tuberculosis of the intestines, of the spine, and of the glands—is often produced from milk which contains bovine tubercle bacilli. It is also based upon the policy of assuming that tuberculosis can best be prevented by keeping up the natural resistance of the body and making it even better and that as the body may be vitiated or the juices and blood of the body may be vitiated by impure food, that milk is one of those foods which easily may be contaminated, and that it may have the effect of vitiating the body, and therefore be conducive to developing tuberculosis.

As far back as 1902 a very prominent member of our board of directors, Dr. Kober, present on this floor, wrote a report which was introduced in the Fifty-seventh Congress. The report is entitled, "Milk in relation to the public health," and was made a United States Senate document, and was ordered printed in the records of that august body.

In looking over just a few pages of this, I find in the contents these few statements: Tables of 195 epidemics of milk typhoid; tables of 99 epidemics of milk scarlatina; tables of 36 epidemics of milk diphtheria. That was in 1902, and those were only such as Dr. Kober found recorded. How many more epidemics that were dangerous and deadly to the people we do not know of, since they are not recorded.

In 1907 a subcommittee was appointed of our association, then a committee of the Associated Charities. That committee was appointed by the late Gen. George M. Sternberg, who was the Surgeon General of the United States Army for many years, and was noted as one of the greatest scientists that this country has ever produced. That subcommittee had a meeting in which the milk problems were discussed, in regard to their sanitary bearings upon the health of the people. And that committee reported back that the question of the milk problem was too formidable a one to be handled by a small committee, and they requested Gen. Sternberg to have a milk conference called, which conference should embody the noted scientists connected with the National Government. The intention of the Associated Charities to call this conference came to the ears of the Commissioners of the District of Columbia, and Commissioner Macfarland thought that the Commissioners themselves would be very glad to call that conference. That conference was called by him in March, 1907, and I

beg leave to tell you some of the big men of this country who took part in that conference.

There were in all 36 members. Gen. George M. Sternberg, chairman, Dr. George M. Kober, professor of hygiene, Department of Public Health, Georgetown University, first vice chairman; Dr. Harvey W. Wiley, second vice chairman, chief of the Bureau of Chemistry, United States Department of Agriculture; Dr. William C. Woodward, secretary, health officer of the District of Columbia; Mr. Emile Berliner; Dr. Charles A. Davis, president of the Washington Homeopathic Medical Society; Mr. George B. Farquhar, president of the Milk Dealers' Association; Mr. Peter Fireman, president of the Chemical Society of Washington; Dr. D. Percy Hickling, chairman of the committee on prevention of consumption, Associated Charities; Dr. J. W. Kerr, Assistant Surgeon General, United States Bureau of Public Health and Marine Hospital Service; Dr. G. Lloyd Magruder; D. C. F. Mason, Assistant Surgeon General, United States Army; Mr. William F. Mattingly, president of the Bar Association of the District of Columbia; Dr. A. D. Melvin, chief of the Bureau of Animal Industry, United States Department of Agriculture; Dr. John R. Mohler, chief of the Pathological Division, Bureau of Animal Industry, United States Department of Agriculture; Mr. George M. Oyster, jr., milk producer, Washington, D. C.; Mr. James F. Oyster, president of the Business Men's Association; Brig. Gen. Robert M. O'Reilly, Surgeon General United States Army; Dr. Robert Rayburn, professor of hygiene, Howard University; Admiral P. M. Rixey, Surgeon General United States Navy; Dr. M. J. Rosenau, director Hygienic Laboratory, United States Bureau of Public Health and Marine Hospital Service; Dr. E. C. Schroeder, superintendent of experiment station, Bureau of Animal Industry, United States Department of Agriculture; Dr. D. K. Shute, president of the Medical Society of the District of Columbia; Mr. E. H. Thomas, corporation counsel of the District of Columbia; Mr. C. D. Walcott, president of the Washington Academy of Sciences; Mr. Ed. H. Webster, chief of the Dairy Division, Bureau of Animal Industry, United States Department of Agriculture; Gen. J. M. Wilson, president of the Washington Board of Trade; Dr. Hulbert Young, president of the District of Columbia Veterinary Medical Association.

One of the first acts of this milk conference was the creation of a subcommittee to report and to deliberate on the sanitary aspect of the milk question here in the District of Columbia. It consisted of nine members, and the different aspects of the milk traffic were assigned to those nine members, and they wrote reports, which were discussed, first, in committee and then reported to the general conference. The whole record of that important conference—the first one of its kind in the world—was printed by the Department of Agriculture and is known as Circular 114, which has seen many editions. In it you will find those papers and the history of that conference.

Now, of the nine papers submitted by the members of that sub-committee the most important one in its bearing on the milk traffic was the one by Dr. Melvin, the Chief of the Bureau of Animal Industry, entitled "Commercial classes of milk." He classified milk into three principal classes—certified milk, such as was produced under the most sanitary conditions; then market milk, with a minimum amount of 100,000 bacteria per cubic centimeter at the time the milk reaches the city; and then all other milk, which had to be pasteurized under proper supervision.

While this milk conference was still in session President Roosevelt's attention was called to its beneficial work, and at the suggestion of Dr. G. Lloyd Magruder, a physician of the White House at that time, and a member of the Milk Conference, he requested the Surgeon General of the Public Health Service to furnish a report on the milk question in general. That work was turned over to Dr. Rosenau, the director of the hygienic laboratory of the Public Health and Marine Hospital Service, and the next year there emanated from the Bureau of Public Health and Marine Hospital Service of the United States this great work (indicating) of over 800 pages, entitled "Milk and Its Relation to the Public Health." It is the greatest work on milk ever produced and you will find copies of it in Europe and everywhere in the world wherever sanitary science is handled.

When Harvard Medical School heard of this great work they deliberated and consulted with the trustees of Harvard University, and decided that a new chair should be created in Harvard Medical School, that of preventive medicine. And they offered to Dr. Rosenau, who was the editor of this work, the first professorship in that chair, and soon afterwards Dr. Rosenau accepted the position, and he has since then, as Prof. Rosenau, been in charge of the great section of preventive medicine in Harvard Medical School. He has since joined with Prof. Sedgwick, of the Massachusetts Institute of Technology, one of the great sanitarians of the country, and those two noted scientists have formed a school for health officers, the first in the world, where men already having the degree of medical science are trained in the prevention of disease, instead of their cure, as the medical practitioners have followed for all these years. So the meeting of that little milk committee had the effect which I showed you here, in the creation of these great books and this new department in a great medical school of teaching the prevention of disease.

Soon afterwards, the next year, New York called for a milk conference, to consider milk standards and three members of the Washington milk conference were asked to take part in those deliberations, and New York soon afterwards adopted standards based on the Melvin report as to the Washington milk conference.

More than that, sentiment for sanitary milk to save the babies, and grown people also, spread all over the country, and I have here copies of the milk standards as they were adopted by 15 large cities.

I did not address myself to all of them. But you will find that practically all of them have adopted standards based upon the Melvin standards in his report to the Washington milk conference. The most striking one is the last one, of Indianapolis, Ind. This is only a very brief extract of these milk bills. In Indianapolis, Ind., compulsory general pasteurization and self-registering apparatus showing heat applied and duration of process for all milk is provided.

Now, how did Washington fare with all this great scientific investigation done by committees and conferences in the shadow of the Capitol? Let us see. I have here a report by the health officer of January 31, 1919. The health department every month looks over the reports which are made on the different milk dealers in the District of Columbia, and then gives to each dealer a sanitary rating, the highest rating being 100. There are some dealers who have ratings of 98 and 99, I am glad to say. I might also say that the milk to-day that is furnished the District of Columbia by its milk dealers is quite a safe article—most of it. And I want to give great credit to the efforts of the members of the Dairymen's Association, collectively and individually, because they have been most conscientious in giving to the people of the District of Columbia good milk; as safe as could be without pasteurization. But on January 31, 1919, we find that one milk dealer is rated at less than 43. There is 1 of 43, 15 of a rating of between 50 and 60, and 7 between 60 and 70. And that milk rated at 43 was sold, and can to-day be freely sold in Washington, and the health officer has no law behind him enabling him to stop it. That is the fate of Washington, after it produced in the District of Columbia all these great works on milk in relation to the public health.

I have also here a special report, a study of a committee of the Washington Chamber of Commerce, which was printed in the Sixty-first Congress, report by J. Louis Willige, and it throws certain lights, which I will refer to again, on the milk situation in this city, and why we have to this day, 13 years after the milk conference, no adequate laws to safeguard the health of the people. On page 135 I find that the classification of milk suggested by Dr. A. B. Melvin and recommended by the Washington milk conference of 1907 be approved for the District of Columbia by specific legislation. I have here a bill of the Sixtieth Congress, House bill 16068, introduced February 3, 1908, in which are some of the same provisions as in the bill of Judge Gard. The health officer is empowered to make regulations for the milk traffic in the District of Columbia; it is practically the same bill. I have here an extra copy. The milk bill did not pass, and I knew all the time what the reason was; but I find a reference in Mr. Willige's book, in the report to the Washington Chamber of Commerce. The reason was, as he also points out, that at the time Health Officer Dr. William C. Woodward, an excellent man and one of the greatest health officers of this country, was not in sympathy with, did not have the confidence, of the milk producers and dairymen of the District of Columbia.

And when this bill came to the committee room—I do not know whether it was ever reported by the committee—they raised the objection that no single man should be given the responsibility of making such regulations. Mr. Willige says here:

It has been charged by the representatives of the milk producers and dealers before the committee that the administration of the Health Department of the District of Columbia, under the supervision of Dr. William T. Woodward, health officer, has been inefficient and unsatisfactory; that the regulations have been enforced without proper consistency and without the exercise of uniform courtesy and consideration on the part of the inspectors of the department, etc.

And then comes the next paragraph, referring specifically to complaints:

Referring specifically to the complaints lodged by the representatives of the Dairymen's Association, the committee finds that the administration of the health department, under the supervision of Dr. Woodward, health officer, has been unusually efficient and satisfactory; that the inspectors appointed to the service had been competent and capable of discharging their duties with satisfaction; that any lack of patience or courtesy on the part of inspectors has been quite exceptional and that tact and diplomacy have been customarily exhibited in the execution of their responsible duty, etc.

Without taking sides with either of these two views, it must be accepted that for the purpose of getting good results specifically in milk traffic there must be an understanding; a friendliness between the health department and the Dairymen's Association, such as I believe exists to-day. But it simply shows that if we had a milk bill in Congress, like Judge Gard's giving the health officer alone, under the direction of the District Commissioners, the authority to make regulations, that the same objection might be raised. It might probably not be raised to-day, because I believe there is a good understanding between the Dairymen's Association and the health officer. So, in order to meet that objection, we of the Tuberculosis Association, asked Judge Gard to put in that bill that in addition to the health officer he should get the approval for his regulations from the great Department of Agriculture and from the Bureau of Public Health. And for another reason: This, Mr. Chairman, is a Federal city. We have here 100,000 or more Federal employees and their families; the Members of the Congress; the representatives of the foreign nations; the President and the Vice President and their families live here year in and year out, and it is, therefore, I suggest, eminently fit and germane that the Federal bureaus, which can deal with these milk questions scientifically, should have their say on milk legislation, or any other legislation, which affects the health of the District of Columbia, and was desired by the health department.

I also would say that in the past the health officer has sat in committee with representatives of those two great departments, so there should be no objection that that should be done in the future. Furthermore, the Washington milk conference of 1907 had, as I showed, members of the great Federal bureaus in session with the local authorities.

The Association for the Prevention of Tuberculosis passed resolutions on October 7, 1919, and a copy was sent to the committee of Congress, and Mr. Mapes, and other authorities, and also the United States Public Health Service, and others. I do not know whether it came into your hands, but without going over the preamble and other statements, the resolution is:

That this association, mindful of the importance of the said bill (the Gard bill) for the protection of the temporary and permanent residents of the District of Columbia earnestly indorses it and hopes for its speedy and complete passage.

I was going to say that it was the intention of Dr. Rupert Blue, until recently Surgeon General of the United States Public Health Service, to appear for this bill. He had to leave for Europe, otherwise he would be here. I sent a statement or letter to that effect to Judge Gard, who will remember it.

I also have a letter from Dr. John D. Mohler, chief of the Bureau of Animal Industry who says—it is dated March 4, 1920:

With reference to the bill H. R. 10046, I am strongly in sympathy with legislation of this character which leaves the details of regulations to responsible administrative officers. The bill is brief but comprehensive, and covers all the points named with the probable exception of a penalty clause. However, in my opinion it will be far better for those private citizens who are interested in such a bill to present their views and later when the bill is submitted to the department for its opinion, it will automatically reach me. At that time I shall be pleased to prepare as strong a statement as possible in favor of the bill in question.

I would like to add that my association does not back up any particular bill; it is in favor of the Gard bill because that was the only one before the committee at that time. We would be pleased to support any bill which gives the proper protection to the citizens of the District.

That is our mission. We follow general hygiene in different ways. We publish public health rules for the public schools and back up the great campaign for the health crusade that is going on now, and which has the approval of Vice President Marshall, who spoke at one occasion and addressed the health crusaders last year.

We would be glad to support any bill, but I would submit that I need hardly say anything about it, because it has been stated before by Judge Gard that in our humble opinion it might be easier to pass the bill which Judge Gard introduced, because it leaves all discussions of details to the proper authorities, and if points are raised against the other bills or the details of milk legislation, there might not be present on the floor of the Congress or Senate the proper scientific authority to answer objections. So, since all these years have passed without Washington having received milk legislation, I beg you to carefully consider—and I have no doubt you will—whether it is better to adopt the bill of Judge Gard or the others. I know of the bill that Dr. Fowler, the public-health officer, has prepared, and it is excellent if it can be passed. I know the bill of the Dairymen's Asso-

ciation, and these two bills, with a few amendments, would be very good bills for the District of Columbia. It is a question of policy which I submit to you for your careful consideration, because I hope, in the name of the District of Columbia, that another Congress will not pass into history without some kind of legislation being enacted and giving the health officer power to enforce it.

There may be objections to the Gard bill. It has been said it has no penalties. That could be amended.

My association is interested in the health of the citizens, and particularly the children, and you gentlemen do not need to be told how much the health of the children depends on a sanitary, safe milk supply and because we do not want any beautiful children here to die because of milk infections. It is because this danger is ever present that our association is interested in this legislation, and we believe if we had not done as in the past, namely, inform the people as to the milk dangers, conditions would be worse than they are to-day.

One more word and I am through. Those in charge of dairy legislation should be careful that the question of cream is not left out. I believe it was left out in the bill that was before you, introduced by Mr. Moore of Virginia. I had Dr. Schroeder, a very noted scientist, known all over the world for his works on diseases of cattle, within the last few days, make tests with regard to cream, and how much more dangerous cream may be than milk—that is, volume for volume—and here are the conclusions which I extracted from his letter. [Reading:]

The average amount of cream separated from whole milk by the centrifuge process, at 2,000 revolutions, in 10 minutes, is about $7\frac{1}{2}$ per cent of the total volume.

That does not refer to the ordinary market cream, but does refer to the milk as it comes from the cows to the creameries. [Continuing reading:]

Of the bacteria which milk contains about 60 per cent rise with the cream or are separated from it by the centrifuge.

If then, say, 100 cubic centimeters of whole milk contain 1,000 bacteria per cubic centimeter, or in all 100,000 bacteria, then the $7\frac{1}{2}$ cubic centimeter of cream thrown off by the centrifuge will contain in all about 60,000 bacteria.

Consequently, the cream from this milk will contain 800 bacteria per cubic centimeter, and if that milk was in any way infected, and contained pathogenic bacteria, the cream taken from it would be eight times more dangerous per volume than the whole milk was originally.

This shows that the little cream used, for instance, with a dish of breakfast food or in a dish of ice cream may be as dangerous as a glass of milk from the same milk supply.

This has also a bearing on ice cream and on dairy supply of the United States. This is a scientific statement. Any mother may safeguard the health of her children by boiling or scalding the milk, or taking other safeguards, but when the child buys ice cream or is taken into a restaurant, as is now so often necessary, the taking of milk

or the little cream on a dish of breakfast food may lay that child on a sick bed, and maybe kill it.

I will now close my remarks and give way to my distinguished friend, Dr. George M. Kober, professor of hygiene, school of medicine, Georgetown University, the nestor of milk science in Washington, if not in the United States.

MR. WALTERS. Dr. Kober, we will be glad to hear you.

STATEMENT OF DR. GEORGE M. KOBER, PROFESSOR OF HYGIENE, GEORGETOWN UNIVERSITY MEDICAL SCHOOL, WASHINGTON, D. C.

DR. KOBER. Mr. Chairman and gentlemen, the admirable presentation by Mr. Berliner makes it quite unnecessary for me to enter into an extensive presentation of the merits and importance of this kind of legislation.

You perhaps know that the highest aim of scientific medicine is the eradication of preventable diseases. We feel that prevention is greater than cure, and quite a number of people are engaged in doing what they can to promote life, happiness, and longevity of our fellow beings. I have practically been engaged for over 30 years in lines in that direction. Having accumulated a modest competency, I concluded that as a foreign-born citizen, the least I could do was to give the balance of my life to the prevention of unnecessary suffering and distress in my adoptive country.

I realized early in my professional career that impure water and impure food were important factors in the causation of infectious diseases, and as time has gone along, we have definite information that polluted water and milk, especially typhoid-polluted water, are the greatest medium of spreading typhoid fever and other intestinal diseases.

I also realized that there was a tremendous sacrifice of human life, especially during the first year of age. When you consider that more than one-fourth of the children born alive formerly died from infantile diseases, during the first year of life, you can see that there was something very startling in our mortality statistics. When I analyzed the statistics and found that during the first year of life 36.7 per cent of all the deaths were due to gastro-intestinal diseases—cholera infantum and diarrhoea—it became very evident that the causative factor was introduced into the system in food, and investigations in that direction confirmed the conclusion that impure milk, especially in babies who were deprived of the benefits of mother's milk, was one of the most important causes of this frightful mortality. I began to make investigations into milk in relation to public health, and as early as 1895 tabulated over 330 so-called milk-borne epidemics, consisting of 195 typhoid epidemics, 99 scarlet fever epidemics, and 36 diphtheria

epidemics, and several epidemics of septic sore throats, and so on. But, after all, those epidemics were insignificant when compared with the ravages that dirty milk played in the infantile mortality.

Through my early investigations I had the pleasure of meeting Mr. Berliner, one of whose children almost perished by the use of impure milk, and he became an ardent student of the milk problem; and I want to say that whatever has been accomplished in the way of a reduction in the infant mortality in this city is largely due to his intelligent interests and his substance contributed to the public. Among the educational factors, he practically every Sunday published in the Sunday papers a notice pointing out the dangers of impure raw milk and urging upon the consumer pasteurization of the milk or, at least, scalding of the milk. That simple process naturally kills disease germs and thus prevents its infectiousness. These simple advertisements, for which Mr. Berliner paid for out of his own pocket, have done much to reduce our typhoid death rates in this city, and did more for the reduction of the infant mortality than anything else.

I was fortunate to get this morning, just off the press, a report of the Child Welfare Association of Washington, D. C. It has not yet been distributed, but I find here some figures to substantiate what I have already told you about the troubles with diarrheal diseases and the frightful infant mortality that existed. The statistics go back only to 1899, but out of a population of 270,243 in the city then there were 4,360 births, and out of those 4,360 births there died before the completion of the first year 1,266. That was in 1899; 1,266 children out of 4,360 born perished in 1899. In 1919, in a population of 455,428, there were 8,231 births, and out of those only 702 perished—a most gratifying showing, entirely due, in my judgment, to the splendid efforts of Mr. Berliner, who certainly would have made a fine sanitarian. Instead of that, he has been a fruitful inventor, and has done much for the material advancement of the interests of the United States.

I hope some of the facts presented will indicate the importance of additional enlightened legislation. We have waited long for more progressive legislation. We do not know the details of the different bills, but as we see it, we thought perhaps the bill introduced by Judge Gard was likely to prove the most satisfactory to all of the interests concerned, because the regulations of the health officer would be made by and with the advice of experts in two of the important governmental departments, such as the Department of Agriculture, which has Bureau of Pure Foods and Drugs, and the Treasury Department, with its excellent Bureau of Public Health Service, who would doubtless frame just and reasonable regulations.

But if a bill can be framed by your committee that will subserve the purposes which we advocate directly, we have no objection whatever, and indeed all we are here for is to urge upon you the need of legislation. Efforts in the direction of protecting the public health

should not cease until the eradication of preventable disease is completed. There is certainly every reason to hope for the eradication of preventable diseases. To illustrate, during the Civil War, out of every 1,000 enrolled, 65 died from diseases.

During the Spanish-American War, the mortality rate of diseases in the American Army was still 30 out of every 1,000 men. In the last war, in spite of the fact that they had an influenza and pneumonia epidemic, in spite of those facts, the rate has been reduced to 14.8 per 1,000. That means that over 100,000 men were saved during the last war that would have perished during the Civil War. This is an indication of what preventive medicine has accomplished, and gives the lie to all who say, "What has been achieved by these new-fangled notions?" These statistics indicate that we are not idealists, that we are not asking for something intangible or impracticable, but that the achievements of preventive medicine find ample statistical proof in the annals of the history of these three wars.

I thank you, gentlemen, for your attention.