A special meeting of the Board of Representatives of the City of Stamford, Conn. was held on Monday, April 9, 1956, in the Auditorium of the Walter Dolan Jr. High School. Toms Road, Glenbrook, in response to a "Call" by the President, Mr. George V. Connors.

The President called the meeting to order at 8:20 P.M.

Roll call was taken by the Clerk. There were ~~26~~ 29 present and ~~12~~ 11 absent. The absent members were: Irving G. Snyder, Clifford Waterbury, Joseph Iacovo, Robert Lewis, x ~~Ellis Baker~~, Robert Findlay, Eugene Barry, William Murphy, Stephen Kelly, Edward Czupka, Alanson Fredericks and Jack McLaughlin.

Pursuant to the provisions of Section 202 of the Charter, the following "Call" sent to all members of the Board; was read by the President:

x Mr Baker arrived late

BOARD OF REPRESENTATIVES
Stamford, Conn.

April 4, 1956

I, George V. Connors, President of the Board of Representatives of the City of Stamford, Pursuant to Section 202 of the Charter, hereby call a SPECIAL MEETING of the members of the Board of Representatives on

MONDAY, APRIL 9, 1956

at 8:00 P.M.

in the DOLAN JR. HIGH SCHOOL AUDITORIUM,

TOMS ROAD, GLENBROOK

for the purpose of:

hearing the opponents on fluoridation of the City water supply.

George V. Connors,
President
Board of Representatives

The President announced that the meeting was being turned over to the Chairman of the Legislative and Rules Committee, Mr. Raiteri.

Mr. Raiteri took the Chair. He announced that the speakers for the evening were those in opposition to fluoridation of the City water supply. He said: "We have another meeting scheduled for Monday, May 14, 1956, at which time the proponents will be heard.

"We have four speakers this evening. They are very well informed on the subject of fluoridation. Our first speaker is Dr. Simon A. Beisler. Dr. Beisler resides in New York and at the present time is Director of Urology at Roosevelt Hospital in New York City."

Dr. Beisler addressed the members of the Board. He said that although he was a 1764 resident of New York City, he was a sort of "part-time" resident nearby, having a

home in Old Greenwich.

He said that five years ago he knew nothing about fluoridation. He said: "I do not claim to be an expert on the subject of fluoridation, but from my reading, I wonder whether there is such a thing as an expert on the subject, or if there are, they are mighty few. What I say to you is my interpretation of what I have read on the subject. My interest was originally aroused when I was approached by one of the Selectmen in the Town of Greenwich who asked me what I knew about fluoridation. My reply was 'nothing'. He said that it was coming up soon and would I enquire around in New York and see if I could find anyone who was acquainted with the subject. But, to my surprise, after speaking to any number of respected internists, the answer was always: 'I don't know a thing about the subject'. Then, I talked to several dentists and I must say that the dentists are wholeheartedly interested in one thing, they want to lick this problem of tooth decay. But, when you speak to them individually and ask them what they actually themselves know about the subject, the answer is, they know only what they have read in dental journals.

"When I told the selectman in Greenwich that I couldn't find anyone, and knowing him very well, in a weak moment I allowed him to persuade me into studying the subject of fluoridation, which required many, many nights at the library, reading dental yearbooks, dental journals, and going back to 1930. And, in the dental books you are impressed by the rather uniformity of claims. Was there a guiding hand behind the claims? In the medical journals up to very recently there are an extreme paucity of articles on the subject. Then, to the books on toxicology. One of these books was written under the auspices of one of the organizations which is in favor of fluoridation. I won't even bother telling you what I read there. Now, many professional and scientific organizations recommend fluoridation, but if you go through this list you will find out that there are two primary factors who have influenced these other organizations. They are the Public Health Service and the other the American Dental Association. They recommend fluoridation of communal water supply, one part per million, which is equivalent to one milligram of sodium fluoride to each quart of water. This is supposed to act upon the body of the consumer, altering their body functions and thereby giving their teeth resistance to decay. This being so, it is therefore used as a drug. The action of fluoride is attained before the teeth calsify, or before they erupt. The fluoride that is swallowed is absorbed into the blood and carried to the tooth structure where it acts on the enamel. The effect of fluoride is related to water consumption and that is why the Public Health Service recommends that less be added to the water in a hot climate. This is done to compensate for the larger amounts of water consumed by residents of a hot climate which would give them a larger dose than is permissive to use if not compensated thusly, but it does not compensate in the amount of water that two individuals consume regardless of the climate. Residents in this vicinity would have a larger amount added to the water because of less need for large consumption of water. However, it does not compensate between how much water two people in the same area drink. The fluoridation program of the Public Health Service assumes that everyone drinks the same amount of water, while actually the water consumption of individuals varies tremendously and in some cases as much as four to one. Also, in addition to fluorides contained in the water, foods vary as to fluoride content and this is dependent upon the acidity of the soil and its fluoride content. In 1938 the Department of Agriculture issued an order prohibiting the sale of fruits or vegetables containing any more than 38 parts per million of fluoride, assuming that sprays containing fluorides have been used on these."

He discussed the comparisons of the use of chlorine versus fluorine in the water supply saying that chlorine was used to destroy dangerous bacterial growth, such as typhoid and para-typhoid, while fluorine was added merely as a preventative of tooth decay in certain individuals who will benefit by its use. He stated that the use of fluorides in the drinking water was of no benefit to those over the age of 12 or

1763

14, extending downward to those of the ages of 8 to 10. He said that tooth decay was not a contagious problem and further, that fluorine, unlike chlorine does not evaporate in the water supply and when it is boiled it becomes more concentrated, averaging about 25% in concentration, which increases the one part per million in proportion. To the remaining 8% to 90% of the population who can derive no benefits from the drinking of fluoridated water, and who can actually be harmed, it is wasted, if not actually harmful.

He said: "By its long standing cumulative effects, it can be harmful to certain individuals."

Dr. Beisler talked for some time, explaining the various factors involved in drinking fluoridated water, stressing bad effects that can take 20 to 30 years to manifest themselves. "It spells trouble for those who are allergic, hyper sensitive and those with malnutrition and for large consumers of water, diabetics, those with kidney disease and other conditions that cause an abnormal consumption of water," he said. He said manual laborers and hot dry spells in the weather would also cause a differential in the consumption.

There followed a period of questioning of the speaker.

The next speaker to address the Board was Dr. Charles O. Brown, chemical consulting engineer, with an office in New York City. He said that the previous speaker had touched on a great many phases of the subject that he had intended using in his talk and in very much the same way. He explained that for nine years he had been the author of a column, coming out once a month, in which he wrote on 60 or 65 very controversial subjects, sometimes receiving one or two letters from readers, either in agreement or disagreement, with never any name calling or vilification until he came to the problem of fluoridation of the public water supply and it was then that he lost his job. He said: "The editor, a life-long friend told me he had nothing against me and that he had enjoyed my column, but he was a busy man and could not stand the letters he had been receiving from readers either for or against fluoridation." He said he thought that fluorine was probably the best way in which to handle tooth decay, but he was not in favor of the method of putting it into the public drinking water, because there was nothing right about it. One reason he gave was that those who did not need the medication and were unable to make use of it would get it anyway. He said he was in favor of those who needed it, getting it in another form rather than in the public water supply. He mentioned that this could be done by administering it in pill form, and could be better controlled. It would not then be given in larger doses than were necessary or given to those who might be harmed by its use. By letting the doctor administer the drug to those needing it, it could be watched and studied and if adverse effects resulted, its use could be stopped.

He stressed that putting fluorine into the public water supply would not be the best way to control giving the patient "just what the doctor ordered".

He said: "Many of these doctors, very sincere and with the best of intentions who are for fluoridation, in my opinion and in certainly the opinion of all those with whom I have talked, have not thought out this matter clearly. They have been rather complacent about it and in every case they have been depending upon the fact that thousands of people who reside in this area that goes from Denver or central Colorado down southeast to Texas and to parts of Oklahoma - well, they simply accept the fact that those people have fluorine in their drinking water up to 3 and 4 parts per million and enjoy good health. Now, chemically, there is quite a story back of that. No. 1, we do not know what the fluorine compound in the natural water actually is. Now, the reason for that is, there can be what we call 'salt pairs', that is, you have Calcium Chloride and Magnesium Sulphate, but you can't be sure because we analyze for calcium, analyze for sulphate, we analyze for magnesium and

1220

we analyze for fluorine. But, you can't be sure just how it is hooked up in the water - whether it is Calcium Sulphate and Magnesium Fluoride, or Magnesium Sulphate and Calcium Fluoride. So, the fluorine compound that actually exists in those waters may be one compound, or it may be another and then, again, it may be a very complex compound in which the fluorin. effect is only partially utilized and that means that it is locked up in a compound in which other ions or cations predominate. Some call that a "chelating compound" (sp?). In other words, there are bidoxeum chelates (?) which will take the copper ion and so surround it, so that you can dissolve that chelating compound in water, you can put it on textitles, you can put it into soaps and things and there will be absolutely no effect of the copper determined - the copper's locked up in the chelating compound. Now, certain organic compounds will do this with fluorine, and my point is that there is so much yet unknown about what the fluorine compound in those natural waters are, that it is unsafe for any doctor to assume that it is all right to fluoridate the water of every public water supply just because of that condition in our western states. Now, another thing that I must tell you is this: We don't know too accurately how to analyze the fluorine down in parts per million. The Stamford Research Laboratory which used to be a rather broad gauge, broad horizon laboratory for research subjects, has recently been devoting most of its time to this fluorine chemistry, and after several years of arduous labor, they now have a set of standards which they can give you that contain from 5 parts per million by one part per million up to 50 parts per million, and it's taken them many years to get those standards. Now, they developed those standards because it is fairly easy to compare an unknown sample with a standard - you have means of looking at the two of them at the same time, either by color intensity or opacity or light tranemission, or electrolytic conductivity, or some method where you can quickly compare an unknown with a standard and then say 'well, it's about that amount'.

Those samples cost $13.00 for a small bottle and the determination of water to show what fluorine content it has, runs approximately $25.00, so that a public water system which sincerely and honestly wants to control the fluorine content that it puts out daily in a water supply is under a considerable expense, and as far as I know today, should retain the Stamford Research Laboratory in California, away out on the west coast, to guide this program for them. The matter is far from being a simple one.

"Now we come to something that's a little more practical, and that is, I want to ask you all - do you fully realize what it means to regulate something or to appraise something down to one part per million? And, I don't think you do. It's almost impossible for me to comprehend what that means, and yet I understand that precision tool manufacturers use the same ratio constantly with considerable confidence. But, supposing you were to put a million dimes face to face, one on top of another, how high do you think the column would be? Well, I'm sure you would make some pretty wild guesses, but it is something a little less than three times the height of the Empire State Building, including the tower. In other words, it is 3,287 feet high. Now, as you stand and contemplate that pile, I don't think any one of you would consider it an easy task to say 'someone has taken a dime off the top of that pile' or added a dime to it. Now, pursuing this accuracy a little further, the part that concerns me is this: The Public Health Service has said: "This program must be very accurately controlled" and they are now talking about not parts per million, but 1. one tenth, or two tenths or 3 three tenths part per million, and in effect, that mathematically says that immediately they are regulating this to one part in ten million, and in my opinion that can't be done. Now, fluorine is put into solution. A gentlemen raised the question here as to what is the difference between sodium fluoride, which is ordinarily used, and the natural fluoride in the western waters. Well, unfortunately, we don't know what the natural fluorides in the western water is, or what composition they actually have, but we do know that what you are going to add is the - you're going to get sodium fluoride. Now, sodium fluoride years

ago was pulled out of the barket of unknown chemicals - out of the textbook, you might say - was pulled out of a list of unknown chemicals by the Department of Agriculture, of the U. S. government, and recommended as a rat poison. That is the principal use today of sodium fluoride. Now the reason why you are going to get sodium fluoride to add to your drinking water is No. 1, it is easily soluble and No. 2, it is a by-product of the Aluminum industry and of course, they are anxious to get rid of it - it is readily available, in other words. I am not saying that the aluminum industry has any mundane motive, they simply have something that's available, they want to get rid of it, they can't throw it in streams, but if someone wants to buy it, I certainly think it's very sensible for them to sell it. Now, the other compound is sodium silicose, which is all right. It is a by-product of the fertilizer industry and the fertilizer industry is in the same position, its a by-product with them. They can't let it into the atmosphere so if someone wants to buy it, they are only too glad to sell it, because otherwise they have to destroy it by using lime. That compound comes in solid form to your water department. They receive it and they have had, previously, an installation made which contains a meter - a solution device - there is a set of Fairbanks scales. You all know what kind of scales they have - they are accurate to within a pound or so, and are time honored and time proven, but they are accurate to within a pound or so. And, then he takes the records and estimates the number of gallons of water that the system pumps and the sodium fluoride solution that is needed to put into that water, drop by drop.

"Now it doesn't make any difference whether it goes in drop by drop or a drop of fluoride to a million drops of water, or a pint of fluoride to a million pints of water, or a gallon of fluoride solution to a million gallons of water, for the ratio is always the same. That one part per million has to be mixed with the water going through the pump. Now a centrifugal pump has replaced the reciprocating pumping engines we used to see in pumping stations which were a far better meter for water, because by counting the number of revolutions you knew exactly how much water was pumped. But, the centrifugal pump is kind of a spongy and elastic instrument. It creates a dynamic head on the water and that in turn, induces the water through the pump, but if the head becomes higher and the friction greater, the amount of water going through the pump decreases - all the men here have probably seen this, those who have had anything to do with centrifugal pumps - you have seen the performance curves. There is usually a family of curves that says that at a certain speed of the pump how much water you will get at various pressures. If you close off the discharge of the centrifugal pump, and then apply the current to the motor, the load will go up to about 42 to 49% or the full load of the pump, and then just stay there, nothing will happen, except that the water that is trapped in the pump will get warm, due to the energy and friction that it absorbs from the power supply, so that the resistance, or back pressure of the system on the mains just outside of and in the vicinity of the pumping plant - in other words, the total back pressure on the pump guides the amount of water that goes through the pump. Well, this pressure is picked up by these measuring devices and the amount of fluorine is supposed to be raised or lowered, compensating for the amount of water going through the pump, but knowing something about the oath that every doctor takes - it is called the "Hippocratic Oath" and his faithfulness in observing the highest standards of his profession, I don't see how any of them can sanction the dosing of people where 1.1 or 1.2 parts of fluorine can be either bad or good by any such device as that.

"Now the next thing is this question of mixing. Remember we have a ratio of one part of fluorine to a million parts of water. Well, the pump is quite a terrific mechanical mixer, but it is mechanical, and what I am trying to tell you is, we need molecular mixing here, which is something a little better than mechanical mixing, and in the pump we have the best mixing we shall get in the entire system. Now, if the water leaves the pump and goes into the main, as it is forced along through the

main at a pace which is somewhat higher than the mains would like to accommodate if allowed just a gravity head, that induces turbulence. We express it by a Reynolds number, and that's just a measure of the amount of excess energy we are putting into the push to put the water through the pipe. Well, that turbulence is a mild sort of mixing, so that I'll give you credit for mixing in the pump and a mild additional amount of mixing due to turbulence in the water main. But, supposing the mechanical mixing has not become complete, when the water main splits and part of it goes to North Stamford and part goes to the center of the City. Well, the North Stamford amount may be three times, the center of the city may be ten times and you are going to get fluorine in about that proportion, except that now the fluorine is locked up in pipe - it can't go from the pipes in the center of the city to the pipes in the North Stamford area, they are going to take what they get and that's the end of it. In other words, to me, it is a very, very poor way to count upon the dosing of a people with a poison for any particular purpose.

"Now the next thing is that sometimes you store the water in a storage pond, and in a pond of this sort you have a principle called 'diffusion'. This is the weakest of all three principles, because diffusion is never very strong, and it is enormously slow - in other words, in an area as large as this room, you might have ten concentrations of fluorine in this corner of the room and unless there was mechanical agitation, it could be literally a year before the average concentration of fluorine would occur in that corner in the far rear, so that diffusion is a very mild form of mixing, and yet, I'll admit that it is of some benefit. So, we now have three all mechanical methodsof mixing the fluorine uniformly, one part of medicine with a million parts of water and I am not satisfied that that is good enough and it is a long ways from it.

"From what the previous speaker has told you and from what you have heard tonight you can all see that there is a terrific uncertainty that the fluorine can vary from one to ten times the amount that you actually want."

Dr. Brown went into some length, explaining the action that went on inside of pipes carrying the mixture, the scale that forms inside, which goes and comes, sometimes building up a deposit and breaking loose again. He stated that they have recently come into information in regard to the scale that builds up through a study made on those in the Ann Arbor system where they have been fluoridating the water under controlled conditions in an experiment, something like the Newburgh experiment for four years, the scale in the pipe was found to contain from 450 to 550 parts per million of fluorine. He said if that scale remained permanent and stayed there, the public would be safe, but that was not what happened, for the scale sluffs off once in awhile, making it impossible to prevent certain users from suddenly getting an enormous dosage of fluorine at an unknown time without knowing he had ever gotten it. He stated that iron deposits can be found in this scale and one class of iron deposits are the ferrous and ferric hydrate, extremely active chemicals, quite absorbent and react with fluorine by getting the fluorine to react with other mineral constituents in the water. This complicated bit of chemistry is going on in the water system, which causes this to become a very uncertain method of knowing just what you are obtaining when fluorine is added to the public water supply. He said that even though every possible precaution is taken to try and keep the dosage within a safe margin, these other chemical combinations sometimes can cause an overdose of fluorine, no matter how carefully they are handled.

Dr. Brown said that from 15% to 20% of the children will have mottled teeth and later on in life in a period when these experiments are history, perhaps even more than this percentage will have mottled teeth.

He reiterated that the problem of fluoridation had many ramifications and should not be entered into without very serious consideration.

After Dr. Brown spoke there followed a period of questioning.

A recess was called at 9:45 P.M.

After a ten minute recess the Board resumed its session.

The next speaker to address the Board was Mr. Leslie Hand, representing the Greenwich Committee Against Fluoridation, who addressed the Board and explained the problems that Greenwich had experienced when considering the question of adding fluorine to the water supply. He said it was submitted to a referendum there and was overwhelmingly defeated.

Mr. Hand finished speaking at 10:50 P.M.

The next speaker to address the Board was Mrs. Norman H. Ulrich, Secretary of the Stamford Committee Against Fluoridation.

Mrs. Ulrich spoke as a lay person, with no technical knowledge of the subject, but objecting to those who did not desire fluoridation of the water supply being subjected to receiving it whether they wanted it or not. She said because fluorine was only of benefit to young children she saw no point in other groups having to drink fluoridated water when they neither wanted it or needed it or were able to utilize it.

Mrs. Ulrich was the last speaker to address the Board. There being no questions, Mr. Raiteri turned the meeting back to Mr. Connors.

Mr. Connors assumed the Chair.

Upon motion of Mr. Topping, seconded by Mr. Nolan, the meeting was adjourned by unanimous vote at 11:05 P.M.

Respectfully submitted,

John C. Macrides
Clerk
Board of Representatives