

FLUORIDATION in New Zealand



Bruce Collins

with a Foreword by
Sir Dove-Myer Robinson
and Appendix by Dr G. L. Waldbott M.D.

'FLUORIDATION IN NEW ZEALAND' breaks new ground in the continuing fluoridation debate. It's the first book of its type written by a New Zealander. The information contained here has never been available before to the general public.

Well referenced and unemotional, it is a good appraisal of the present status of what has been the most controversial public health measure in our history. Rather than simply condemning fluoridation, the author has thrown some valuable light on **why** there has been such a controversy.

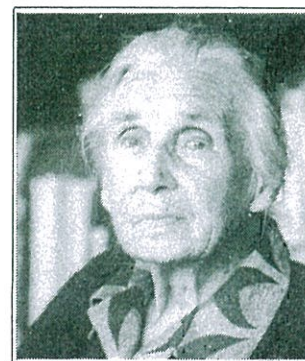
It contains a fascinating appendix by G. L. Waldbott M.D. of Michigan, U.S.A. The appendix is condensed from Waldbott's book 'A Struggle With Titans' (Carlton Press, 1965)—a classic in the history of fluoridation—which was never widely available in either Australia or New Zealand. It is now of historic value in explaining how fluoridation came to be so widely accepted in the face of massive counter evidence.

"How long can the Department of Health continue to bury its head in the sand and ignore the accumulating evidence against fluoridation . . .?"—asks Sir Dove-Myer Robinson (former Mayor of Auckland) in the Foreword.

"I am confident that this book will have a profound effect on every unbiased person who reads it"—Sir Dove-Myer Robinson.

The real story behind Fluoridation never before told in this country.

The amazing truth behind the most controversial Public Health measure in history.



"Should be widely read by all New Zealanders"

—Dr Eva Hill

FLUORIDATION IN NEW ZEALAND

by Bruce Collins

Amazing Facts about Fluoridation Accidents,
Bungling and Cover-ups
by the Dental-Medical establishment!

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To the Memory of

B. A. Todd, M.C., J.P.

A life-long defender of the individual's freedom in a democratic country. Former Mayor of the Borough of West Harbour, Dunedin, farmer and a gentleman.

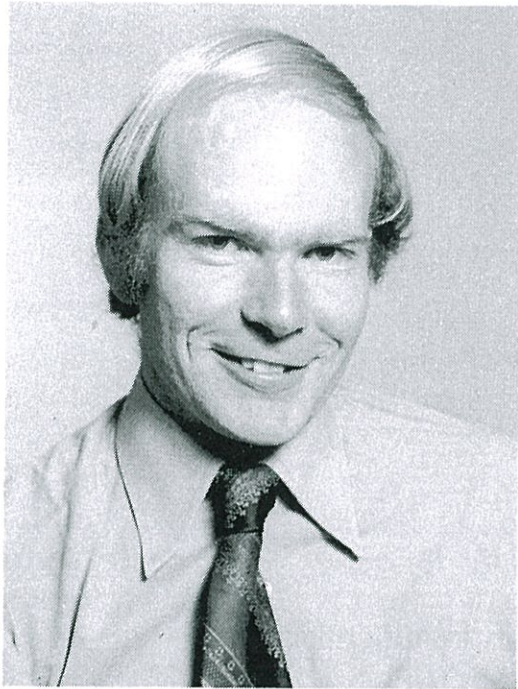
"I disapprove of what you say,
but I will defend to the death your right to say it."

Voltaire

"True scientists invite criticism"

G. L. Walbott

THE AUTHOR



Bruce Sinclair Collins was born in Dunedin in 1948, educated at John McGlashan College and Kings High School, and worked in a chartered accountant's office while studying at the University of Otago for a Bachelor of Commerce degree. A working holiday in Australia and Europe followed before graduating in 1973 whereupon he commenced a science degree. His continuing interests are alternative lifestyles, conservation and tramping. He is a member of the Soil Association of New Zealand, the Royal Forest and Bird Protection Society and the Royal Society of New Zealand. The science degree was interrupted by an opportunity to manage a natural foods restaurant in Dunedin which he did successfully for several years. It was during this time that he became aware that nearly all the food he was serving contained artificially added fluoride. This was because Dunedin has been a fluoridated city since 1967. Upon inquiry he discovered a wide difference of opinion as to the amount of fluoride it is safe to ingest. Further inquiry led ultimately back to fluoridation's early beginnings in America in the 1950's. An intensive study of the subject followed. Realising that there were many historical facts and subsequent events that had never been published in this country before, Bruce Collins' book 'Fluoridation in New Zealand' was the result. The new and startling revelations contained in this book, especially the 1978 'Pittsburgh Case', will be of great interest to both lay and professional people alike. He now operates a health food restaurant in Christchurch.

FOREWORD



In commending Bruce Collins' book, "Fluoridation in New Zealand", I am confident that it will have a profound effect on every unbiased person who reads it.

After studying the problem of fluoridation of public water supplies for over 27 years, I am of the opinion that it is not only ineffective in "permanently protecting teeth from decay" but that it offers a serious menace to the health of every person compelled to consume fluoridated water.

Whilst fluoridation may have been introduced to this country with the best of intentions in 1953, scientific, medical and dental evidence which has surfaced since then confirms the fears expressed by many of us when it was first proposed.

Maybe the most conclusive evidence of the failure and dangers of fluoridation is that apart from Great Britain, no European country which is a member of the EEC permits fluoridation of public water supplies in their countries. In 1977 the Government of Quebec on compelling medical evidence of the danger to health declared a moratorium on further fluoridation and at the time of writing word has just been received that this month, for similar reasons, the Government of South Africa has prohibited it.

How long the Department of Health in New Zealand can continue to bury its head in the sand and ignore the accumulating evidence against fluoridation can be transposed into the question how long are the people of New Zealand going to allow themselves to be dominated by bureaucrats with vested interests in covering up their own mistakes.

I commend Bruce Collins' book to everyone interested in his (or her) own health, the health of their children and the health of the community in general.

Sir Dove-Myer Robinson
Patron: N.Z. Pure Water Association (Inc.)

INTRODUCTION AND ACKNOWLEDGEMENTS

Fluoridation is the addition of fluoride to public water supplies, usually at the rate of one part of fluoride for every million parts of water (1ppm) by weight. This is equivalent to 2.2mg (a tiny fraction of an ounce) of sodium fluoride dissolved in each litre of water or, in approximate everyday terms: an amount approximately equal to a grain or so of sugar in two pints of water. It is claimed that this reduces tooth decay in children by as much as two thirds.

A lawsuit was initiated on June 15, 1979 to stop the process in New York City. The injunction was filed by Arthur C. Ford, former New York City water commissioner. One of the lawyers was John Remington Graham who successfully represented the citizens in the Pittsburgh trial of the previous year, at which Judge John P. Flaherty ruled that he was "compellingly convinced" that fluoridation is linked with increased cancer deaths. Court cases are also pending (1980) in three of the largest states in America; Illinois, California and Ohio.

From Britain comes the news that the government has ordered a top level probe into fluoride. This move follows a meeting between Dr Gerald Vaughan, the Health Minister and Dr Dean Burk of the "Burk-Yiamouyiannis study". Dr Burk claims that there is a 5 percent increase in cancer deaths in Birmingham since fluoridation was introduced there. And in New Zealand a recently appointed Government Advisory Committee on fluoridation chaired by the Director-General of Health, Dr H. J. H. Hiddleston, is also investigating the question.

The climate of opinion is changing rapidly. There is now so much evidence that fluoridation is harmful that most medically advanced countries reject fluoridation. For example, less than 2% of Western Europe is now fluoridated. But coupled with this we observe the entrenchment of the status quo by those who still believe it to be 'the most advanced public health measure'. In the present days of 'future shock' the phenomena before us is one of health authorities saying something is perfectly safe and harmless and the next day banning it. We will see how the phenomena of 'cognitive dissonance' explains why competent and highly qualified experts continually reject any evidence of harm, that is, having committed themselves on the question, it is very hard to go back on what they have said: it is easier instead to attack, dispute or deny such evidence of harm. Also the public in New Zealand have been subjected to a deliberate public relations campaign concerning fluoridation. In the early days the idea was to present fluoridation in a good picture to get it accepted. However, the initial controversy did not die a natural death, as many expected, so the campaign had to be maintained. This has entailed, among other things, the deliberate suppression of information which throws doubt on its safety, efficiency, etc. For instance the State Environment Health Service in America ordered the Coca-Cola and Pepsi-Cola bottling companies to destroy all soft drinks produced on November 11 and 12, 1979 because of an accidentally high level of fluoride added to the Annapolis, Maryland, tap water. Jon Crosby, a public affairs officer for the Department of Health and Mental Hygiene, said Pepsi had to destroy about 25,000 cases of soda, and Coca-Cola had to dispose of an "undetermined amount" of their product. New Zealand Health Department literature examined

in this book speaks of absolute safety and that such accidents are impossible. Hence the Annapolis story, which had obvious news value, never reached the New Zealand public. This and many other similar incidents are recounted in the following pages. When such information is brought before the attention of the public it invariably receives a rebuttal of a greater magnitude and impact. So when a visiting scientist to this country, Dr John Yiamouyiannis, spoke against fluoridation during a television interview which at the most lasted two to three minutes on the late news, it was followed within a day or so by a five to six minute rebuttal by an appropriate New Zealand expert on prime time television. The papers, 'Health' (the Bulletin of the New Zealand Health Department) and the medical literature all followed suit in the weeks following the brief exposure of the 'other side of the issue'. Much of the rebuttal centered on personal attacks on Dr Yiamouyiannis and in calling his research unscientific. Because of his findings against fluoridation he had heard this criticism before. Ridicule, sarcasm and personal abuse are the only things a person can expect who takes a stand against fluoridation. Hence Dr Yiamouyiannis was glad of the chance to appear before a court of law (the Pittsburgh trial) where his accusers could clearly and unemotionally point out the supposed unscientific nature of his research. They were completely unable to do so. Yet another aspect of the fluoridation issue now appears—that is to simply ignore the 'other side'. The outcome of the Pittsburgh trial is simply ignored by our 'official' spokesmen on fluoridation. All the criticisms of Dr Yiamouyiannis had been answered and clarified at the Pittsburgh trial in 1978 yet when he comes to New Zealand in 1979 the trial is ignored and they are repeated with renewed vengeance! Of course it must be remembered that Professor D. J. Beck of the Otago Dental School had laid a complaint supported by the New Zealand Dental Association to the New Zealand Press Council in the first place about a paid advertisement informing people of the outcome of the Pittsburgh trial. Such an advertisement was necessary because of the 'conspiracy of silence' surrounding the other side of fluoridation. But Professor Beck obviously felt that such a situation should continue and at the very least he maintained that the material should have been sent to him or his colleagues for checking first. The Press Council's decision of January 1980 upheld freedom of speech by stating: "those who oppose a view, in whatever minority they exist, should not be denied their right to differ, and to do so publicly". They rejected Professor Beck's complaint.

This book looks at the Pittsburgh trial and its revelations in detail. We also discover how the above mentioned incidents are far from unique but have characterised the fluoridation controversy ever since it began. A brief historical background and how this measure came to be generally accepted is included. Various aspects of fluoridation are considered particularly its compulsory nature. Appendix A explains how and why the detrimental side effects are generally unheard of. Information never before published in this country is now available for all to read.

In this book the term 'fluorine', generally means the fluorine ion and 'fluoride' means any salt of the element fluorine. The two terms may in parts of the text be interchangeable depending on the source quoted, that is, the text has not been standardised in the use of these words. For their exact scientific meaning, see the glossary.

To correspondents and friends who have contributed much of this information many thanks and in particular to Dr George L. Walbott for his permission to use extracts from his book 'A Struggle with Titans'. To the Tauranga/Mt Maunganui

Branch of the New Zealand Pure Water Association Inc. who have published this work, I owe a debt of gratitude, especially to its patron, Sir Dove-Myer Robinson. Also the executive members and branches throughout New Zealand have given tremendous help and support. To Melba and all others who have helped in the preparation of this book, many thanks.

B.S.C.

Christchurch, October 1980.

Chapter 1

EARLY BEGINNINGS

The first proposal for fluoridation of public water supplies came from Gerald J. Cox Ph.D., a research fellow at the Mellon Institute. On 29 September 1939 in a speech to the Western Pennsylvania section of the American Waterworks Association he said, "The present trend towards complete removal of fluorine from water and food may need some reversal". He then suggested that fluoride be added to water supplies as a means of reducing tooth decay.(1)

The Mellon Institute was founded in 1911 by Andrew W. and Richard B. Mellon, then the owners of the Aluminium Company of America (ALCOA). It is a laboratory of applied science open to U.S. businessmen. They do research for industry and find uses for by-products, etc.

ALCOA and other manufacturers of aluminium in the 1930's were having a serious disposal problem. Sodium fluoride, a by-product of aluminium, chemical and fertilizer manufacture, could not be left on the ground because it poisoned vegetation, animals and humans. Nor could it be buried as it leaked into surrounding ground and eventually found its way into streams. Only a small percentage of the total was sold for poisons and insecticides. It was to help with this disposal problem that Gerald Cox of the Mellon Institute was employed. Scientific literature up to that date contained several references linking fluoride with teeth and bones (2). Dr Cox based his proposal of artificially adding fluoride to public drinking water specifically on an article in the Journal of Dental Research which appeared a year earlier. It was by Dr Wallace D. Armstrong, Professor of biochemistry at the University of Minnesota and P. J. Brekhus. Their analysis of tooth enamel showed more fluoride in healthy teeth than in decayed teeth. However Dr Armstrong published another article somewhat later (1963) in which he reassessed his original findings. In fact his reinvestigation convinced him that he had misinterpreted his earlier data. He states "the sound tooth of an older person demonstrated that its composition had been adequate to resist caries (tooth decay)" and that "fluoride content of enamel increases as a person grows older". "Age as a factor in fluoride content was not then (in 1938) appreciated". Thus it appears that the evidence on which Dr Cox had based his recommendation that fluoride be added to drinking water had, after 24 years, been retracted. However Dr Cox went on to become a member of the Food Nutrition Board of the National Research Council from which position he advocated the idea of Fluoridation. Then in 1944 he became employed as a research scientist for Corn Products Refining & Co. of Argo, Illinois, a company involved in sugar processing and more latterly he worked at the School of Dentistry, University of Pittsburgh. Throughout his career he remained one of the strongest supporters for fluoridation.

Companies involved in the sugar industry had in 1943 set up the Sugar Research Foundation Inc. which among other things embarked on a dental caries research programme. The Foundation's scientific director acknowledged (3) that the dental caries research programme was "to find out how tooth decay may be controlled effectively without restriction of sugar intake". Fluoridation was just such a proposal and from that date the Foundation started making

research grants in support of fluoridation and to actively promote it. Two such recipients of grants were the Dental Schools of Harvard and Rochester University and these two have been among the most vocal promoters of fluoridation to this day. It is obvious that, like the Mellon Institute, only scientific findings which agree with their general principles are acceptable to the Sugar Research Foundation. For example, when Dr J. H. Shaw of the Harvard School of Dental Medicine published an article in the American Medical Association's Journal in 1958 (4) showing that all sugars induce tooth decay, the Foundation withdrew its support for his research. Other examples of this principle abound (5) and we will come across a good number in this book. It may be briefly cited as 'he who pays the piper plays the tune!'

Chapter 2

THE UNITED STATES PUBLIC HEALTH SERVICE AND THE NEWBURGH EXPERIMENT

Grand Rapids, Michigan, U.S.A., was, in January 1945, the first city to be artificially fluoridated. Newburgh, in New York State, followed in May the same year. Nearby Kingston, New York, was to remain unfluoridated as a control and the test was intended to last 10 years. However by 1955 almost 20% of the U.S. had been fluoridated. The dental profession in Newburgh was told that the purpose of the experiment was to determine with "comprehensive and extended research whether mass prevention of dental caries is attainable by fluoridation without inducing toxic effects elsewhere in the body".(1)

In 1947 Oscar Ewing took leave of absence from his law firm of Hughes, Hubbard and Ewing, the solicitors for ALCOA. He became an administrator of the U.S. Federal Security Agency and in this capacity he directed 17 federal agencies, one of which then was the U.S. Public Health Service.

He was the subject of very vigorous lobbying from a group of active Wisconsin dentists led by John J. Frisch who maintained that the only thing holding up fluoridation was the lack of official approval from the U.S. Public Health Service.(1a) Up to this date the U.S. Public Health Service had taken a cautious and conservative view concerning the idea of fluoridation but Frisch and another early promoter, Dr Frank Bull, argued that they did not have to wait 10 to 15 years because there were generations of experience in the naturally high fluoride areas.

On 1st June 1950 Oscar Ewing's agency, the U.S. Public Health Service, made the announcement that "communities desiring to fluoridate their communal water supplies should be strongly encouraged to do so". This original endorsement was followed five months later by both the American Association of Public Health Dentists and the American Dental Association and in another month by the American Public Health Association.(2) These endorsements came despite the fact that the first experiments in Newburgh and Grand Rapids had run only half their intended time which at best was a conservative length of time to determine the effect for the 'rest of one's life'.(3)

Once the endorsement of fluoridation was made the U.S. Public Health Service became actively involved in its promotion. In 1951 Ewing asked Congress for \$2 million for its promotion.(4)

In fact the only data available from Newburgh at the time was a four-year report. Therefore no child who had been subject to fluoridation all its life (of 4 years) would even have any permanent teeth visible yet. Hence it would have been impossible to assess fluoride mottling of teeth, i.e. dental fluorosis—a disfigurement due to excess fluorine—a condition well known and well documented in the dental profession. The long range effects on adults especially those with chronic ailments would, after only 4 years, be equally unknown. Yet the promotional literature at this stage spoke of "absolute safety", "no known

side effects", "makes strong healthy teeth for life", etc. Such bizarre behaviour has characterized nearly all fluoridation experiments with public drinking supplies since then, including the Hastings experiment in New Zealand in 1954.

After 5 years of drinking fluoridated water, it was found that Newburgh's younger children erupting permanent teeth apparently did have 65% less cavities than unfluoridated Kingston. However this difference soon began to drop as time progressed. Independent analysis of the U.S. Public Health Service's dental statistics from Newburgh after 7 years (5) showed that fluoridation had achieved no real permanent improvement in condition of teeth but only a delay in onset or recognition of decay from one to three years. Also the rate in which decay was developing in Newburgh children indicated that it would soon exceed the decay in non-fluoridated Kingston, the control city. P.R.N. Sutton, D.D.Sc., L.D.S., F.R.A.C.D.S., of Melbourne University's Dental School points out this and many other inaccuracies in his book 'Errors & Omission in Fluoridation Trials' (Melbourne University Press, 1959).

A House Select Committee to investigate the use of chemicals in Food and Cosmetics which convened in Washington D.C. during January-March 1952 urged a "go slow" policy on fluoridation. Certain evidence regarding fluoridation came forward which made the Committee unanimous in its recommendation. For instance, while physical examinations were performed on children in the Newburgh-Kingston project in order to detect possible adverse effects of artificial fluoridation, no such examinations were performed on adults. Also Dr John Knutson of the U.S. Public Health Service admitted that studies had never specifically gone into the question of the possible effect of the addition of artificial fluorides to water of children who are suffering from malnutrition. Yet the Journal of the American Dental Association (6) had previously warned that "low levels of fluoride ingestion which are generally considered to be safe for the general population may not be safe for malnourished infants and children because of disturbances in calcium metabolism". (7) Further, it was disclosed that the toxicity studies of fluoride on rats had not been completed until at least a year after the endorsement of fluoridation as a completely safe public health measure. During the hearings a National Cancer Institute representative said he knew of no studies being carried out as to the effect of fluoridation on pregnant women, older people or people with chronic diseases. It was said of the hearings that the U.S. Public Health Service's ability to offer a balanced assessment was limited by the strong public commitment to fluoridation it had voiced since 1950. A maxim of British law states that no man can be judge in his own case.

Instead of erring on the side of caution as recommended by the Congressional Committee, the U.S. Public Health Service went on to even more active and vigorous promotion of fluoridation. This led to an aggressive attitude towards critics which tended to discourage any meaningful exchange of views on the subject. For instance the U.S. Public Health Service's scientists refused to publicly discuss or debate with scientists who were critical of fluoridation.

Dr Donald Galagan, Assistant Surgeon General of the Dental Division of the U.S.P.H.S. dogmatically made the following assertion in February 1959 before the 15th Congress of the Australian Dental Association:

"I wish to state as clearly as I can that the scientific bases supporting the fluoridation of public water supplies are no longer considered to be controversial by reputable health scientists in the United States".

This statement put health scientists in Australia on notice that anyone opposed to fluoridation would be stamped as disreputable.

Then in 1966 scientists at the National Research Council of Canada published a study indicating that the individual's total intake of fluoride varied considerably. Labourers working outdoors in hot weather would undoubtedly get even more, the authors said, because they drink much more water. Increased levels of fluoride intake were attributed to changes in recent years in the amounts of fluoride in food and beverages which are part of a normal diet. Instead of sponsoring further studies to confirm or deny the Canadian report, the U.S. Public Health Service responded by dismissing them rather disdainfully.

The influence of the U.S. Public Health Service is rather extensive and in fact world-wide via the U.N. World Health Organisation. This is because of its being a very strong and reputable government department plus the fact that it dispenses vast sums of money to schools of medicine and dentistry, hospitals, state and local health boards and individual workers. But its influence and policies even extend to some unexpected places, an example being one of the U.S.'s most highly reputed scientific institutions, the Kettering Laboratory, Cincinnati. The Kettering Laboratory published in 1963 a "Selected Bibliography" on fluoridation. A copy is to be found in the University of Otago's Dental School library. In this bibliography, which was sponsored by nine corporations and supported by U.S.P.H.S. grants, all research unfavourable to fluoridation was either omitted or presented in such a way as to infer that it was groundless. Hence no reference was made to the Canadian findings or other mounting world-wide research projects which were throwing serious doubt on the U.S. Public Health Service's policy. Index Medicus, published by the U.S.P.H.S. National Library of Medicine is another major source of fluoride related health topics and is also to be found in every medical or dental library. Yet 'Fluoride', the official journal of the International Society for Fluoride Research which regularly publishes adverse research findings to the fluoridation hypothesis is not listed. Why is this, when many other journals far less important to human health such as purely chemical journals are included?

Chapter 3

THE AMERICAN DENTAL ASSOCIATION

The next largest source of fluoridation promotion in the world after the U.S. Public Health Service is the American Dental Association. The American Dental Association is mainly a professional group, not a pure research body; only a few of its members are research scientists. Therefore its endorsement of fluoridation carries the weight of interested opinion only, not of scientific certitude. Why, we must ask, is that association pressing so hard for the programme? If it were only a matter of dental health, fluoridated toothpaste and fluoride tablets for growing children would be a far more effective and safer way to deal with the problem of tooth decay. The answer probably is that the American Dental Association, like the U.S. Public Health Service, committed itself completely to fluoridation before all the facts were known. But facts are persistent things and as more evidence emerged a new scientific group called the American Society for Fluoride Research was formed. In the space of a few short years, free discussion on the subject had become virtually impossible in the older professional societies. The American Society for Fluoride Research therefore organised an international symposium on the subject. Participants at this symposium were to come from India, Italy, Germany, France, Switzerland and South Africa. Specialists came from the ranks of physicians, allergists, ophthalmologists, biochemists, pharmacologists, public health officers and dentists. It was also to include a veterinarian to discuss the effects of fluoride on animals.

Pressure was put on the author of one paper—associated with an American veterans hospital—to withdraw from the meeting. Others who were going to attend were dissuaded by private letters attacking the conference as a political manoeuvre. Dr David Hillenbrand of the American Dental Association released a statement to the press charging that the meeting was a sounding board for the opponents of fluoridation only. The then president-elect of the Detroit Dental Society asserted that the meeting was 'not a bona fide research group'. And this was before any of the learned papers, many of them from abroad, had even been presented! Many other attempts at open discussion by professional people have been similarly thwarted.(1)

The N.Z. Health Department was one of the first to take up the idea of fluoridation outside North America. To this day it has never admitted that:

1. they began their campaign of promotion before the effects had, or even could have been, adequately studied.
2. they did no original research themselves as to its safety but simply repeated to the N.Z. public and dental profession everything supplied by American health authorities.
3. that one of the world's largest and most influential medical associations, the American Medical Association, refused to state unconditionally that the practice of fluoridation was safe (2) "when N.Z. first embraced it".
4. that fluorides in water have been demonstrated to be dangerous for people suffering from kidney and other diseases. (3)

5. and that even the beneficial "results" to children's teeth are under strong scientific question.(4)

Dr A. Allen London D.D.S. sought a chance to speak at an American Dental Association symposium on fluoridation. He was going to present a scholarly summary of his findings of the mounting evidence showing the possible side effects from taking fluoride-treated drinking water. On 3rd October 1969 Dr London received this reply from the secretary of the Council on Dental Health of the American Dental Association:

"The type of presentation which you are suggesting might have been appropriate a generation ago when the early studies on fluoridation were being carried out. The theme of the symposium is not controversy, but additional documentation of the universality of experience of the safety and effectiveness of fluoridation, world over. Presentation of the type of paper you propose would be an insult to the scientific community today."

Other equally qualified people who have come forward with evidence adverse to official policy have met with the same result.

Chapter 4

NEW ZEALAND DEPARTMENT OF HEALTH

When hearing about fluoridation one is often led to believe that the lack of fluoride in the water is the cause of tooth decay. However, many societies the world over have excellent teeth regardless of fluoride content in the water especially the so-called under-developed societies. It is only when these societies adopt a westernised, refined diet with high white sugar intake that the trouble begins.

It is considered by our Health Department that fluoridation is similar to chlorination (1). This is simply the technique of using acceptance of one thing (that's common sense and universally accepted) to bring about acceptance of another (that's controversial and not well accepted). There's a fundamental difference between the two processes. Chlorine is added to purify water, to destroy harmful bacteria that could cause widespread disease. It is never intended to reach the consumer. On the other hand, fluoride is added to affect a bodily function of a small portion of the population, namely the formation of children's teeth. Chlorine dissipates rapidly on boiling whereas fluoride concentrates on boiling—see below. Fluoridation is a medication which can be effected efficiently and economically by other means, namely by taking tablets, oral application on the teeth by a fluoride paste or by using fluoride toothpaste.

Slowly as the fluoridation issue progresses, fluoride is coming to be thought of as a mineral nutrient essential to the human body. This concept can be traced as coming from key fluoridation proponents (2). But it is in error. No symptom of deficiency in fluoride, not even tooth decay, has ever been established, i.e. perfect health, growth, fertility and normal life span can all be experienced in areas where there's virtually no fluoride in the water at all (3).

The fact that there's a difference in naturally occurring fluoride and artificially added fluoride in water is often overlooked. Some people even say there's no difference on the grounds that from the fluorine ion alone, when isolated and analysed, its source cannot be established. However, the naturally occurring fluorides are nearly always associated with buffering minerals and much higher concentrations of calcium ions which tend to counteract fluoride's toxic action. The fluorine ion being present in soft water is an entirely different situation from the fluorine ion being present in hard water. The naturally occurring fluoride in water is calcium fluoride whereas it is usually sodium fluoride which is artificially added. Nowhere in nature does sodium fluoride occur naturally in water.

How other minerals affect dental health came into focus after the Hastings experiment. After 4½ years of fluoridation in Hastings, the children had more tooth decay than children in the unfluoridated control city of Napier. It was then suggested that the high mineral content of the water resulting from the earthquake accounted for Napier's sounder teeth and in particular molybdenum.

Pamphlets and other literature circulated by health authorities about fluoridation have frequently been found to contain gross errors. Considering such a sub-

ject as important as mass medication of the population via the public water supplies, these instances are grave and certainly cause for deep concern as to why they have occurred. One example was a widely circulated pamphlet in the United States put out by the Wisconsin Dept. of Health and Social Services entitled "Better Teeth, Better Bones . . . for Life, Fluoridation". It said that no public health procedure for the control of disease has been so thoroughly tested by so many competent scientists and research organisations. The exact opposite has been shown time and time again to be the case by eminent authorities and scientists who have independently looked at the fluoridation issue, i.e. those not involved in its promotion or in the employ or under the influence of the U.S. Public Health Service. The especially glaring example of the untruth of the statement in question is the very way fluoridation got started (see Chapter 2). How could it have been thoroughly tested etc. when it was initiated before the first trial was complete? This pamphlet also said that fluoridation prevents 2 out of 3 expected cavities for life. How could such a statement be made when the average lifetime is over 70 years and fluoridation has only been in general use since the 1950's?

A pamphlet published by the N.Z. Dental Association's Council on Dental Health Education entitled "Fluoridation, Questions & Answers" says that fluoridation reduces 60% of expected tooth decay in children. However, we now know that this referred to a specific age and that the difference did not last. It was a delaying effect rather than straight prevention that artificial fluoridation produced. This pamphlet went on to say that the addition of fluoride is quite practical from an engineering standpoint and will not corrode water pipes. However, the facts prove otherwise. In January 1974 Miss Isabel Jansen, registered nurse of Antigo, Wisconsin, sent to a laboratory a section of water pipe that was filled with a deposit to the extent that it had to be replaced. The amount of fluoride in the deposit was found to be 991 parts per million (4). In 1975 Miss Jansen sent another piece of clogged pipe to be analysed, this time to the Wisconsin Department of Hygiene. Their findings were 3,100 parts per million of fluoride. Antigo is a fluoridated city. The question is, where could this excessive amount of fluoride have come from except the city's water treatment station? Laboratory analyses of rust and sludge samples in pipes have consistently shown high fluoride content of between 500 to 8,000 parts per million in many other fluoridated places as well. The manual of water supply practices No. M4 put out by the American Waterworks Association admits these high concentrations exist but says that any related fears are groundless.

Maintaining water at 1 part per million fluoride is not quite as easy and practical from an engineering point of view as is stated. Analysis of artificially fluoridated water in different parts of the world have consistently shown a remarkable variation. In Tauranga, for instance (5), the variation was found to be from 0.7 part per million to 1.1 parts per million whereas the concentration was supposed to be 1 part per million. During the same analysis at Tauranga, it was found that tap water at 1 part per million boiled for only two minutes increased to 1.1 parts per million.

Finally, this pamphlet, circulated to public and dentists alike in N.Z., states categorically that no harmful side effects follow the administration of fluoridation. Even before it was started it was admitted back in 1951 by the original promoters at a meeting of State Dental Directors and the U.S. Public Health Services (6) to be "a calculated risk" like any other new public health scheme. They also said that 10-20% fluorosis (i.e. mottling of teeth) could be expected, but

this was not considered to be objectionable because such an occurrence was generally designated as "mild". The literature abounds with reported cases of mottling at even lower concentrations than the 1 part per million recommended by the Health Department (7). Yet the N.Z. pamphlet says that in concentrations of 1 part per million there is no sign of disfigurement.

Inserting the statement that there are no harmful side effects was a necessity to allay any fears the N.Z. public might have had about its adoption. Because the U.S. Public Health Service had said it, the N.Z. Health Department simply repeated it without any research of its own. It completely ignored the now colossal amount of evidence to the contrary (8). Certain people have been found to be allergic to fluoride which of course is not surprising if you take a large enough population. Also, a large range of complaints have been manifested in certain fluoride sensitive people (psychogenic and auto-suggestive causes being eliminated by using double blind tests) (9). (See Chapter 6).

For the Health Department to say that the safe dose is 1 part fluoride per million parts of water is to imply that there does exist an unsafe dose—which indeed is the case. 1 part per million is equivalent to a tiny fraction of an ounce (i.e. like 2 or 3 sugar crystals on a teaspoon) of the chemical to a quart of water—which on a local water works scale multiplies up to several tons of sodium fluoride a year. If this is safe then 4 to 6 tiny crystals per quart might not be safe because it is twice as strong (10).

Sodium fluoride, sodium silicofluoride, fluosilicic acid, hydrofluoric acid and ammonium fluosilicate are among the compounds used as fluoridating agents. All are classified as poisons. Drugs containing sodium fluoride are classified as dangerous by the U.S. Food & Drug Administration and are required to be labelled: "Caution, Federal Law Prohibits Dispensing Without Prescription". The F.D.A. also requires companies to warn about allergic reactivity which may be caused by tablets containing 1 mg. of fluoride. This happens to be the exact amount provided by 4 glasses of fluoridated water!

There is no medical or scientific evidence which has definitely proved the absolute safety of fluoridation. No researcher, scientist, or even lay promoter such as Jaycees, P.T.A.'s etc. has come forward yet to claim the former Mayor of Auckland, Sir Dove-Myer Robinson's offer of \$1,000 to anyone who can provide him with a copy of any controlled experiment using the Health Department's recommended parts per million that shows that no one receives any more than the recommended dose of fluoride.

The absolute assurance of safety given by the U.S. Public Health Department and repeated by our Health Department will eventually be seen to be no more helpful than endorsements in the past given to drugs and additives which later proved to be dangerous e.g. thalidomide and others. For example the F.D.A. ordered in 1969 all drinks containing cyclamates, a sugar substitute, off the market. Another sugar substitute, saccharin, is presently being outlawed. Coumarin, an artificial vanilla, was approved for 75 years by the U.S. Public Health Service before they learnt that it attacked the liver. Even Radium Water was drunk by the glassful with approval of some of the most advanced physicians of the day. X-Rays were performed for every imaginable purpose until the National Academy of Sciences reported in 1956 the great harm it was doing. The use of X-rays dropped sharply thereafter and those administering took extra precautions themselves. The F.D.A. has even ordered a ban on a number of drugs containing fluoride for expectant mothers. The tranquilliser thalidomide had every blessing from the established medical world. It had been tested for a

number of years in the United States. It was not until some reported observations of malformed babies in Europe that it was eventually banned.

The N.Z. pamphlet mentioned earlier states that fluoride taken in small doses is non-cumulative. But this is not true because the cumulative effect of fluorine in the body is well known among scientists (11) and doctors (12). Many different tissues and organs in the body may store fluorine, not just teeth and bones (13). This is also known among New Zealanders due to the widespread adverse publicity of the Dominion Fertilizers works at Ravensbourne near Dunedin. In this case fluorides were blamed for damage to plants, animals and property (14).

It is just this very aspect, the cumulative effect of fluoride, that makes it such a dangerous poison.

Chapter 5

“MOTTLING” AND OTHER EFFECTS

“Mottling” is the common name for a disease known as dental fluorosis. It is caused by taking into the body too much fluorine (1). It has been established that as little as .8 parts per million of fluoride in water can cause white flecks on tooth enamel which turn yellow and brown in later life (2). Although mottled teeth are somewhat more resistant to the onset of decay, they are structurally weak (3). The Journal of the American Dental Association of February 1952 stated “The amount of fluoride content in water should be high enough to afford protection against caries and, at the same time, be low enough to avoid conspicuous dental fluorosis. When the fluoride passes 1.5 parts per million, the probability of producing a disfiguring fluorosis increases.” This is referring to the fluoride content of water, but we know that there are many other sources of intake of fluoride such as the air we breathe and the food we eat grown in soils that may be rich in fluoride. Both these sources have increased dramatically since 1952. Also for a person living in a fluoridated area, everything that is either cooked in or with water, e.g. bread, cakes, vegetables (unless steamed), biscuits, pizzas etc. all contain fluoride. It is not surprising then that an article in the same Journal (Vol. 68, 1962) revealed that Grand Rapids, Michigan, whose water was first fluoridated in 1945 showed a 23% incidence of tooth mottling among children as a result of fluoridation. The U.S. Public Health Service were of course fully aware of the fluorosis side effect of fluoridation from the very beginning but had decided that a 10–20% incidence in a community would not be objectionable (4). This somewhat arbitrary and little publicised decision by the Health Service means that between 10,000 and 20,000 children out of every 100,000 will have a permanent disfigurement due to the addition of artificial fluorides to their water.

Three other important effects from adding fluoride to the water must also be considered:

1. The addition of fluoride to the water delays the eruption of teeth. Hence there are fewer teeth to be the victims of dental decay and hence any comparison with unfluoridated areas must show fewer cavities per child, other things being equal.
2. The addition of fluoride to the water appears to delay the onset of caries. Fluoride may in fact harden teeth and make them more resistant to decay but it does nothing to change the basic cause of decay, i.e. dental caries is not a deficiency disease—it is not caused by a lack of fluoride. Hence what does cause caries still prevails—it just takes a little longer to succeed. This can be seen in any of the published data in support of fluoridation which contain comparative columns of pre-fluoridation decay rates. If one slides the post-fluoridation column of figures back 1½–3 years, the decay rates are nearly the same after fluoridation as they were before.
3. In New Zealand it is a matter of policy in the Health Department when and

how school dental nurses should do fillings—as a major ‘preventive’ operation. Fully half of the fillings normally done in school children’s teeth may be there because ‘doubtful’ enamel formations were encountered. “This district now has fluoridated water” the school dental nurses are told, “therefore there is no need to place so many preventive fillings.” Hence any comparative study after fluoridation must show less fillings—a classic example of the ‘experimenter effect’.

What dental nurses were not told is that (a) hard brushing (using commercial toothpaste with its high sugar and abrasive content) completely destroys the tooth surface (dental plaque) with its extraordinary high concentration of available fluoride; (b) 1 ppm fluoride encourages the rapid proliferation and virulence of strept. mutans, the prime micro-organism involved in initial caries of the surface enamel; and (c) 1 ppm fluoride cannot efficiently replace the 30–50 ppm natural fluoride of the dental plaque, destroyed by abrasive brushing and the dentist’s “scale and polish”.

Chapter 6

FLUORIDE POISONING

The subjection of a total population to even trace quantities of a chemical such as sodium fluoride is without precedent in medical history. The human body is individual in its reaction to drugs. The level at which a drug produces unfavourable effects on one person may be quite harmless to another. There is no justification for treating the young, the old, the sick and the well, for a lifetime, with the same standard dosage. Yet this is the aim when fluorides are added to a city's water supply.

A drug is not considered safe by modern standards until it has been shown that less than one person per 100,000 is likely to be harmed. But even by this standard if a whole country of several million is exposed to the same substance, and for a lifetime, you are bound to get a number showing adverse reactions. And this is what is slowly coming to light with fluoridation. More and more individual scientists, chemists, doctors, and dentists are turning their attention to the cumulative effect of drinking fluoridated water over a long period of time. If the drinking of such water is sufficient to alter the structure of the enamel of teeth during childhood, then what effect does the long term taking of it have on other parts of the body? No harmful effects whatsoever, according to N. Z. Department of Health. But, for persons subjected to fluoridation for all of their lives, this statement has never been proved to be true. It is simply a statement, the only statement that could be made under the circumstances.

The illness caused by the accumulation of fluorides in the body is known as clinical fluorosis. Cases of clinical fluorosis caused by consumption of fluoridated drinking water have been mounting since it was first introduced. In minute dosage, for example one part per million, says Dr V. L. Monteleone D.M.D. (1) there is a cumulative effect over a period of years which can do damage to organs or systems in the human body. It is often heard that there is "very little" body storage of fluoride, implying that the amount excreted soon equals the amount of fluoride taken in. But G. L. Walcott M.D. and Herta Spencer M.D. and co-workers at the Metabolic section of the Veterans Administration Hospital in Hines, Illinois, both dispute this. Many of the side effects from taking fluoridated water can easily be mistaken as arising from other causes as the symptoms are many and varied—from migraines and mouth ulcers to gastrointestinal disturbances and various types of skin disorders.

A double blind test is one in which neither the patient nor the doctor administering the test knows what has been taken, only a third person does. If a reaction is obtained when fluoridated water is taken in such a manner, then it unequivocally proves that fluoride and no other substance is the cause of the illness. This type of test eliminates the placebo effect and imaginary disorders. Many such double blind tests have established the detrimental effects to some people of drinking and cooking with fluoridated water. A small group of family doctors led by Dr H. C. Moolenburgh M.D. of Haarlem, Holland, conducted such tests. They instructed a pharmacist to label some bottles of water 1-8 and in some to put fluoride. The numbers of the fluoridated bottles were sent to a notary. Then the bottles were distributed to the doctors of the group so that all received sets of these bottles. A patient with complaints that had

been diagnosed as being caused by fluoridated water was taken off fluoridated water until the complaints had gone, and then instructed to use one of the bottles numbered 1-8. Neither the patient nor the doctor knew which bottles were fluoridated. As soon as a patient got their complaints back they were to tell their doctor. When all 8 bottles were finished by each of the doctors, results were sent to the notary. The notary compared the numbers that had given the complaints with the numbers given by the pharmacist and if, for instance, bottles 2, 5 and 8 gave complaints and 2, 5 and 8 indeed were fluoridated, then this was mathematically a sure proof that fluoridated water could give side effects. And this was exactly what it did prove!

Dr H. T. Petraborg M.D. of Aitken, Minnesota, relates the following case (2); Mr F. T., a machinist, 36 years old, was interviewed at his home on 3rd August 1972 in Cudahy, Wisconsin, where he had been residing since 1964. He had always been in perfect health until November 1966 when, unbeknown to him, the Cudahy water supply was fluoridated. Soon thereafter he began to be tired and lethargic. He also became tense and mentally depressed and experienced frequent headaches. After a day's work he found it necessary to lie down and sleep for several hours. He developed general pruritus after bathing. These manifestations cleared when, on advice, he stopped using Cudahy fluoridated water. After several weeks on the low fluoride regime, he returned to Cudahy water because he found it inconvenient and expensive to always keep himself supplied with unfluoridated water. The pruritus, headaches, general malaise and mental depression returned promptly only to disappear again upon resumption of the low fluoride regime.

Another case related by Dr Petraborg tells of a gentleman, Mr E. H., aged 52 who was interviewed in his home also in Cudahy, Wisconsin, on 3rd August 1972. He had been in excellent health until he developed bloating in the lower portion of his abdomen, edema in the extremities and pain in the feet and fingers. The illness began during the second week of November 1966. He did not know at that time that the town's water supply had been fluoridated a week earlier. As the illness progressed he developed diarrhoea with 7-8 watery stools daily which were often tinged with blood. The patient was hospitalized for four days and underwent a large series of tests which were unrevealing; Diarrhoea persisted. He developed marked pruritus on his legs whenever he was taking a shower, but no itching occurred when he was taking a shower at his workshop where the water was not fluoridated. When he had a bath he developed generalised dermatitis. This fact drew his attention to the possibility that his illness might be related to the water. He switched to unfluoridated water and the bleeding and diarrhoea stopped. On several subsequent occasions whenever, unbeknown to himself, he drank fluoridated water, the diarrhoea promptly returned. Fifty-two other cases of sensitivity to fluoridated water are reported in an article in *Acta Medica Scandinavica*, pp. 156-157, 1956.

Dr G. L. Walcott tells of several cases in his previously mentioned book (3): "Mrs M. H., aged 57, a nurse, and Mrs E. K. aged 38, had been in the habit of drinking 1-2 glasses of water before breakfast. For some unknown reason they suddenly experienced abdominal cramps and vomiting immediately after their customary morning drink. During the course of the day they developed headaches, pains in the lower spine, numbness and pains in arms and legs; formerly they had never had such discomfort. At the time they were not aware that their Canadian town of Windsor, Ontario, was fluoridated. Mrs E. H.'s physician, Dr F. S., at first suspected a stomach ailment. His treatment was of no

avail. After several weeks of careful observation he advised her to discontinue drinking fluoridated water. He considered it the source of her trouble, yet he requested her not to disclose his diagnosis to anyone lest it jeopardize his position in the eyes of some of his colleagues, especially Windsor's Medical Officer of Health. Mrs E. K. related the illness to the water on her own. Both patients recovered promptly upon eliminating their intake of fluoridated water".

It must be noted here that these cases, severe as they are, represent only the very small percentage of people who are so affected. but the point is that such people do exist. When dealing with a large population, such as the whole of New Zealand, there are bound to be a few who are sensitive or allergic no matter what it is you are administering. However, with sodium fluoride it is not simple allergy that we are witnessing. For instance, when there is allergy to pollen one gets hayfever. If you greatly increase the pollen count only the people allergic to it will suffer more. The rest of the population will remain free. The symptoms described above in the fluoridated water cases are in nearly every way identical to the classical symptoms of fluoride poisoning. The people suffering side effects, few as they are, are only the first group in the population who are sensitive enough to react to what is in the water. If the concentration of fluoride in the water was increased, contrary to what you see with an increasing pollen count, more and more people would show side effects, until at last the whole population would be suffering. This means that the people presently with the side effects are more or less in the same situation as the little birds that used to be taken down mines; they were the first to be poisoned by the mine gas. What we are witnessing then is not allergy but poisoning via the public water supplies.

Dr H. C. Moolenburgh found that those who were sensitive to fluoridated water at first adapted to it after taking it for some time. The acute complaints disappeared and somehow the body found a way to live with it. However, the continued irritation of the fluoride though not showing visible symptoms may be a contributing factor to the Burk-Yiamouyiannis findings of increased cancer deaths in fluoridated cities in the United States. (4)

R. Feltman and G. Kosel (Prenatal and Postnatal Ingestion of Fluorides—Fourteen Years of Investigation—Final Report, J. Dent. Med., 16: 190-199, 1961) demonstrated that in any given population approximately one percent will suffer an allergic effect from artificially fluoridated water.

Helen Murray was 9 years old when her family moved to the fluoridated city of Tauranga. Soil & Health (April, 1980) tells of the series of events which began 3 years later when Helen first started suffering from fainting attacks. These attacks continued and became frequent occurrences.

A medical specialist who was consulted at the time was unable to diagnose any specific cause for the attacks. However, Helen was admitted to hospital several times, on one occasion by ambulance after she had stopped breathing temporarily.

On several occasions that she was admitted to hospital she suffered indignities and on one specific occasion was strapped in a strait-jacket and tied to her bed for the night.

During 1972 there were further complications which developed and Helen suffered pain in her hands, fingers and knees and spent the Christmas period in hospital that year.

Early in 1973 Helen was taken to the Neurological Unit at Auckland Public Hospital and underwent a specific, painful test, as a result of which she was declared an epileptic. After a few days in the Auckland Public Hospital she was

allowed to return to school on heavy medication. The drugs so affected her that she was unable to concentrate or study and by April of that year she was readmitted to Tauranga Hospital. She was finally discharged from hospital to study at home by correspondence.

In 1974 Helen returned to college in the 4th form. Her condition was stable but she made little academic progress. She was forced to give up sport. Massive spontaneous bruises appeared on her body and limbs and the pain she suffered in her joints and muscles increased.

In 1975 which was her 5th form year at college, her condition worsened. She was unable to walk to school and had difficulty moving between classrooms when at school.

In 1976 an appointment with a specialist was arranged and Helen was diagnosed as suffering from rheumatoid arthritis. She spent three months in hospital and during that time went to Queen Elizabeth Hospital at Rotorua for tests. As a result of these tests a new diagnosis was made and Helen was said to suffer from Systemic Lupus Erythematosus, otherwise known as lupus arthritis. Specialists then said that Helen was suffering and had always been suffering from arthritis and was not and had never been an epileptic. A withdrawal from the anti-seizure drugs then began.

By this time Helen was a semi-invalid and spent most of her waking hours on a couch at home. Aspirin, pain killing tablets and capsules and occasional injections were necessary. Prednisone tablets gave slight relief. Every three months she was taken to a clinic at Queen Elizabeth Hospital.

In 1977 one medical opinion offered was that Helen would die before she was 25. However, a specialist in Rotorua later explained that this was highly unlikely and gave certain clinical reasons for his opinion.

During 1979 Helen started reading books on nutrition and diet. She was also recommended by various friends and relatives to read extra books and in all the literature which she received, it was stressed that persons should not use fluoridated water. For that reason her father took Helen each weekend to obtain spring water. Helen is now a vegetarian and uses spring water at all times other than for bathing and washing. After the first fortnight without fluoridated water she started to improve rapidly. The specialist supervising her in Rotorua was delighted with the response. Within weeks she took a part-time job and later joined a dancing class. Helen now copes with a full time job and enjoys most other normal activities. However, the occasional lapse from her low fluoride regime results in a return of aching joints. Examples of this are when she partakes of tea or coffee made with fluoridated water, just to be 'sociable'.

After a recent consultation and review of the case, Dr Eva Hill of Te Awamutu gave her opinion that Helen had been subject to fluoride poisoning.

Chapter 7

PUBLIC WATER SUPPLIES

The function of a public water supply is to provide pure, safe drinking water for everybody, not to serve as a vehicle for drugs. This is generally and enthusiastically agreed by almost everyone in the West. Therefore, those promoting fluoridation must naturally deny that sodium fluoride is a drug and that its administration via the public water supplies is actually medication. And there are, of course, euphemistic ways of phrasing this which the N.Z. Health Department does in fact use to get round this embarrassing part. There's talk of 'trace element' and 'putting back what nature left out' (of the whole of New Zealand!) But we mustn't be fooled by semantics. The vital importance of the fluoridation issue is that it is the first attempt ever made in New Zealand to deprive everyone of their right to decide for themselves and their children what to take into their bodies. Once this right is surrendered we shall have taken the first step towards the situation where the ordinary person is little different from that of a factory farmed animal or battery hen which cannot think for itself—has no control over the many and various chemicals and drugs that are fed into it—the first step towards the ultimate Big Brother. For it is the stated intention of the N.Z. Health Department to see that all urban areas in New Zealand are fluoridated. To overcome one of the objections being raised by the various city councils who have to implement this policy the Health Department is now offering financial assistance. That is, they are now offering to use taxpayers' money to fluoridate New Zealand. But is it taxpayers' money? The U.S. Public Health Service (as a subsidiary of the larger U.S. Department of Health, Education and Welfare) allocated for 1980 U.S.\$5 million in grants to states for fluoridation and another \$1.2 million for its promotion. Part of that \$1.2 million goes to promote fluoridation in overseas countries such as New Zealand. Our Health Department, Dental and Medical Schools receive a constant flow of information from this one source which is committed beyond retreat to continuing with fluoridation. Does money also flow to New Zealand to help fluoridation promotion? Much of the material received from America is concerned with explaining away the ever increasing objections and findings detrimental to their thesis. The Health Department takes all this and passes it on via press releases, publications etc. to a New Zealand public which never realises it comes from a very biased source.

Because some local bodies have been averse to taking up fluoridation and because referenda consistently show that people don't want it (referenda were to be avoided anyway for this reason according to the original promoters—see Chapter 12) the Health Department, it is anticipated, will be instrumental either directly or indirectly in getting a bill before Parliament making it compulsory for the whole of New Zealand. Successive governments in New Zealand, regardless of which party is in power, have shown a singular apprehension of going against proposals which have the blessing of the particular department in question. Hence it is not inconceivable, as the following table shows, that such a proposal via the Health Department, will have a successful passage through parliament (presuming it is not brought in via regulation).

National Party, non committal but generally for it
Labour Party, definitely in favour
Social Credit, definitely opposed to it
Values Party, no policy

Both the medical and dental profession give the impression that the fluoride concentration advocated (i.e. one part per million) can be readily maintained and controlled with accuracy and precision. But the workings of a municipal water supply is something completely out of their field. A mounting body of evidence proves that their opinion is not sound. Doubt was expressed by the general manager of the Detroit (U.S.A.) Board of Water Consumers as to whether a uniform fluoride concentration could be maintained throughout the more than 6,000 miles of pipes (2). He had checked 482 samples of water from eight fluoridated Michigan cities and found considerable variation. The Public Works Director of Pittsburgh, Pennsylvania, issued a press release saying that seven months after fluoridation began in that city, the desired level had not yet been reached. He said that somehow, somewhere, the material was being held in suspension and that his department had been moving slowly lest some of the trapped fluoride escape suddenly and swamp the drinking water with an excess of the chemical.

Sediment build up is another dangerous aspect of fluoridation. Fluoride has a tendency to attach itself to heavy metals and once sedimented in the pipes could it ever be removed? What would happen if an earthquake or a sudden rush of water as during a fire, flushed off some of this sediment. The same problem would then arise as with some home filters to remove fluoride. You would have on hand and close to your drinking supply a large and dangerous concentration of fluoride far beyond any disputed safety level.

The corrosive effect on water pipes is a concern for all water engineers though few have publicly stated what they know to be one of the causes. The superintendent of Wilmington, Massachusetts, was one who did come out and say so (4): "It has been my responsibility", he said, "to add sodium fluoride to our drinking water since 1955. Since (that date) there have been a series of breakdowns of equipment due to corrosion of metal parts, I have been asked how much longer it will be before the same thing happens to pipes, meters, hot water tanks and household plumbing, even though the concentration in the fluoridator is much stronger than in the system. It is my duty to report that I have already observed an increase in corrosion throughout the town since we started adding fluoride to our water. I must notify the townspeople that it has been impossible to maintain the recommended one part per million. This is the concentration we add to the water at the pumping station; but tests of fluoride in the lines have fluctuated from .4 to 1.4 ppm, the latter being dangerously close to the 1.5 ppm which, according to the U.S. Public Health Service, makes the water unsafe for drinking purposes."

Nor is fluoridation equipment 100% safe. Masterton's plant broke down in late 1977 and it took over six months to get it back into operation.

Fluoridation is spoken of as cheap and efficient. But is it really? What is often overlooked is the high initial cost of installation and subsequent maintenance and replacement of the equipment and facilities. A most detailed account has been published by Mr W. Wallace, City Treasurer of Kilmarnock, the first experimental city in the United Kingdom to try fluoridation (5). His city of 48,000 had spent 22,384 pounds sterling during the first 6½ years of fluoridation.

Statistics show that of the water taken from public reservoirs only one quarter of one percent is actually drunk by the public. This means that 99.75% of the water is used for street washing, parks and gardens, laundries, car washing and various industrial uses. A very conservative estimate of the cost of fluoridation in a given period might be \$160,000. Transposing our percentages to this sum means that of our \$160,000 a mere \$400 in money's worth will be consumed by the public and that the money used to fluoridate the great bulk of the water to be used on civic and commercial purposes will be absolutely wasted—literally poured down the drain. The sum involved in this is \$159,600. What excuse can be made for this wilful waste?

Actually the situation is worse than described for it must be remembered that the only people who might derive any benefit from its consumption are children in the age group from infancy to approximately 12 years, when tooth formation and development are taking place.

This wasteful aspect of fluoridation can be paralleled to that of a commercial organisation if it were to set aside \$160,000 on a T.V. or radio advertising campaign in English in an Asian country where only 400 people listening could understand what was being said. One can imagine how long those who acted as such would retain their positions.

Tablets, oral application by dentists and daily use of fluoridated toothpaste are many more times efficient than fluoridating billions of gallons of water which never reaches the tiny portion of consumers for whom it was intended, (not to mention the pollution caused by spreading this fluoride throughout the environment year after year) especially if these methods received the vast financial backing that fluoridation has.

Chapter 8

IMPORTANCE OF TOTAL FLUORIDE INTAKE

We must now consider total fluoride ingestion, i.e. the total amount of fluoride being taken in from all sources. In today's polluted environment, drinking water containing one part per million of fluoride is definitely not the only source. Watering crops with fluoridated water adds fluoride to both the plants and the soil. Fluorides found in many of today's agricultural sprays add to the cycle of fluoride build up in soil and water. Fluoride is present in some pharmaceutical drugs, vitamins and tranquilizers as well as being in the air as exhaust fumes from coal burning furnaces, oil refineries, fertilizer works and aluminium smelters. Fluoride is also present in the pesticide residue on fruit and vegetables, in soft drinks and all canned foods which are processed with fluoridated water. This is quite a remarkable increase compared to, say, the 1930's. But the most alarming source of fluoride poisoning, unknown until recently, is produced by the use of hundreds of aerosol pressurized dispensers in the home and in medicine. They use freon gas as used in refrigerators and previously thought to be inert and harmless. This startling revelation was reported in the *Journal of the American Medical Association*, 5 October 1970. Also reported in the same issue were two deaths from the fluoride content of penthrane anaesthesia as used in surgery.

Baked goods such as cakes, biscuits and bread all contain fluoride when produced in a fluoridated area. Part of the baking process is of course the removal of moisture from the mixture and this comes off as steam. But the fluorine ions from the fluoridated water do not vaporise with the steam and are consequently left as a residue in every single biscuit, bun or slice of bread purchased from a fluoridated area. Home made bread and baking is not free from it either. Naturally occurring fluoride is found in particularly high levels in fish and tea. Six cups of tea daily gives the same amount of fluoride as four glasses of fluoridated water. If the tea is made with fluoridated water one receives double the amount of fluoride.

In an article in the September 1967 issue of *National Fluoridation News* it was estimated that an adult on average is now receiving a minimum of 2-5 milligrams of fluoride per day. An example given was a 100g serving of fresh mackerel which may alone contain up to 2.7 mg of fluoride. The U.S. Food and Drug Administration used to warn (1) that the average total intake of fluoride from all sources should not exceed 2 mg per day. Some scientists even question the justification of this or any 'safe' tolerance for fluoride.

A possible sufferer from fluoridation is Mrs W. (as reported in *Soil & Health Magazine*, April, 1980) who lives in Waimairi County. Waimairi was fluoridated in November, 1965. Mrs W. now in her 40's is a heavy tea-drinker, taking about 10 cups of strong tea a day. Because of the high natural fluoride content of tea, combined with the artificial fluoride of the water, Mrs W. could be regarded as being at particular risk of chronic fluoride toxicity.

According to the report of the London Royal College of Physicians, "Fluoride Teeth and Health" (1976): "Tea contains an average of about 1-2 mg/litre (fluoride) if made from water containing a low level of fluoride, or 2-3 mg/litre if water is used containing 1 mg/litre: this means that one cup may contain, in these two situations, 0.33 and 0.50 mg respectively." The latter figure must apply to tea of average strength, as assuming a cup contains about 7 fluid ounces, then 10 such cups comprises 3½ pints, or a good two litres, and according to the above (viz., that tea contains 2-3 mg/litre fluoride if made with fluoridated water) Mrs W. will be getting about 6 mg fluoride a day from her tea-drinking alone—quite apart from ordinary food sources (estimated in the 1970 W.H.O. Handbook as being an additional 1.0 to 1.5 mg fluoride daily).

Here it should be noted that the same W.H.O. publication just mentioned admits that a daily intake of 2-8 mg fluoride may cause skeletal fluorosis. This fact appears to be borne out in Mrs W.'s case, as over the last few years she has been experiencing increasing stiffness and soreness in her arms and shoulders; finally, by 1979 she has reached the stage where she can no longer raise her arms above shoulder level and is therefore unable to hang washing on the line or clean more than one window at a time. As might be expected, her doctor has diagnosed "frozen shoulder"—doctors in New Zealand have not yet been taught to recognise the symptoms of fluorosis.

In fluoridating water supplies, the Health Department is assuming that nobody will be drinking more than four cups of moderately strong tea daily (= 2 mg fluoride); but even so, the additional 1 mg fluoride from food sources will certainly put all—or practically all—tea-drinkers in a fluoridated area at risk of chronic fluoride overdosage.

The effects may take up to 30 years to manifest themselves, depending on the amount and strength of the tea drunk daily; and the resulting stiffness and tenderness of joints will be diagnosed by doctors as various forms of "arthritis."

In view of the fact that the Government has seen fit to put a warning on every packet of cigarettes "Government warning: smoking may damage your health" surely a valid suggestion would be for the Health Department to demand that all foods and drinks containing excessive fluorides be labelled thus: "This product contains fluoride which may be hazardous to your health."

An article in TIME magazine, 16 May 1969, reported an incident involving the Electric Reduction Company of Canada Ltd. Their plant near the shore of Placentia Bay, Newfoundland, produced liquid phosphorous by means of a chemical process. A by-product is a toxic effluent, fluosilicic acid, which was diluted 40 to 1 with water before being discharged into Placentia Bay where it was quickly dissipated by the tides. Despite safeguards, an unknown quantity of undiluted effluent was spilled into the harbour. Shortly thereafter the shore near the plant was littered with dead fish. Fluosilicic acid is used in some communities as the fluoridating agent.

Airborne industrial fluorides are another source in our modern society of fluoride poisoning. As a safeguard Comalco's aluminium smelter at Tiwai Point near Bluff grazes some sheep downwind from the plant. These animals are an early warning system for fluorosis in case the fluoride discharges exceed the permissible amounts.

One New Zealand brand of fluoride toothpaste contains 7,500 parts per million fluoride. If an entire family sized tube were consumed by a small child then this would be a lethal dose. While it is unlikely that this would happen, it

must be realized that reactions can occur before a lethal dose is obtained. One study showed that American children between the ages of 4 - 6 consume approximately 30% of the toothpaste put on their toothbrush (2) and eating a little of pleasant (sweet!) tasting toothpaste is not unknown in New Zealand either. For this reason one could suggest that a warning on such tubes of toothpaste would alert parents to the danger. At one stage, Crest (3) one of the most popular of American fluoridated toothpastes did carry a warning, namely: CAUTION Children under 6 years should not use Crest.

The Medical Journal of Australia, 18 January 1958, reported the observation of a doctor who found an increasing incidence of mouth irritations over a period of 15 months. Only one factor was common to all such patients. They all used a fluoride toothpaste. A controlled study showed that each time they stopped using the toothpaste their mouth condition cleared. Gum damage has also been reported (4).

Soil & Health Magazine of December 1979 relates the story of a Christchurch mother who introduced a fluoride toothpaste into general family use. In only a few days of twice-daily teeth brushing, she and her two older children (aged 4 and 5) developed sore cracks at the corners of their mouths. On giving up the fluoride the cracks (which had not improved even after frequent application of an ointment) soon healed.

T.V. commercials for toothpaste are most misleading in describing how fluoride works. It is not so much that the teeth absorb the fluoride as shown(!) but that it's conveyed internally via the blood system etc. The commercials proudly declare "only your dentist can give a better fluoride treatment." But for one 3 year old New York boy "better" turned out to be "deadly". The child was found free of cavities by his dentist but 'preventive' fluoride treatment was still recommended. However, when the child was given a cup of water to rinse his mouth with he swallowed the solution instead. Within 5 minutes the child vomited, had a convulsive seizure and went into shock. He died 3 hours later. In the subsequent court case (New York Times 20 January 1979) it was alleged that both the dentist and the doctor who first treated the child could have saved his life by an immediate stomach pump but both failed to recognise the symptoms of fluoride poisoning. The dentist insisted he had given only a routine treatment. The Court awarded \$750,000 damages.

Fluoride poisoning may be more common in dental treatment than is realised. In New Zealand for instance, how many dentists realise that every time they take an alginate impression of a patient's mouth, they induce a severely high increase in the fluoride level carried in the patient's system? When added to existing fluoride intake this may have serious results. Careless use of 2% fluoride gels and other topical fluoride preventive treatment is possible because of the 'wide margin of safety' myth which surrounds fluoride in general.

Chapter 9

COURT CASES

In 1955 a case before a Federal Court in Portland, Oregon, established for the first time that fumes from an aluminium smelter were detrimental to human health. This is what industry had been afraid of happening for years. And this is why fluoride has been played low key. To have fluoride considered an essential nutrient, good for you etc. rather than as a pollutant along with lead, arsenic and others is indeed a favourable image and one the aluminium, phosphate and chemical companies have not been slow to encourage. But *Martin v Reynolds* was their first major setback. A family of three were awarded \$38,292.20 for damage to liver, heart and kidneys from atmospheric emissions of fluoride. More cases followed.

The Electric Reduction Company of Canada Ltd built a fertilizer works in 1960 in the prime farming area of Sherbrooke, Ontario. In the following spring the area looked like it was a scene from Rachel Carson's *Silent Spring* (1). The cattle were listless, some were ill. Wildlife was affected and natural foliage was beginning to die. One farmer was quoted as saying that by 1963 50% of his crops had died. Other farmers reported their cattle were going lame and losing weight. Some were in such a pitiful state they had to be slaughtered. Analysis of the urine of the ailing cattle eventually gave the clue that led to the source of the poisoning. It was found to have high fluoride content and the company ended up paying \$93,000 compensation to the farmers.

Again in 1961 the Reynolds Metals Company's aluminium smelter at Troutdale, Oregon was accused of causing damage to surrounding farms. This time they paid \$3 million plus costs for damage to dairy herds, loss of forage, loss of milk and land depreciation (2).

A fish hatchery in Idaho obtained a judgement for \$57,295.80 from a nearby factory for emitting fluoride (3). The trout farm and hatchery was 'seriously damaged by solid and gaseous fluoride compounds'. Eggs were worthless, they did not hatch properly, loss of adult fish was very great at times, young fish died in the hatchery where fish had never died before, malformations occurred and customers were lost. During a week after rain the hatchery was removing about a ton of dead fish per day. Fluoride levels in the water were found to be from .5 to 4.7 parts per million.

From these few cases alone, apart from the many others available, it can be established that fluoride causes diverse damage to humans, cattle, fish and crops.

But in New Zealand, a court case, *Lewis and another v Lower Hutt City*, was fought on the question of freedom of choice. The Court ruled in favour of the city council which had fluoridated its water in 1959. An appeal upheld the original decision and then finally, in 1965, the case went before the highest court in our judicial system, the Privy Council. It also ruled that the council was within its rights to add fluoride to the water supply. Were these rulings by the learned judges involved made on the mere hearsay that fluoridation is 'absolutely' safe together with a belief that health authorities the world over would never indulge

in anything that was dangerous and even actually harmful? Or was it made after an earnest, judicial examination of all the facts recounted in this book?

Now, fifteen years later, a series of court cases has begun in various states in America. These were initiated after the ruling in Pittsburgh in November 1978 which found, after hearing scientists from both sides, that fluoridation was a public health hazard (see Chapter 15).

Chapter 10

HASTINGS

The Hastings experiment was started in February, 1953. Fluoridation had already been fully endorsed in America by that date and its benefits and alleged successes were well advertised. The plan was to have nearby Napier as a control city and the whole experiment was conducted in accord with the U.S. Public Health Service and the American Dental Association. As it turned out the Napier comparison had to be dropped as that city's figures started showing better than Hastings. Some have attributed this to the particularly high mineral content in Napier's water and a naturally high fluoride content. But surely the Department would have tested Napier's water for fluoride content **before** beginning the experiment. Others have pointed to the fact that throughout New Zealand at that time there was an increased awareness and emphasis on good oral hygiene—the results of the Health department's publicity. Also the experimenter effect may have played some part (1). The essence of good oral hygiene was summed up in the Department's publication of that time: "Give Us Good Teeth"—good diet rich in calcium, phosphorous and Vitamin D, reduction of sugary and refined foods especially between meals, regular brushing of teeth and dental examinations. However these fundamentals, still so valid today, have never been widely adopted by the population so the Department of Health's strategy fell towards the American idea of fluoridation.

The 'favourable' results from Hastings, the trial city, were widely publicised throughout New Zealand. Nearly all major cities followed over the years (see Appendix C) and fluoridated their water systems, Christchurch and Nelson being two exceptions.

Having a trial city was part of the American programme as was having some official body endorse the principle. This is clearly outlined in the earlier mentioned Minutes of the U.S. State Dental Directors meeting with the U.S. Public Health Service in Washington, 1951. The New Zealand Commission of Inquiry fell into this role. It was appointed on 6 November 1956 to investigate fluoridation. But one month before this the Health Department had already published 10,000 pamphlets advocating the scheme and assuring the public of its success and absolute safety. Again we see the unlikelihood of the Commission coming out against something which those instigating the investigation in the first place endorsed.

The U.S. Public Health Service and the American Dental Association saw to it that the Commission was supplied with sufficient data (including statements attacking the scientific competence of the critics—(see Appendix A) to ensure a favourable verdict. It was certainly the early days of fluoridation and no one knew too much about it. Who were they to suspect any of the deeper implications or motives of the vigorous American promotion—especially when the Americans had got in first and warned that opposition would come from unscientific, emotional crackpots? The Commission was 'necessary' to legitimise the actions of the Health Department and pacify critics.

The Royal Society of New Zealand Canterbury Branch's report in March 1974

came up with similar 'Go Ahead' conclusions, summed up on the final page of that report, "It is reassuring that studies in several countries have revealed no evidence that the consumption of water containing fluoride at a level of 1 part per million is responsible for the development of any symptoms or adverse effects on the organs and tissues of the body." This document is a very concise summary of all the favourable data available at that time. One short sentence states that fluoridation statistics had been criticised by Sutton, and that is all. No mention is made of the three Nobel Prize winners (2) who had spoken out against fluoridation, nor of the 1,500 doctors and dentists in America who signed a statement questioning the very safety of the scheme. And there is not one reference to the many hundreds of articles, papers, books, etc., by competent and reputable doctors and scientists which show fluoridation to be unscientific and dangerous. It is as though they didn't exist! No mention is made of the important statement made by the Medical-Dental Ad Hoc Committee on Evaluation of Fluoridation. It would be simply ludicrous to call the writers of that statement unscientific, emotional crackpots; yet they pointed to unresolved conflicts and doubts about the proposal. The importance of their statement is that it was from an independent body neither set up nor controlled by the U.S. Public Health Service or any other body that had committed itself to fluoridation.

World authorities on fluorosis have stated that mottling of teeth is in fact an early symptom of fluoride poisoning (3). Yet the Royal Society's report continues to repeat H. Trendley Dean of 1942, one of the original promoters. Dean's impartiality and independence from industry has since been seriously questioned. The writers of the report can in no way be criticised for the competence of their job. It was not in their terms of reference to check the credibility of such authorities as the W.H.O. (dominated since its inception by the three American organisations already mentioned e.g. the Surgeon General of the U.S. Public Health Service at the time of its original endorsement of fluoridation, Dr Leonard Scheele, was also president of the W.H.O.), the American Dental Association or the U.S. Public Health Service, Cox, Dean, etc., on the subject of fluoridation. They must have been aware of some of the detrimental findings within the scientific literature. But it's equally certain that the disparaging literature such as the Hornung letter (see Appendix A) and personal files on nearly every scientist, doctor or dentist who has spoken out against fluoridation would be made known to them. What other explanation can there be for the Royal Society's complete omission of any detrimental findings? The report, for example, quotes an editorial from the prestigious medical journal 'Lancet', 20 September 1973, which says "Fluoridation does not harm the kidney nor does it have any harmful effects on patients undergoing dialysis." 'Lancet' like all other authorities the report quotes, has already made a strong stand in support of fluoridation. So it's a never ending circle of everyone endorsing everyone else. But here was a chance for an independent, competent, New Zealand scientific body, instead of relying on a pro-fluoridation journal's editorial, to check for itself the following reported cases of severe damage done to kidney patients from fluoridated water:

Fluoride 4:114 (1971)

U.S. National Information Service PB Rep, No 225081/9GA

P. 61 (1973)

Archives of Internal Medicine 115:167 (1965)

Saturday Review 1 March 1969

The only danger of admitting such evident and ignoring the 'Lancet's' editorial

is that it might be like pulling the little boy's finger out of the dyke. If just one detrimental aspect or harmful side effect of fluoridation is admitted then the whole fluoridation hypothesis collapses.

The favourable findings from Hastings are repeated in this report. The results of the Hastings experiment have in the past been criticised on statistical grounds—for averaging averages—a common procedure in presenting fluoridation dental figures and a common trap in statistics. A progress report issued by the Health Department after 8½ years of fluoridation in Hastings showed the following reductions (in fillings, decayed or missing teeth):

Age 6 78%
Age 7 65.5%
Age 8 58.4%
Age 9 53%

It is the central thesis of those opposing fluoridation on dental grounds that the benefits are not lasting and that ultimately by adulthood one is no better off. These figures show a reducing amount of reduction, i.e. from 78% down to 53%. So what about ages 9-25? Does the trend continue? Also central to those critical of fluoridation is that fluoride certainly hardens teeth (making them more difficult to drill) but this only gives a delaying effect to the onset of tooth decay. If this were the case then early reductions would show up and could be advertised and displayed. Later findings have seldom come to hand.

A student who presented a thesis for an M.A. Honours degree on the Hastings experiment had this to say: "My studies lead me to suspect that a large scale hoax has been pulled claiming lasting benefits from fluoride. Probably a good deal of this has come unintentionally from people who are ignorant of scientific methodology. It appears unacceptable as a valid piece of scientific research and cannot justify quotation as a reliable study." (4) It is common knowledge that there is not 65% less dental decay (or 50% as claimed in more recent literature) among the 25 year olds in Hastings after more than 25 years of fluoridation compared to Christchurch who have never had it. This can of course be attributed to many reasons but the net effect is the same: the expected results have not been achieved. Overseas cities who have had it even longer can't boast either that their dental problem is only half of non-fluoridated cities. It's even been found that dentists in fluoridated cities have higher incomes!(5).

While the U.S. is one of the most fluoridated countries in the world, it has one of the highest tooth decay rates in the world (6). Data from the U.S. National Centre for Health Statistics (7) do not indicate a decrease in tooth decay rates as the U.S. has become progressively more fluoridated. New Zealand has had a free school dental service for over 40 years and fluoridation in some areas for more than 25 years yet decay is still the nation's most common disease. New Zealand just about leads the world with the number of people having false teeth stated Professor Brown, University of Otago Dental School (8). He goes on to say that modern eating habits with dependency on sugar containing foods, acts to overcome the resistance (of fluoride in tooth enamel) and there is indeed room for improvement in dietary patterns in this country (9).

In primitive societies, whose drinking water contains negligible amounts of fluoride such as the Otomi Indians in Mexico (10), the Bedouins in Israel (11), and the Ibos in Nigeria (12), 80-90% of the people go throughout life without tooth decay. Their consumption of refined carbohydrates, such as white sugar and other modern day refined foods is low to non-existent. In contrast, the U.S. citizen consumes on average more than 1 teaspoon of sugar, every half hour, 24

hours a day, every day of the year (13). And in New Zealand it is over 88 pounds of white sugar for every man, woman and child per year (14). Therein lies the real problem!

The claims that fluoridation at 1 ppm prevents tooth decay were not justified by the Hastings experiment. The progress result after 9 years of fluoridation in Hastings showed only a trifling improvement in dental health that could easily be attributed to several factors other than fluoride. Suddenly—by the 10th year—a startling "improvement" appeared in sections of the child participants. Within a brief 12 months, phenomenal reductions in D.M.F. (decayed, missing or filled teeth) records per child were proclaimed. In certain sections, 100% increases in total immunity to decay were declared! This was attributed to fluoridation!! But the final comprehensive report on this human experiment appearing in the N.Z. Dental Journal gave an overall improvement in the suspected incidence of decay and filling rates **plus** extractions of only 8%.

This failure to account for any increase or decrease in extractions when considering fluoridation results occurred again in the N.Z. Dental Journal's 1978 report of the Auckland Fluoridation Project. In progress for 8 years, many thousands of children were claimed to have derived a 56% benefit against dental decay. In fact, the figures of the research showed a change in proportion of fillings to extractions—there was a 56% decrease in proportion to an increase in extractions, or in other words, the proportion of extractions had doubled in 8 years of fluoridation (in a stable child population). Because extractions are an ultimate confession of dental failure—to be compared with at least several fillings—the number of **fillings plus extractions** in 1978 virtually equalled those of 1970. The proportional change in fillings/extractions could not possibly represent a 56% improvement in the D.M.F. rating of children, but rather a distinct decline in their dental health.

Yet Auckland's fluoridation is hailed by the profession as a great success. Any dentist who dares point out the above simple facts is subjected to denigration and personal abuse to a degree which escapes the lay person's mind. Such things "don't happen in New Zealand" most would say. But this author was shocked and dismayed to find, in the course of his research, that it has happened here.

Chapter 11

HUMAN RIGHTS

Fluoridation brings about important moral and legal questions. A competent doctor would never prescribe a drug without prior examination of the person involved—nor would he tell the patient to drink as much or as little of the prescription as desired—nor would he prescribe the same dosage for the young, the old, the sick and the well. Finally he would never force the patient to continue the treatment, come what may. Yet water fluoridation does all of these things. And all at the instigation of non-medically qualified council or local body members. If any one doctor or dentist behaved as such in regards to fluoride tablets they would be 'struck off'.

The fluoride lobby would have you believe that their experts and authorities, backed by the list of endorsements, are the only persons qualified to decide the issues in fluoridation. Who is the authority that is competent to compel the entire population to take a fluoride drug, or any other drug, in uncontrolled dosage for life? The director of our local Health Department? Our city fathers? The mayor and councillors? The local county? The Director General of Health? The Minister of Health? Caucus? Cabinet? Parliament in General Session? My doctor? Your doctor? Your dentist? The N.Z. Dental Association? The Plunket Society? The Junior Chamber of Commerce? The majority of voters at an election? You? Just who is it that has such authority?

Fluoridation has been introduced in some parts of New Zealand without some people's knowledge. There are many living in cities like Wellington and Dunedin who do not know their water is fluoridated. Due to the low profile kept on fluoride, it's conceivable there are many practising doctors who don't know whether their area is fluoridated or not. Because of the repeated assurances of absolute safety and no harmful side effects they would not consider it worthwhile to even find out.

A drug, by definition, is any substance or mixture intended to be used for the cure, mitigation, or prevention of disease of either man or animal. The disease in this case is dental caries. Fluoridation of public water supplies is therefore a form of compulsory mass medication. It deprives citizens of their right to choose what medical advice and medication they will accept or reject for themselves and their children. We have an elected government to maintain law and order and certain other functions. But is it a proper function of a government to force some people who don't want it to take a medicine for a **non-contagious, non-inheritable** disease? If it is right for a government to do this then how many years will it be before Vitamin E is added to the water for the second most common disease—heart disease? If the government is there to do the most good for the most people why shouldn't they legislate all sorts of other things, e.g. that electricity be cut off at 10.00 p.m. each night on the grounds that more sleep would be good for us? There is obviously a fundamental, inalienable right of the individual at stake in the fluoridation issue.

Speaking in the U.S. House of Representatives on the 27th July 1961, Congressman Walter S. Baring spoke about this right:

"Water is a prime necessity for life. All people are dependent upon pure uncontaminated water. The addition of any substance to a public water supply for the purposes of affecting the bodily or mental function of the consumer establishes a dangerous precedent and pre-empts the inalienable right of the individual to determine what shall be done to and with his body as long as in the exercise of that right he does not infringe upon the equal rights of his fellow citizens."

Congressman Baring then declared, "Our citizens have certain fundamental and constitutional rights:

First: the right of every citizen to a water supply free from any drug or chemical not required for the purification thereof.

Second: the right of every citizen to a freedom of choice in matters concerning his health so long as this choice does not infringe upon the rights of others.

Third: the right of the professional person, particularly the physician and dentist and scientist, to investigate and to speak freely according to conscience without fear of censure and/or reprisal."

It is granted that our government has the power to prevent the spread of communicable diseases as this is done more efficiently collectively than individually. But does the government have the power to use compulsion in dealing with non-communicable diseases? If a government can order the lives of its people in the non-dangerous, non-contagious area of tooth decay, what limit then exists upon the power of such a government? We must be wary of those who would do us good. What are their motives? American Judge Mr Justice Brandeis has written about that most comprehensive of rights, the right to be left alone. He says: "Yet in their zeal to undertake the care of their brothers teeth, the fluoridationists are trampling underfoot the rights of those who do not want their water tampered with."

Generations of effort and struggle, persecution and martyrdom, wars and battles have gained the present measure of freedom we have in this country. Now we have it, it is so easy to take it for granted and not defend it vigorously and be ever vigilant to preserve it—and extend it, not limit it or diminish it! It is far more important to preserve human rights than to preserve teeth. Yet we are faced with the prospect of a New Zealand government making fluoridation compulsory for the whole of the urban population. It is little comfort to say that Christian Scientists and others can move into the country. Immediately it starts to sound like persecution of minorities and an annulment of religious freedom. All because a small but powerful lobby with comparatively unlimited financial resources can influence governments, government departments and the population as a whole.

The N.Z. Human Rights Commission ruled in August 1980, that fluoridation does not constitute a denial of human rights. According to the Commission this was because no attempt is made to force people in any direct physical way to drink the water that has been fluoridated. "There may be difficulties" said the report, "and even a considerable degree of inconvenience in obtaining unfluoridated water . . . but there is no sense in which it can be alleged that people are forced to drink fluoridated water." How does this account for the person of perhaps limited income, living in the middle of a multi-storey apartment block in the middle of the 50 mile urban sprawl of a city like New York or Tokyo? Even if such a hypothetical person had access to the roof of his skyscraper building to collect a little rain water, in such polluted environments it is often not fit to drink. He is in fact dependent on the water that comes out of his tap: there is no other

choice, and he **is forced** to drink the water. Force of circumstances can be just as compelling as physical force.

The Commission's report lent heavily on the stance taken by the Health Department and the N.Z. Medical Association, both pro-fluoridation. One wonders if the Commission's decision would have been different had the Medical Association's opinion been different. In other words was the decision simply based on current medical opinion which changes with time; or did it really grapple with eternal inalienable human rights?

Chapter 12

PRECEDENT ESTABLISHED

"It establishes a dangerous precedent not only for compulsory medication in general but also for the employment of the public water system for conveying something other than water."

Such were the contents of an open letter in 1970 signed by twelve British M.P.'s opposed to fluoridation.

Other ideas as to what to add to the water supply have not been slow in coming forward. A well meaning local body, taking the Health Department's warning linking smoking to cancer seriously, may suggest one day injecting into their water system a substance (perfectly harmless to the rest of the population) which would make a person who smokes nauseous. Any supposed principle or law which upholds fluoridation would undoubtedly validate such a suggestion.

Compulsory Birth Control is another such idea. In an article in a 1968 issue of 'Perspectives in Biology and Medicine', Dr M. M. Ketchel wrote: "If the birth rate can't be controlled by voluntary means, then it is, I believe, a necessary and proper function of the government to take steps to reduce it." He suggested that drugs be developed to control fertility in whole populations—drugs that could, for example, be administered to urban areas through the water supply. Dr Ketchel envisaged a compound which "might act by slightly reducing the fertility of each couple in the population so that there would be a shift to a lower average fertility."

The 'New York Times' of 6 June 1969 carried a story about Dr Kenneth Moyer, a physiological psychologist from the Carnegie-Mellon University in Pittsburgh, who advocated adding anti-hostility drugs to the nation's water supply to control aggressive violence. What more complete way to control a population could be thought of? Perhaps "1984" (or "1990"?) is closer than we realize. If the dangerous precedent of adding to water supplies had not been set by fluoridation, it is highly doubtful if anyone would have dared venture such suggestions of people-control just mentioned.

The Baltimore "Sun", Maryland U.S.A. reported on the 29 November 1979, a 65 year old man's death as the result of a fluoridation accident. A state medical examiner concluded that fluoride poisoning was the contributory cause in the death of Mr Lawrence Blake of Annapolis, Maryland. He became ill while undergoing kidney dialysis two days after an excessive amount of fluoride had accidentally been added to the city's water supply. Thirty times the usual strength of fluoride had entered his bloodstream through a kidney dialysis machine.

A water works attendant had left a fluoride valve on and it was not discovered until the next day. The water department failed to notify the local health department of the accident and it was not until the dire consequences became apparent in the community that they confessed their mistake. State health department tests confirmed high levels of fluoride in the bodies of seven other persons who became ill when they underwent dialysis while the high levels of fluoride were in the water. Dr David L. Sorley, chief of the state's division of communicable diseases said that the fluoride level in the Annapolis water supply may

have been as high as 36 parts per million on November 13th. A sample taken the next day by state health investigators showed levels of 23 parts per million. The concentration supposed to be added was 1 part per million.

This whole incident of course explodes the 'absolute safety/accidents can't happen' myth as propounded by our Health Department.

However the precedent for accidents had been established earlier than this. How early can never be known for sure as these things seldom reach the media. But one incident inadvertently got very wide publicity because it happened in front of millions of Australian T.V. viewers in April 1979. An A.B.C. T.V. documentary team were doing a programme on the very subject of fluoridation when a tanker delivering fluoride to a water treatment station overturned and spilled its highly corrosive and toxic load. None of the spill entered the reservoir but what the viewers of the "Four Corners" programme did see was that accidents can and do happen.

Chapter 13

PROMOTION, ENDORSEMENTS & REFERENDA

Those in favour of fluoridation have never been able to give a satisfactory reason why it is that everyone should be compelled to take a risk in order to benefit just a few when other effective methods are available. The single fact that there is a heated debate about its safety puts everyone on guard that there is an element of risk. It therefore behoves the Health Department to repeat what the American authorities say: that it is not debatable, there is no controversy. Here we have a perfect example of a propaganda technique—simply deny something exists! If you speak with authority, with plenty of credentials, and repeat it often enough, you will be believed!

A thesis at the University of Otago Dental School was written by a Dental Student on the psychology of opponents to fluoridation. More could have been learnt from studying the way public opinion has been successfully moulded to favour fluoridation against massive counter evidence. The 'endorsing' method (actually pyramid selling), lobbying at various levels and keeping the media well informed are what the fluoridationists have excelled at. Use of the 'Big Lie' (does not harm anyone, anywhere) and other propaganda methods such as 'the denial' as shown above, 'ridicule of opponents' (see Appendix), and repetition of a few stock phrases, e.g. virtually every fluoridation pamphlet, newspaper article, circular, communique or news release always ends with the statement '... it is completely safe and effective'. Intentional or otherwise the effect is the same.

It's not so easy to see all this as it is with hindsight (i.e. looking back and seeing how it was used in the past) because we're too close to the source. We are living among it; virtually everyone we ask will say "fluoridation is good, it's safe ... it must be, 'they' say so, and anyway, it's in such small amounts ... couldn't possibly do you any harm ... the World Health Organisation fellow on telly just the other night said how well it was going ... and so do all the others, y'know the B.M.A. and so on."

All the endorsing organisations have many members who do not in fact actually support it at all. Those few citizens among us who are responsible for this big tide of opinion are either members of the N.Z. Dental Association or civil servants working for the Dental Division of the Department of Health. In total they are few in number but great credit must be given for the progress they've made in the light of such obstacles.

Fundamental to their programme to introduce fluoridation and get it accepted are the methods outlined to the 1951 meeting of State Dental Directors in Washington D.C. The minutes of this meeting are basic reading for any student of fluoridation. Actually it was a major setback to the promotional programme in America when these minutes were discovered to exist. Their contents are very embarrassing to all those who have unwittingly been lead into supporting something they actually know very little about—people who relied on the opi-

nion of others. Most of the embarrassment comes about by the fact that Dr Frank Bull, D.D.S., who was assigned by the U.S. Public Health Service to show this meeting how to go out and "sell" fluoridation in the community, did not know there was a stenographer present. Only later did he discover this whereupon a vigorous campaign started to gather in and destroy all existing copies and naturally deny their existence (1). However the original was accidentally discovered a number of years later in the Main Library, Department of Health, Welfare and Education (Call No. RK21, C55, 1951). It turned out that Congressmen were entitled to a copy and this is how, in 1968, this knowledge became public.

The date was 6 June 1951 and the U.S. Public Health Service had only recently decided to go 'all out' for fluoridation. This conference of dental directors from each state was the ideal starting place for a national campaign. Dr Bull briefed the dental directors on what to do: "We have told the public that fluoridation works so we can't go back on that" (2)—a strange attitude for a so-called scientist to take, but we soon see from this meeting that it's not science at all that counts but politics and persuasion. He spoke frankly of methods to be used in overcoming opposition arguments. His do's involved—building an educational programme to undermine in advance the rash of charges which he said were certain to come. "What are some of the objections?" he asked (3). "First, isn't fluoride the thing that causes mottled enamel (fluorosis)? Now we tell them (i.e. the public) this: that at one part per million, dental fluorosis brings about the most beautiful teeth anyone ever had. And we show pictures of such teeth. We don't try to say there is no such thing as fluorosis."

"But this toxicity question is a difficult one. I can't give you an answer on it." (4) Later he says in regard to toxicity, "Lay off it altogether; just pass it over. You say 'we know there is absolutely no effect other than reducing tooth decay' and go on from there." (5)

"I noticed the term 'adding sodium fluoride'," said Dr Bull. "We never do that. That is rat poison. You add fluorides."

Further on he talks about promotional work: "When we are having the press in, and the public in, don't have anybody on the programme who is going to go ahead and oppose us because he wants to study it some more. Now where dentists do not seem interested, do not let them stymie you . . . what you do on an occasion like this is to arrange for the P.T.A. (Parent Teachers Association) or some group to ask for some of us (i.e. U.S. Public Health Service officials) to come in and talk about fluoridation. In this way you get in without forcing yourself and you can build a fire under the dentists. This is promotional work. Let me tell you, the P.T.A. is a honey when it comes to fluoridation. Give them all you've got." (6)

"Now let's get into a couple of don'ts: Don't use the word 'artificial' and don't use the word 'experimental'." Controlled was the word suggested by Dr Bull; and so it is that ever since, in all of the fluoridation literature, the phrase artificial fluoridation is never used and instead we read of controlled fluoridation. A fluoridation 'demonstration' was recommended instead of fluoridation experiment but that never caught on as well.

"If you can, keep fluoridation from going to a referendum" (7)

And this was all said in 1951, long before the Newburgh-Kingston trials were even complete!

The overall tone of the minutes is that the end justifies the means. The end was the adoption of a new public health measure. It seems that unethical,

watergate behaviour had started to seep into American public life many years before Richard Nixon became president. A small country like New Zealand, smaller even than many of the states of America, was easy dealing for the powerful U.S. Public Health Service and Dental and Medical Associations. With the same men in the World Health Organisation as well, New Zealand very early and quite innocently fell in line. The size and scale of the influence American government and business (always closely linked) can yield escapes the imagination of the average New Zealander. When one American Corporation can have a turnover greater than New Zealand's total Gross National Product then there is nothing we can compare their power to. In a country where a Minister of the Crown flies economy class and everyone feels they could quite naturally call our Prime Minister by his first name if they saw him in his garden on a Saturday morning, then the interwoven circles, corruption, lies and deceit which have been inherent in fluoridation in America since its inception are unbelievable. What **is** easy to believe is a doctor on the radio telling us it's perfectly safe and effective.

England has so far resisted the extreme pressure to make it mandatory by Act of Paliament. Europe and Japan have not taken it up to any great degree. Australia is similar to New Zealand in being quite a heavily fluoridated country although in 1979 Victoria suspended it pending further information, as did the Gold Coast in Queensland. What success the world wide fluoridation promotion has had, has not been based so much on scientific fact but on public relations 'experts', effective lobbying and endorsements to mould public opinion, suppression of unfavourable information and ridiculing opponents. For example a Pennsylvanian Health Department pamphlet addressed to teenagers states:

"You can have a better looking smile. That's what fluoridation can do for you. You won't hesitate to put on a little lipstick to enhance what nature has given you, so why hesitate to have fluoride in the water? It enhances the water and prevents the teeth from going bad . . . whom are you going to believe? Your own doctor and dentist, or some individual who writes an emotional letter to the editor?"

The pamphlet made no mention of the expected disfigurement of mottled teeth in children and teenagers which can be caused by drinking fluoridated water. The New Zealand literature has been slightly more restrained. In one pamphlet (8) it says "Pasteurisation, chlorination, vaccination, diphtheria and immunisation—going concerns now—were all fought against at first. So urge your council to fluoridate—Now!" Dentists and school dental nurses seem reluctant to talk about the subject and fear being quoted. One New Zealand dentist was reprimanded by his professional association for speaking out against fluoridation and then actually had his practice threatened if he continued participating in the controversy. Another professional person, a member of a N.Z. environmental society which opposes fluoridation, declined nomination to the executive on the grounds that it might prejudice their application at that time for a position at the University of Otago's Dental School. A practising New Zealand dentist had a paper published which included two references to studies which had results contrary to the current fluoridation hypothesis. They were both minor references in a paper that was not even about fluoride. Yet for simply quoting in passing such supposedly 'hopelessly out of date' and 'obviously false' data he was ridiculed among staff at the Dental School. Fellow dentists in public practice were not so condemning. There is a general air of intimidation and fear in the profession surrounding the subject. Everyone knows the effects of stepping out of line with the association's stated policy. Perhaps some know that a file dating back many

years is kept at the dental school containing the names of persons both lay and professional who have spoken out on the subject. Whatever the reason there can hardly be said to be free and open discussion on a subject which more and more dentists are coming to realise has more to it than meets the eye.

It must be remembered that the image of those who oppose fluoridation as being ill informed, cranks and crackpots, or members of 'funny' organisations (the very words used in a lecture to students by a professor at the Dental School) is created by those supporting fluoridation. Naturally there are individual citizens who write extremist, emotional type letters to the editor. But to equate all those who hold opinions contrary to the prevailing theories of the day as such is unreasonable.

The fluoridation controversy will never die. Unlike the other public health measures mentioned the initial opposition has not died away but grown ever more loud as the years have progressed. This is because the hypothesis is founded on sand, eliminates free choice and has been perpetuated by unprecedented methods of promotion completely outside the field of medicine. Medicine has a lot to be proud of, much progress has been made. But there is also a lot it is convenient to forget. It took fifty years after Harvey announced that blood circulated the body for it to be fully accepted. And it took six years from the first reported thalidomide baby until thalidomide was eventually banned. How many more years before fluoridation is finally given up? The tide of opinion is still very much for fluoridation at the present, but it is changing. A lot of the credit for this must go to Oscar Ewing for hiring publicity and public relations man Edward Bernays. Bernays is the author of the book 'Crystallizing Public Opinion'. In an illuminating talk he confessed to health education leaders:

"A united leadership must eliminate lags by the engineering of consent . . . You must gain consent to your health programme by gaining their support through many types of persuasion. But all this must be planned—indoctrination must be subtle. It should be worked into the everyday life of the people—twenty four hours a day in hundreds of ways. Public health officers cannot afford the professional modesty professed by physicians. A redefinition of ethics is necessary."

Chapter 14

THOSE IN FAVOUR

There are certain authoritarian elements in the fluoridation stance towards the public. It seems to derive from an assumption that since fluoridation is good, the public must accept it, like it or not. One of the most frequent arguments heard is that it is as foolish to permit the public to decide on such a technical matter as fluoridation as it would be to allow a referendum to determine the design of a bridge. The argument is false because what is decided in a referendum is not whether fluoridation is properly conceived scientifically but whether the public want it. As more and more people are coming to hear of facts contrary to fluoridation they are starting to doubt the credibility of those advocating it. Fluoridation was losing ground to referenda in the U.S. so the health authorities looked to enacting legislation. This has been very successful and at least seven states now have compulsory fluoridation laws. As a public health measure it would have faded many years ago if this had not been done. In their lobbying efforts, U.S. health officials representing various dental, medical and public health organisations laid claim to exclusive expertise. Because of the imposing prestige of their organizations and professions they represented, it is easy to see why a legislator would be inclined to place more weight on their views than, say, those of an independent professional person such as a biologist, chemist, dentist or doctor. In this way the individual voter is effectively by-passed—as was originally recommended back in 1951.

In 1979 the city councils of Nelson and Christchurch rejected proposals to fluoridate. In the same year Rotorua voted to discontinue it. As other towns are starting to have their doubts the natural response of the N.Z. Dental Association will be to push for legislation. In this way the fluoridation issue will get lost along with a dozen other competing issues on polling day and one more human right will be gone.

Why does so little research come from sources that have not endorsed fluoridation? One answer is that there are so few such organisations, i.e. nearly everybody is committed to supporting fluoridation. The other involves money. In the U.S. a considerable portion of taxpayers' money allocated by the National Institute of Dental Research is used to provide grants and salary supplements to dental schools throughout that country. These federal grants are in addition to the even more sizeable ones dispersed by the U.S. Public Health Service (total funds available to the U.S. Department of Health, Education and Welfare, of which the Public Health Service is a subsidiary was \$79 billion in 1968). Because so many universities are dependent on these federal grants, and because the U.S. Public Health Service and the National Institute of Dental Research are both committed to fluoridation, it is not surprising that little or no opposition comes from researchers and professors at these schools. In fact they are regularly called upon to provide counter evidence to disprove any detrimental findings heard by the public.

Inevitably, the influence that the National Institutes of Health and the U.S. Public Health Service exerts on America's (and consequently the world's) health

problems has grown tremendously. They are far more influential now than thirty years ago when fluoridation started. Thousands of doctors now depend on N.I.H. grants for most of their support. The training of many researchers is financed by the government. A majority of medical schools in the U.S. would find themselves in difficult straits without government grants. By spreading their grants to schools and institutions throughout the world the U.S. Public Health Service is able to fasten its views regarding fluoridation on the rising generation of doctors, dentists and scientists. In addition, local, county and state health departments in the U.S. rely on Public Health Service research information on all manner of topics. They have no money or facilities for doing their own research and so, like our own Health Department in the 1950's, they rely explicitly on U.S. Public Health Service pronouncements. The worst fears of the social commentators back in the early decades of this century who saw the trend towards centralization in our society have come to pass. What will happen they asked if the centralized bureaucracy makes a mistake? As borne out by the fluoridation experience it seems their position is almost irreversible. A popular notion has come to pass which was not predicted. It was not predicted because it would have been too far fetched to believe, but here it is: that the bureaucracy can't be wrong. Fallacy or not, this argument does hold ground as can be checked by asking one's friends about a subject such as fluoridation for example.

A wrangle has been going on in the U.S. congress for some years concerning the appropriation of money used to promote fluoridation. Some congressmen such as Rarick and Delaney have introduced a bill to prevent such use of taxpayers' money. Another group in congress which probably includes the aluminium and chemical company lobby have opposed them. So it goes back and forth from one committee to another, being considered and reconsidered, but never passed.

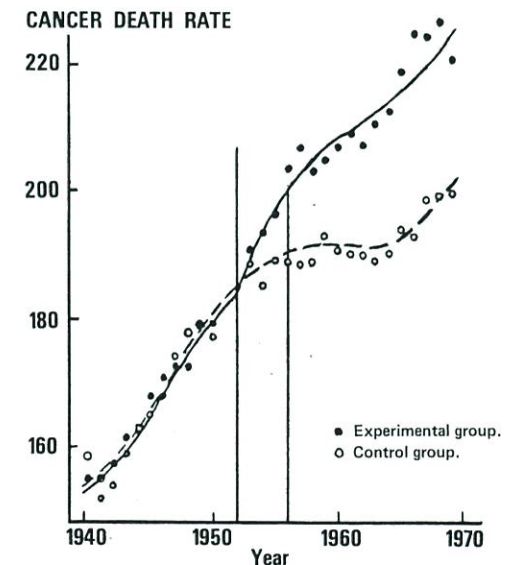
It is now admitted that Congress has lost control anyway of what exactly happens to the vast billions of dollars they vote each year in their appropriation bill. It all goes into a bureaucracy who use it almost anyway they see fit. If a war was waged in the 60's with U.S. taxpayers' money and congress knew nothing of it, what chance has a minor (i.e. private members') bill about fluoridation got?

Chapter 15

NO CANCER LINK!

"Fears of a link between the fluoridation of water and deaths from cancer are groundless" said Professor Beck, of the Dental School, University of Otago. (1) He said in the Christchurch Press of 7 July 1979 that when the N.C.I. (the National Cancer Institute in the United States whose parent body is the U.S. Public Health Service) re-analysed the study (which had made the link), taking into account such influences as ethnic composition of the population, geographic location, socio-economic status and other fundamental risk factors, the purported difference in cancer death rates (in the large American cities using fluoridated water) disappeared. The Royal Statistical Society and the Royal College of Physicians in Britain had also concluded that the research was worthless. He concluded his article by saying that, "It (fluoridation) is effective. It is safe."

Two years earlier, in September 1977, a U.S. Congress committee of enquiry into the N.C.I. found that they had never done any studies to confirm their 27 years of endorsement that fluoridation was safe and does not cause cancer. The N.C.I. were forced into commencing a three-year animal study which means that they could not talk with authority on this subject until after the conclusion of their studies in 1982. It was also demonstrated to this inquiry that when the full and proper data of the N.C.I. itself was used it confirmed that fluoridated water caused an increase in cancer.



Vertical lines at 1952 and 1956 contain the period during which Fluoridation of the experimental group began. All figures represent crude cancer death rates.

Source: Cancer Control Journal Vol. 5, No. 1 & 2

Fluoride-Cancer links were not new, but the findings of May 1977 (2) to which Professor Beck referred were the biggest, most thorough and most impressive to date. It's been described as the largest and most sophisticated epidemiological study in modern science (3). It was conducted by one of the world's leading cancer experts, Dr Dean Burk with a highly qualified scientist and statistician, Dr John Yiamouyiannis, Ph.D. The results were also the most alarming to date, namely that cancer deaths rose by a net 5% p.a. in those American cities which had started fluoridation compared to those which hadn't. The Burt-Yiamouyiannis study successfully stood the scrutiny of a court of law in 1978 in *Aitkenhead v Borough of West View* (commonly known as the Pittsburgh Fluoridation case).

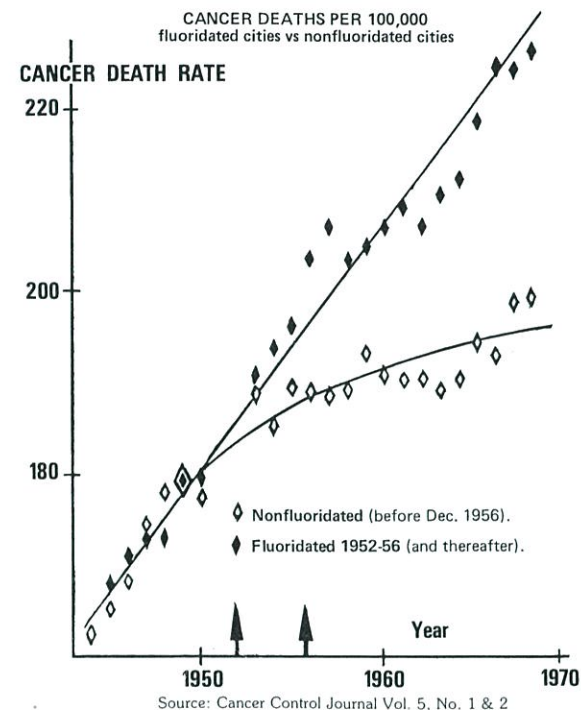
In 1951 a scientist at the University of Texas, Dr A. Taylor, Ph.D., found an increase in cancer in an animal experiment involving 645 mice. This news was current at the time of the previously mentioned State Dental Directors briefing on fluoridation (4). A question from the floor at that meeting enquires about this evidence. How the U.S. Public Health Service intended to deal with it was unashamedly answered by Dr Bull with the approval of Dr J. W. Knutson (see pp 25 & 26 of those Proceedings). What happened to Dr Taylor is now history (5) and it ensured his findings were not heeded. Several other cancer-fluoride findings followed in the intervening years (6), all disposed of. But with the undeniably brilliant career of Dr Dean Burk behind him, his experience as head of the cytochemistry department of the N.C.I. itself, his 35 years work with that institution and 50 years cancer research altogether, the Burk-Yiamouyiannis findings were harder to dispose of. Not that attempts haven't been made.

The first in New Zealand was an article in the 'Otago Daily Times' on 5 May 1978 headed 'No Cancer Link with Fluoride'. A visiting professor at the University of Otago's Medical School, from the N.C.I., said that he knew of no such major research at the N.C.I. and he doubted that Dr Dean Burk was ever a departmental head at that institution. The writer of this article was here denying something which was never claimed to have taken place—a typical confusion situation which has characterised the fluoridation debate—i.e. Dr Dean Burk was retired from the N.C.I. but used N.C.I. published data about cancer mortality which presumably is available for anyone to use. No one had ever said that the N.C.I. had done the study itself. On his doubts about Dr Burk's qualifications, a simple check with 'Who's Who' in America will tell something of the outstanding contribution Dr Burk has made in his 50 years of cancer research. The entry takes twice the space as that for Richard M. Nixon. It's also noted that he was one of the original scientists instrumental in setting up the National Cancer Institute.

But attacks on the person are only the first step. Next is attack on the method and this was done by Doll and Kinlen in the English medical journal, 'Lancet' of June 1977 at the instigation (as was later revealed in the Pittsburgh Case) of the N.C.I.

The N.C.I. has fully endorsed fluoridation as perfectly safe and effective for 27 years (despite the fact they had done no research of their own to back this claim up as revealed in the Congressional Committee of Enquiry 1977). It now seems as though they want to discredit one of their own top scientists who had spoken out against their official policy.

Following the Congressional Committee of Inquiry into the N.C.I., a legal action started in 1978 in Allegheny County, Pennsylvania. The case was against a local authority, the Borough of West View, to stop it putting fluoride into the



water on the grounds that it was a public nuisance. This was a case of major importance as it rested solely on the question of whether fluoridated water was carcinogenic (i.e. cancer forming)—the effect or otherwise on teeth was not mentioned. It was of such significance that it attracted expert witnesses from around the world to give evidence for both sides. Its progress and final outcome were indeed newsworthy and particularly topical at that time in New Zealand where the debate was once again reaching a height. However, it was not reported by the media. Only through letters to the editor and the efforts of one concerned citizen who persuaded the editor of a paper to give him space to state the important result were the public informed. The Health Department and Dental School loudly denied the fluoride cancer link. They did not mention the judge's findings in the Pittsburgh Case (the 'silent treatment') and instead repeated the discredited Doll and Kinlen (Royal College of Physicians) and Oldham and Newell (Royal Statistical Society) reports. The fact that these reports have been examined in a court of law and found wanting is completely ignored by those who have staked their reputations on the complete safety and efficacy of fluoridation.

Those supporting fluoridation in the Pittsburgh case had as witnesses Dr Marven Schniederman (a Director of N.C.I.), Dr Leo Kinlen of England (co-author of 'Doll and Kinlen' papers and committee member of the Royal College of Physicians—publishers of a book endorsing fluoridation), Dr Newell of the University of Newcastle (co-author of pro-fluoride literature by Oldham and Newell put out by the Royal Statistical Society of England), Dr Donald Taves, M.D., of the University of Rochester (investigator on fluorides, their chemistry,

toxicology and pharmacology), Dr George Martin (Chief of Development of the National Institute of Dental Research).

Under cross-examination in court, the 'Lancet' article by Doll & Kinlen (which claimed the Burk-Yiamouyiannis study was not valid) was found to have omitted a lot of data and was not the original work of the authors as it was claimed to be. (It also contained a simple mathematical tabulation error). Dr Kinlen admitted they received the erroneous data from the N.C.I. He thereby admitted misrepresentation in the 'Lancet' article which claimed to be original work. He was also forced to admit that his claims of more cancer in unfluoridated areas were not correct and when his (supposedly) own erroneous data was corrected it proved a 5% increase in fluoridated areas. Dr Newell (author of Royal Statistical Society literature) admitted his erroneous data came from Dr Kinlen.

"The sinister feature of the episode," in the words of the plaintiffs' counsel during the final summation (7), "is that Dr Schneiderman and his colleagues in America sent their erroneous data to England, first to Drs Doll and Kinlen, who in turn sent the same material to Drs Oldham and Newell. It is painful to assert, but the inference is inescapable that the British scientists copied the National Cancer Institute data and essentials of analysis, which they published in their own names, and then the National Cancer Institute quoted the British scientists as supportive authority against the conclusions of Drs Burk and Yiamouyiannis. It strains credulity in the extreme to call this a mere comedy of errors, for these were sophisticated scientists who surely knew what they were doing. At very least, the National Cancer Institute has yet to be acquitted of the charge of wilful cover-up. And, in any event, what is more important for our present purpose, the fluoridation-cancer link demonstrated by Drs Burk and Yiamouyiannis remains unimpeached to this very day."

Dr Daniel Taves, University of Rochester, appearing for the N.C.I. as an endorsee of the safety of fluoridation was asked after a lot of evasive answering, "Is your testimony that you recommend fluoridation in public water supplies?" He answered, "I don't want to state on that."

The Judge in handing down his opinion said, "Point by point every criticism the defendants made of the Burk-Yiamouyiannis study was met and explained by the plaintiffs. Often the point was turned around against the defendants. In short, this court was compellingly convinced of the evidence in favour of the plaintiffs. It is significant that Dr Daniel Taves, a witness called on behalf of the defendants (i.e. those endorsing fluoridation), acknowledged certain unresolved doubts concerning the safety of fluoridation," whereupon the judge issued an injunction prohibiting the addition of fluoride to the water supply treated at the West View Water Authority's Neville Island plant, Pennsylvania, U.S.A. on 16 November 1978.

The party supporting fluoridation immediately appealed and obtained a stay of injunction. They claimed that the court lacked jurisdiction to rule on such a matter and the higher court ordered a stay on the injunction while it considered the appeal. The fact that the evidence, i.e. the cancer link, still stood valid and proved, and that the articles by Doll and Kinlen and Oldham and Newell were not valid and that the N.C.I.'s endorsement of fluoridation was groundless was apparently completely ignored. U.S. Public Health Service officials were present throughout the duration of this case yet their reply to an enquiry by our New Zealand Health Department in March 1979 concerning the case is most interesting. They said that the result of the judge's decision in the Court of Common Pleas for Allegheny County did not affect fluoridation for even a day (8).

They went on to say that the most recent development in the U.S.A. was that a Commission on Fluoridation set up by the Governor of Minnesota had analysed claims of a relationship between fluoridation and cancer and rejected them. It concluded by saying that this commission came out strongly in support of water fluoridation as a public health measure. And therein lies the key: Minnesota is a state that favours fluoridation; it has had compulsory fluoridation laws since 1967. Its bureaucracy supports fluoridation and the prime endorser of fluoridation, the U.S. Public Health Service, helped set up the commission and would have had at least one of its employees on it.

The net effect of this reply from America was that the case for fluoridation was sound, the cancer link worthless, and it even implied that no injunction had been issued to remove fluoride from the Borough of West View's water. In short that the fluoridationists had won!

Since then, however, the higher court, i.e. The Commonwealth Court of Pennsylvania, dismissed the appeal. The defendants (of fluoridation) then made another appeal, this time involving another party, The Department of Environmental Resources, whereupon the legal technicalities became more complex. The Supreme Court of Pennsylvania was petitioned by the plaintiffs for review of this second appeal, but delay has been the result. A further complication arose when, in the middle of all this, Justice Flaherty, the judge in the original case, was replaced due to promotion to a higher court.

The fact that three and a half months of trial in 1978, with provocative evidence and startling revelations with noted experts from both America and Great Britain as witnesses about a subject as newsworthy as fluoridation, did not get mentioned at any time in the New Zealand Press is indeed interesting to say the least. But as with other aspects of fluoridation, the trouble did not lie in New Zealand. Furthermore, the verdict that fluoride was carcinogenic was of vital interest to New Zealand—yet very few knew. The ordering of an injunction to remove fluoride from a borough of Pittsburgh and the subsequent legal wrangles are surely news items of intense interest to New Zealanders. The Health Department had made only a half-hearted attempt to find out the truth, as evidenced by its letter of enquiry about the Pittsburgh case which was only instigated because of a concerned citizen. The trouble was they wrote to the wrong people. They wrote enquiring about the Pittsburgh Case to the U.S. Public Health Service, an organisation which has never let out, nor is it ever likely to let out, any information no matter how slight, that might be detrimental to the fluoridation thesis. Had our Health Department written to the U.S. Justice Department, Pittsburgh, Pennsylvania, they no doubt would have received a complete transcript of the case together with its alarming outcome. The University of Otago's Dental School has apparently done no better and both have accepted the deliberate evasion and low key approach by the U.S. Public Health Service contained in that letter. Instead of at least being wary that something was afoot. Professor Beck, of the Dental School, took the opposite approach and acclaimed in a press release on 7 July 1979 that the Fluoridation Cancer link was completely groundless. It appeared in nearly all the major newspapers and was echoed in editorials during the following weeks. Like all pronouncements on fluoridation it ended with the statement, "It (fluoridation) is the greatest single boon to good health. It is effective. It is safe." (1)

Virtually the whole endorsement accepted by the N.Z. Government, the medical and dental associations, the medical schools and dental school in this country and by Professor Beck himself, that there was no fluoride cancer link

rested on two articles to date: Doll & Kinlen (Royal College of Physicians) and Oldham and Newell (Royal Statistical Society). Both of these have not been able to stand up to scrutiny in a court of law. They were presented and explained by the leading scientists who had prepared them yet they were found to be worthless. No doubt there will be more to come and one wonders whether they will be equally as contrived.

SUMMARY

In the early days of allergy research only a few would believe that an otherwise harmless, non-protein substance such as an aspirin tablet could be responsible for death. Similarly today, some of the world's most outstanding scientists are reluctant to believe that fluoride can be harmful in small amounts. They cannot conceive that 'the Experts' upon whom they rely might be in error. Had the officials of the American Dental Association and the U.S. Public Health Service known the full story about fluoride and its effects on humans at the time Dr Cox originated the fluoridation idea, they would not have initiated this unending controversy. Now they have committed themselves it is difficult, if not impossible, to retreat. Constant repetition of the phrase 'it is completely safe and effective' has had a profound effect upon the public. The ordinary person in the street, and even more so that scientist, finds it impossible to conceive that they all could be wrong. Even though it's happened time and again in the past we all silently but vainly believe it couldn't happen in our lifetime.

There would be less controversy if genuine free exchange and discussion on the subject were allowed and if in all cases referenda were encouraged. But the question is, who does the encouraging? Free tablets even though they don't get a big response, would satisfy people's freedom of choice. Fluoridated milk now being promoted by an English Trust and fluoridated salt as used in Switzerland would also satisfy people's freedom of choice. The battle as to its desirability would then not be nearly as bitter and vicious as it has been.

The business involvement in fluoridation promotion, and corruption in American government departments will be fully exposed hopefully, some day. The U.S. Congress is presently establishing various committees of inquiry into the different aspects that have been touched on in this book. They are trying to unravel the complexities involved. But their hands are tied by the fact that the very interests they are trying to expose are well represented in Congress itself. The slow progress is probably also due to other more urgent and more spectacular 'purges' in U.S. government and business. Every year or late we see yet another vice-president, senior congressman or respected corporation go down for bribery, fraud or corruption.

The fluoridation question touches the very nature of human beings, how they relate to one another and how they act as a society: the future will probably not judge it quite the way we would think. It will probably want to forget it! It is sad that New Zealand has got caught up in something that is really not of its own doing. It has brought nothing but division within a profession and bitterness to those that have been unjustly maligned. Thousands of dollars have been spent and tens of thousands of unnecessary words written—all to uphold a medico-dental thesis which will prove to be just as fleeting as so many theories before it.

On the basis of present information and in the light of the Pittsburgh case the question of whether fluoridation is safe and effective is no longer disputable. What we can say to sum up and explain the previous chapters of this book is that:

- (a) fluoridation was originally promoted by industry.
- (b) a handful of outstanding scientists were given grants to carry out research in order to prove a predetermined thesis.

EPILOGUE

- (c) these scientists, utilizing this research and their high standing in scientific groups (without awaiting the test of time) were able to attract officials in medical and dental organisations.
- (d) the dental branch of the U.S. Public Health Service embraced the new "health measure" at a time when relatively little progress in preventive dentistry was on record compared with its sister branches in the medical field.
- (e) new industries including some of the toothpaste and drug industries fell into line.
- (f) the same scientists, now aided by the U.S. Public Health Service began a vigorous campaign among lay organisations with the backing of some of their colleagues whom they had, by now, convinced that fluoridation was safe.
- (g) these men won the media, especially medical news writers, for their cause and thus prevented data unfavourable to the project from reaching the dental or medical profession or the public.
- (h) supported by the U.S. Public Health Service, by industry, by professional organisations, lay groups and individual civic leaders, they created an unfavourable public image for all who disagreed, lay persons and scientists alike.
- (i) fluoride became a 'hot' subject which career-minded scientists preferred to keep off, thus leaving the majority of new research to fluoridation orientated organisations. Pre-fluoridation research was labelled 'out of date' and only findings supportive of the fluoridation thesis were published.
- (j) one of the largest and most influential medical associations in the world, the American Medical Association, having embraced it, influenced the W.H.O. and through them all other member countries.
- (k) virtually unlimited funds from industry and the U.S. government ensured its continually being expanded and expounded as completely safe and effective world wide.
- (l) now after 30 years the theory that small uncontrolled quantities of sodium fluoride taken over a lifetime are perfectly safe and harmless is entrenched to the point of dogma, the vast majority of medical and dental schools and universities teaching it as fact.

Let this book serve only as an introduction to the subject. That is what it is intended to do. There is a lot more about this subject than could be condensed into this one small book.

Professional people are urged to follow up the references. All readers should get hold of at least one of the recommended books but most important is to read at least something more on the topic. Make your own enquiries and evaluation and finally decide for **yourself** where **you** stand on this important subject.

Very few references have been made in this book to scientific findings suggesting that fluoride in low concentrations is perfectly safe and harmless. This is for very good reasons: a) they are easily read elsewhere, b) they all have the same conclusion. For instance J. F. Brislin and Gerald J. Cox, have prepared a 'Survey of the Literature of Dental Caries, 1948-1960' which lists 3,755 abstracts. It's to be remembered that Gerald J. Cox was the man who first suggested adding fluoride to public water supplies. When Dr F. J. McClure referred to this voluminous outpouring of literature in general as "discussing the pros **and** cons" (1) one wonders if he is being entirely frank.

Five references are given on this question of safety in a 1974 American Dental Association Question and Answer booklet on fluoridation. They are articles dated **1954, 1956 and two from 1958** respectively plus a reference to an H. E. W. Bulletin dated 1972 on Heart Statistics. Some relate only to children and others only to naturally occurring fluoride in water. This is hardly a wealth of findings covering a lifetime of controlled fluoridation—remembering that fluoridation didn't get under way fully until 1950! In 1950 there were virtually no such studies. "The major increase of interest in fluoride," said F. J. McClure (2)", came about with the advent of water fluoridation." The safety claim of 1950 was based mainly on the fact that some communities had been drinking water in excess of 1 part per million for generations with supposedly no effects. Today with a greater knowledge of the broad and diverse effects of fluoride a far wider range of symptoms are recognized as coming from excess fluoride intake. Also it is an oversimplification to add "holus bolus" as it were, up to 1 part per million of fluoride to a water supply which Nature has chosen not to contain the so called 'optimal' level. In 1938 when H. Trendley Dean reported his observation of a fluoride-tooth decay connection he recognized that much of the decay reduction might be due to **other** mineral elements in the water besides or instead of fluoride. In fact, he explicitly cautioned that "other elements of comparatively rare occurrence in water, or ordinary constituents in drinking water present in unusually large concentration, may directly, or through a synergistic action with the fluoride, produce the observed effects (3)". By 1950, when fluoridation was given the official go ahead in the U.S.A., these areas had still not been explored except for magnesium and calcium. So it left the way open for artificially added fluoride at 1 part per million to be more toxic than naturally occurring fluoride at 1 part per million. Because the effects were nearly always chronic (only appearing in the long term) as opposed to acute (immediate) and only then affecting relatively small percentages then it was easy (though not excusable) to overlook them. Just as no one gets lung cancer from smoking one cigarette, no one is going to die from drinking one glass of fluoridated water.

For nearly every fact presented in this book there can be found a contradictory study. For example in Chapter 4, it is said that fluoride is cumulative whereas a report from the Johns Hopkins University says it is not cumulative. The clue is found at the end of the Johns Hopkins report "... and the commission urges communities to adopt this public health measure as a positive step in the prevention of this chronic disease."

This sort of statement or sentiment is common to nearly all such 'endorsing'

reports. Obviously the cumulative effect of fluoride had to be dealt with. (It should have been dealt with before the original endorsement of fluoridation on the 1st June 1950). So an expert committee was set up under the auspices of the American Dental Association and the U.S. Public Health Service. They did not set it up to prove that they were wrong. They set it up as a safety measure to satisfy the critics and assure the public. In this case the commission of inquiry was under the chairmanship of Professor Moxcy, professor of epidemiology at Johns Hopkins University and keen promoter of fluoridation. How could such a group find evidence contrary to what they were set up to do, evidence contrary to the already publicly stated policy of some on the Commission and of those who had asked for the commission in the first place? To confirm what independent scientists had found concerning the cumulative nature of fluoride would surely bring themselves, the U.S. Public Health Service and the American Dental Association into disrepute. On balance it was better to ignore or dispose of old evidence and give any benefit of the doubt to their ultimate employers, the U.S. Public Health Service.

Similarly in 1978, the Pittsburgh case found fluoride to be cancer forming so the U.S. Public Health Service set up its own investigating committee under a fluoridation supporter in the person of the Governor of Minnesota and found it was not cancer forming. Who are we to believe? The Health Service's second appeal in the Pittsburgh case was that the D.E.R. (the Department of Environmental Resources) had exclusive authority over fluoridation (as against a Court of Equity!) The situation was succinctly summed up by the plaintiffs' counsel's statement to the Court on 25 April 1979.

"Since the pronouncement of Lord Coke in Dr Bonham's Case it has always been considered essential to due process that no judge shall sit in his own case." He went on to say, "The Department of Environmental Resources has had a profluoridation policy for many years. The D.E.R. will not find itself guilty of public health malpractice. They will not even make a half-hearted effort to be objective." This wise observation is borne out by reference to the content of the report ordered by the court from the D.E.R. after the 1978 trial. The D.E.R. report claimed that Drs Burk and Yiamouyiannis had not adjusted for age, race and sex simultaneously. A sizeable part of the trial had dealt with this very question and it had been shown in court that when these adjustments were made there still remained a net 5% increase in cancer deaths!

Dr Schneiderman of the N.C.I. in Washington, D.C. shortly after the end of the trial also made the statement that the findings did not adjust crude data for age, race and sex: Dr Schneiderman was sued for libel for this on the grounds that he was telling a lie to cover up danger to the public. The extraordinary thing is that he must have known his statement was false because he was at the trial where the adjustments were shown to have been made. Professor Beck of the Dental School possibly relying on Dr Schneiderman repeated the same misinformation in the Dominion, 7th July 1979.

It simply all points to the U.S. Public Health Service (which includes the N.C.I. and other fluoridation endorsers) being totally unwilling to listen to anything, even a court of law, that suggests that fluoridation might be a major public health disaster.

Not surprising then that very few scientists have taken the courage to stand against such a giant. Those that have, have generally ruined their careers and so others have learnt it's not worth it. The pattern which can be detected in nearly all of the supportive data for fluoridation helps explain how, in days gone by,

certain out of date ideas and practices were perpetuated by thinking people long after they had become suspect or were not actually believed in. Many doctors, dentists and scientists today will probably be relieved when fluoridation is finally dropped. It's just strange, or maybe not so strange, that such a situation exists today. Each generation likes to think its more advanced and enlightened than the previous one—that its members have a monopoly on truth and have reached the pinnacle of civilization so far. Far from it! The 'truth' of today can be the fallacy of tomorrow and the heresy of the present the dogma of the future. So what is truth? If the majority agree that it's not toxic, it's not cumulative, it's and essential element, it's non-corrosive and has no harmful side effects, does that make it so? Alice was told in Wonderland that it did.

Or maybe one can look at the amazing number of endorsements fluoridation has received and liken it to Alexander Solzhenitsyn's (4) description of a party meeting on the outskirts of Moscow. Everyone is applauding the vote of commendation to Comrade Stalin, but after five minutes they're still clapping! Six, seven minutes and the 'enthusiastic applause rising to an ovation' is still going on. Hands are getting sore, arms are tired, the old are almost collapsing but still no one likes to be the first to stop. Ten minutes! and people are looking desperately to see who will stop. But they are scared and fear makes people do strange things. Eleven minutes! Finally a man stops and with one accord there's silence and they are seated. Where has all the 'spontaneous enthusiasm, rising to an ovation' gone?

Incidentally, that man got arrested the next day and got twenty years. So we see a sacrifice has to be made! Who is going to make it?

APPENDIX A

From: A Struggle with Titans (Carlton Press, 1965)

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G. L. WALDBOTT M.D.

A graduate of the University of Heidelberg Medical School in 1921, Dr George L. Waldbott emigrated to the United States in 1923, where he joined the staff of the Henry Ford Hospital. In 1927, he carried out the first hay fever survey, and the first pollen count in Michigan.

Pioneering in the field of allergic diseases, Dr Waldbott originated a method of treating asthma by washing out the bronchial tree, a procedure proved to be a lifesaver on many occasions.

In 1953, he was first to describe a lung disease that leads to emphysema and to pinpoint smoking as its cause.

Dr Waldbott's research demonstrating that patients with allergy are more readily poisoned by drugs than normal people, stimulated his interest in studying the effect of fluoride on the human organism.

He is presently consulting physician in Allergy at Harper and Women's Hospitals, in Detroit; a member of the American Medical Association; the Michigan State and Wayne County Medical Societies; a Fellow of the American Academy of Allergy and the American College of Physicians; member of other national and international medical societies.

He has been accepted as an expert witness in cases of fluoride poisoning before courts in Ireland and the United States.

Dr George L. Waldbott is a member of editorial committees of several international medical journals. He is author of several books: 'Contact Dermatitis', 'A Struggle With Titans' from which Chapter 12 is reproduced here by kind permission of the author, and 'Fluoridation The Great Dilemma', in association with Drs Burgstahler and McKinney.

In 1959, I discussed my data on chronic fluoride poisoning from drinking water (200) at the Pasteur Institute, Paris, with one of France's greatest authorities on calcium-phosphorous metabolism, Dr G. Milhaux. He showed much interest in my work but warned:

"You are swimming against the stream. Are you prepared to face the consequences?"

The research in which I was engaged constituted the most powerful evidence against fluoridation. It incontrovertibly proved that fluoridation is hazardous to health.

My research constituted an indictment of those who had initiated the fluoridation programme without first securing proof of its safety. It also indicted the multitudes who had permitted themselves to be carried along by the current—who had blindly accepted the word of "authorities" or so-called fluoridation study committees without making their own independent investigation.

In recent years only a few scientists in the U.S.A. had produced research indicative of harm from fluoride, notably Dr Alfred Taylor, University of Texas; Dr I. Rapaport, formerly of the Psychiatric Institute, University of Wisconsin; Dr Clive McCay, Cornell University College of Agriculture, Department of Animal Husbandry; Father Sullivan of Boston University; Dr Reuben Feltman of Passaic General Hospital, Passaic, New Jersey. Their work could be "eliminated" more easily than mine. They were linked with institutions dependent on the P.H.S. and the U.S. Department of Health, Education, and Welfare.

My position was different. I was independent.

Moreover, I had publicly challenged the practices prevailing in fluoridation promotion. I had openly dared to question the validity of research sponsored by the most powerful medical organization in the world, the U.S. Public Health Service.

In 1955 I had submitted an article on fluoridation to the editor of the 'Ladies Home Journal'. At first he was inclined to publish it. Sensing the fury of the controversy, he compromised by publishing a letter in the May 1955 issue, page 6, accompanied by one written by the U.S.P.H.S. Surgeon General, Leonard Scheele, now the head of a pharmaceutical company.

Referring to the poisoning which I had encountered, I challenged the P.H.S.:

"The Public Health Service is moving heaven and earth to deny the existence of these cases instead of investigating them."

Such an affront to this mighty organisation demanded immediate measures. The Public Health Service, trusted throughout the U.S.A. by every citizen, by Congress and the President, had many big guns and heavy ammunition at its disposal to neutralize the impact of my evidence. These guns were set up on both the political and the scientific front:

The editor of the 'Ladies Home Journal' received a tongue lashing by Dr G. J. Cox, of Pittsburgh, the originator of the fluoridation idea. In a mimeographed brochure (199) distributed by the A.D.A. entitled "Is There a Case Against Fluoridation?", Dr Cox stated:

"They ('The Ladies Home Journal') could have prevented the loss of millions of teeth by referring these letters to competent critics."

Dr Cox's philosophy is characteristic of the entire fluoridation campaign: The people should not be given both sides of this issue. "Competent critics," i.e. public relations counsels of the A.D.A. and the P.H.S., the two promoting agencies, must shield them from facts unfavourable to fluoridation.

I will mention just a few examples of other efforts by promoting agencies to

scuttle my work because the story of this struggle would be incomplete without recording some of these experiences.

On the political front health officials in fluoridated communities denied that fluoridated water could cause poisoning. The strongest denial came from Dr G. C. Weidner, health commissioner of Saginaw, who at the time of my conference with him in Saginaw had not been aware of the many reports available in the medical literature of harm from fluoride in water naturally. Nor had he realized that Saginaw citizens had become ill from artificially fluoridated water. Nevertheless, in the Pontiac 'Press' of April 1 and 2, 1955, Dr Weidner categorically stated that Saginaw's fluoridated water had never caused illness to anyone. His successor, Dr Richard S. Ryan, acting health officer, followed up Dr Weidner's statement in a widely publicised letter * to Dr Gordon Bates, Canada's chief promoter of fluoridation.

"There has been no epidemic of fluorine poisoning in Saginaw. For emphasis, I repeat, there has been no epidemic."

I checked with some of the Saginaw individuals whose illness I had studied. I learned that the local health department had made no inquiries at any time concerning their illness.

On the other hand, in Highland Park, Michigan, the health commissioner Dr James Nunn did do some investigating. He had learned through relatives of my patient, Mrs M.E.J. — the first case of poisoning from artificially fluoridated water reported in the literature — that she was emotional when speaking about fluoridation. From this description the health commissioner deduced that her disease had a psychosomatic or imaginary basis. Obviously, he was not aware that she exhibited such clear-cut physical manifestations as internal hemorrhages and retinitis. Who would not become emotional upon learning that fluoride which had been added to her drinking water without her consent was the sole cause of a serious, near fatal illness? To maintain her health she must secure distilled water which she can ill afford to buy. To remain unemotional after such an experience would be abnormal indeed.

Another salvo on the political front was fired by the Michigan State Health Commissioner, Dr Albert E. Heustis. In a letter dated June 6, 1955, publicised widely by the U.S.P.H.S., he accused me of shirking my duty as a public-spirited physician because I had refused to turn my patients over to his department for examination. Actually in my reply to him on June 7, 1955, I had stated:

"I shall be more than pleased to present my material to an **unbiased group of my colleagues** at any time."

Since Dr Heustis is the key promoter of fluoridation in the State of Michigan, since neither he nor anyone else in his Department have had any research experience with fluoride's systemic effect and since he holds a political office, I felt that examination of my patients by Michigan health officials could only serve to confuse the issue.

I had made a trip to Lansing during the summer of 1955 to request Michigan's Governor G. Mennon Williams to establish a committee of scientists independent of political affiliations for the purpose of objectively appraising my data. ** I had already reported by observations of fluoride poisoning from drinking water

* HEALTH, Toronto, Ont., March issue, 1958.

** Letter by Dr G. L. W. to Mr Lawrence Farrell, Secy. to the Governor, State Capitol, Lansing, dated 20 September 1955.

in two medical journals. Moreover, I had repeatedly requested an opportunity to present my data to the membership of local and national medical societies and to hospital staffs, the conventional way to introduce new scientific findings to the medical profession. These requests were denied.

New efforts were made to counter the effect of my work. According to a standard pattern a letter had to be obtained from someone whom the uninformed citizen would look upon as an authority. A statement by the Assistant Executive Secretary, Mr A. H. Luthmers of the American Academy of Allergy, not a physician, appeared in the Manchester, Conn., 'Herald' of April 2nd, 1959:

"To my knowledge there are no reports of allergic or toxic reactions to fluoride other than the reactions or hardening of tooth enamel."

The officers of the organization had not authorized him to speak for them nor had they knowledge of how the statement originated. When the president of the Academy, Dr F. C. Lowell of Boston, became aware of it, he wrote me on April 23, 1959:

"So far as we are aware there has never been any formal expression of opinion by the American Academy of Allergy concerning toxicity of fluorine in drinking water."

Investigation revealed that Mr Luthmers had expressed a personal opinion in a letter dated May, 1956, to a Stamford, Conn., physician. Mr Luthmers himself stated that the letter was not written for publication.*

There was reason to believe that the request for the Luthmers' statement did not originate on the local (Connecticut) level, but was obtained according to a definite pattern through directives from top promoters, either from Washington D.C., or Chicago.

At the hearing before the St Louis, Missouri, County Council at Webster Groves on October 11, 1957, for instance, Dr Willard Bartlett, the local promoter, likewise announced that St Louis allergists had "not seen any allergy to fluoride." Actually none of them had ever considered the possibility that fluoride might cause allergic reactions.

Had they been asked 20 years ago whether or not they had seen a case of emphysema from smoking they would also have replied in the negative. Today their reply would be different.

In not a single instance did these efforts to neutralize the impact of my research constitute a bona fide criticism of my data. Instead, proponents attempted to cast doubt upon my scientific competence.

Since I held no office or job within the reach of P.H.S. influence I could not be threatened with dismissal. Such practices, incredible as they may seem, are not uncommon in fluoridation promotion.

V.O. Hurme, D.M.D., director, for many years, of Boston's Forsythe Dental Infirmary for Children resigned his position because "restriction of his academic freedom on the question of fluoridation was repugnant" to him.**

Dr Jonathan Forman of Columbus, Ohio, editor of the 'Journal' of the Ohio State Medical Association for more than 25 years was abruptly dropped, according to the Columbus 'Citizen', November 13, 1958, because of his open stand against fluoridation.

Early in 1954, a scientist of New York City who wishes to remain anonymous had opposed fluoridation over the radio. The following day the Dean of the

* Luthmers, A. H. to G. L. W. 12 May 1959.

** Hurme, V. O., D.M.D. to G.L.W. 9 August 1959.

Dental School, New York University, with which he was connected, informed him that his services were no longer needed. When the professor threatened to publicize the reason for the dismissal, the university promptly dropped the matter.*

The disparagement by the Milwaukee Health Director, Dr E. R. Krumbiegel, in the 'Milwaukee Journal' of November 8, 1955, which has been propagated in the A.D.A. dossier, had failed to silence me. Indeed, I had paid little attention to the abusive statements about me which had become increasingly numerous. Therefore, more effective measures to eliminate me from the fluoridation scene had to be devised. Bigger guns had to be trained at me and my evidence.

It began with a visit by Dr Heinrich Hornung, a health official of Marburg, Germany. None other than a Torch-supported Detroit welfare agency had made arrangements for his trip to Detroit.

Dr Hornung, one of Europe's most fanatical promoters, was sponsored in the United States by the American Council on Education ** for the purpose of "studying" fluoridation. His itinerary included the key battle areas in the fluoridation struggle: Bethesda, Md., Bartlett, Texas, Grand Rapids, Mich., Newburgh, N.Y., and my clinic in Detroit.

Dr Hornung arrived carrying a bouquet of red roses for my wife. With pleasure he accepted the hospitality of my home. Knowing that Germans enjoy the out-of-doors, I took him to my farm near Pontiac where I showed him deer tracks, foxholes and modern milking equipment. I also showed him, at my clinic, some of the data which I had accumulated in connection with the 52 cases of poisoning from fluoridated water, a report of which was about to appear in a leading European medical journal, 'Acta Medica Scandinavica'.

Some individuals had written letters to me describing their illness. Before embarking upon a study of their cases, I had mailed them a questionnaire for the purpose of determining which to eliminate and which to carefully investigate. The questionnaire served solely for screening purposes. From their answers I decided whether or not it was warranted to contact the family physician and the hospitals, where they had been under observation, for further substantiation of the diagnosis. I personally examined most of the fifty-two persons. Some were hospitalised in Detroit for thorough observation and consultation.

On March 24, 1956, Dr Hornung sent me the copy of a letter which he had directed to Frederick S. McKay, Colorado Springs dentist. This letter was subsequently published in the 'Journal of the American Dental Association.' (201)

Dr Hornung described what he claimed to have been in my office:

"Dr Waldbott," he stated, "is an excellent ('ausgezeichneter') scientist in the field of allergy, but on the question of fluoridation his scientific reasoning is tarnished constantly by an emotional bias."

"Dr Waldbott 'distributed' a questionnaire in which 'leading' questions were listed, and whenever a single one of these questions was answered positively by one of the recipients of the questionnaire, mostly elderly ladies, this was recorded as proof(!) of poisoning by fluoridation," Dr Hornung continued.

"During a luncheon in Bartlett, Texas, where the drinking water contains 8 ppm of fluoride, I requested that the mayor of Bartlett read the symptoms listed in Waldbott's questionnaire. I wanted to ascertain whether such symptoms occur

in a town with a comparatively high fluoride content in its water supply. The response was hilarious. A participant in the discussion declared laughingly: 'Now I know why my bulldogs can't catch the ball!'"

There was every reason to expect a hilarious response not only from the Bartlett citizens but from every dentist in the U.S.A. who read Dr Hornung's version of my questionnaire in the 'Journal' of the A.D.A. I could hardly believe my eyes when I read the nonsense which he attributed to me and which he had interpolated into my questionnaire:

"Numbness in thumb, little finger or end phalanx of forefinger; small black moving spots in the field of vision; chronic skin erosion(!); hypersensitivity of mucosa and burning sensation in both eyes; eczema between fingers and toes; itching, dryness in the oral cavity; brittle nails; hives; gastritis and atrophy of the liver(!), especially during summer(!); dull headaches in forehead; pains in the cranial region; backache; falling out of hair; pains in arms and ankle joints; frequent disturbance of the faculty of thinking, and improvement immediately after change of domicile."

Dr Hornung must have lifted out of context and attributed to me some of the patients' own descriptions in their replies to my questionnaire.

"Dr Waldbott's questionnaires," Dr Hornung continued, "were distributed (by Dr Hornung) in Marburg, Germany, a city where drinking water contains hardly any fluoride (0.2 ppm), but where it has been chlorinated for years."

In his questionnaire Dr Hornung substituted the words "chlorine" and "chlorination" for "fluorine" and "fluoridation". He implied that on the basis of answers received (had he followed my method of diagnosis) one half of Marburg's population would have been poisoned from chlorinated water.

I first learned that this letter had appeared in the September 1956 issue of the 'Journal of the American Dental Association' from a Detroit 'Free Press' reporter. It was the subject of a nationwide news release on August 31, 1956.

Did I have anything to add, the reporter inquired?

This distortion of facts and the manner in which it was propagated caught me completely by surprise. Any offhand remarks would only have further damaged my position.

The next day the Detroit 'Free Press' featured my "so-called" research on fluoride poisoning and my "emotional" approach to the subject of fluoridation.

To this day I am still amazed at my complete unawareness concerning the real purpose of Dr Hornung's visit. I considered this man a scientist. Due to my German upbringing and education the thought would never have crossed my mind that a health official's motives could be political rather than scientific. His gift of roses to my wife had convinced me that he was a gentleman. It was perhaps my German background which made me assume that a scientist, a German, and a gentleman could only be interested in science and truth.

The American Dental Association and the P.H.S. utilized this letter for all that it was worth. The Hornung story was duly propagated wherever fluoridation raised its head. Whenever my name was mentioned in connection with fluoridation, the local promoting dentist or health official handed the story to the newspaper or the local fluoridation committee.

The letter was reprinted from Connecticut to California—from Maine to Florida. It appeared at public hearings, in the press, over the radio, in Australia, New Zealand, Holland, Germany, England, Sweden, Switzerland, in medical and dental journals.

The editor of the New Canaan, Conn., 'Advertiser' published editorials on

* Personal communication W.W., M.D.

** Cassidy, Florence G., Secy. Committee for Foreign Visitors, United Community Services to Dr G.L.W., 18 October 1955.

April 3rd and 17th, 1958, on "Waldbott's Cases" under the paradoxical caption of "Public Information Service".

Whenever the U.S. Public Health Service received inquiries from citizens, scientists or scientific organisations concerning Dr Waldbott's research, V. L. Diefenbach, D.D.S., acting Chief, Education and Information Services, Division of Dental Public Health, responded with standard enclosures featuring the Hornung letter in connection with other material equally misleading. It resulted in labelling anything I said as "unconvincing" and "unscientific" regardless of the fact that Dr Hornung in his letter has designated me an "excellent scientist" in my own specialty. Needless to say each editor gave the story his own slant.

Indeed, this device accomplished its purpose: It completely neutralized the powerful evidence which I had produced.

Curiously enough, in spite of his flagrant abuse of my hospitality, Dr Hornung continued to woo my "friendship". Months after he had written his letter, I received a greeting from him written during one of his vacations: "As true scientists," he stated, "we may differ in opinions, but we may still remain good friends." On one occasion he sent me a postal card from my home town, Speyer, Germany. I often wondered whether or not he went there on an official mission to research my background from the cradle to obtain more material for another letter to some of his American friends.

Only once did I see Dr Hornung again. I was invited to speak to a group of physicians at the behest of the Health Department of the City of Frankfurt, Germany. He had little to say at the conference. After the meeting, however, I saw him gesticulating to several physicians who had heard my talk. Was he explaining to them why bulldogs couldn't catch balls in Bartlett? Was he trying to convince his listeners of the competence of Bartlett's mayor to assess the illnesses of his townsmen?

On the advice of my attorney I initiated steps for a libel suit against the 'Journal of the American Dental Assoc.' Its editor promptly offered me space in the 'Journal' of December 1957 page 873, for a reply to the Hornung letter. At that time I had had very little experience with legal matters. Instead of answering Dr Hornung's slanderous implications I thought it preferable to give the dentists positive information about my recent research. This gentle approach, however, proved to be ineffective. Even after a second clarification had appeared, this time in the A.M.A.'s 'Archives of Environmental Health', Vol. 4, page 459, April 1962, the P.H.S. spokesman persisted in propagating the Hornung fabrication.

The device of visiting a scientist for the purpose of discovering a means by which to downgrade him publicly and thus neutralize the impact of his research is frequently employed in fluoridation promotion:

During the course of a series of experiments on cancer, Alfred Taylor, Ph. D., at the Biochemical Institute, University of Texas, one of the nation's most respected cancer researchers, observed that water fluoridation at 0.44 ppm shortened the life span of cancer-prone mice. Although Dr Taylor emphasized that his conclusions were tentative, two P.H.S. officials called on him in his laboratory, Drs H. T. Dean and H. Andervont. Subsequently the P.H.S. pronounced Dr Taylor's experiments invalid because, in addition to water, the pellets fed the mice also contained fluoride. (202)

In subsequent experiments, (203) Dr Taylor eliminated the basis for the P.H.S. criticism and confirmed his previous observations. This time the feed contained only minute amounts of fluoride. In a series of 12 experiments, in-

volving 645 mice, 1 ppm fluoride in water reduced the life span by 9%. (203)

In spite of the statistically significant evidence obtained from this unusually large number of animals, proponent scientists continue to quote the earlier (1951) preliminary tentative experiments and their critiques. They keep disregarding the final (1954) results.

In order to further neutralize the impact of Dr Taylor's work, research by Drs J. J. Bittner and W. D. Armstrong of University of Minnesota (204) was given wide publicity. Because too few mice were involved, the results of their experiments were not conclusive.

Numerous other methods have been devised to forestall an objective appraisal of, and to eliminate, valid research unfavourable to fluoridation:

A mimeographed release by the University of New Mexico through Roland Dickey, Director of the University of New Mexico Press, Albuquerque,* designated as invalid research carried out by members of its own staff, Drs J. D. Clark and E. W. Mann.

In 1938, the two scientists had published the first statewide survey of water sources in which fluoride occurs naturally using a grant from the State's Department of Health with federal assistance. Of 157 communities, thirty-five had shown that fluoride in their water supplies was "above the danger point of 0.9 ppm, averaging from 1.1 to well above 12.0 ppm of fluoride." The authors set up a "dividing line of the toxic and non-toxic levels" at a concentration between 0.8 and 1.0 part per million.

After fluoridation in Newburgh, New York, was initiated in 1945 with a concentration of 1.2 ppm of fluoride, a danger point of 0.9 ppm would have impeded its promotion. Hence, the University of New Mexico's release declared the scholarly work of the two men "hopelessly out of date". The University's spokesman, Mr Roland Dickey, maintained that it "should be accepted by no one as authoritative on the subject of the addition of fluorides to water supplies."

Similarly, the Vice-President of the University of Texas, Dr Chauncey D. Leake** issued a statement October 1, 1951, denying responsibility for Dr Alfred Taylor's valuable research carried out at his own university. Such action is unprecedented in medical research.

Again there are indications that this action did not originate with the respective universities but with a few top scientists in the Dental Branch of the P.H.S. which, through its ability to withhold research grants, can control their lifeline.

In January, 1964, a sociology student at a midwestern university who wishes to remain unidentified canvassed, as part of her college thesis, 400 members of the local medical society regarding fluoridation. Of 267 replies, 49 percent were for fluoridation, 34 percent against and 17 percent undecided. If this information had become public property, it would have seriously hampered fluoridation promotion in the area. The assistant dean, prompted by the fluoridation chairman, wrote a letter berating the student for allegedly abusing the good name of her school. As is customary, a copy of this letter was sent to the local fluoridation promoter.

Through prompt and decisive action, by threatening a libel suit, the student obtained a complete retraction of the letter's false and libelous accusations. Had she failed to take immediate steps, the letter would have served to discredit the

* Dickey, R. to Mr G. E. Radcliffe, Kingston, Ont. Enclosure dated 7 March 1952.

** Leake, Chauncey D. to Dr Edward Taylor, State Dental Director, Austin, Texas, 1 October 1951.

results of her poll and to cast aspersions upon her personal integrity. Nevertheless, the manoeuvre accomplished its aim. The student, a physician's wife, has thus far refrained from publishing her data.

On several occasions new research projects have been designed and given wide publicity for the sole purposes of countering research unfavourable to fluoridation:

When Dr J. R. Herman, a New York City urologist found 1795 ppm of fluoride in a kidney stone (205) he was promptly provided with a P.H.S. grant and P.H.S. scientists as collaborators. His second study purported to prove that fluoride has no bearing on the formation of kidney stones.

Drs W. F. Ramseyer, C. A. H. Smith and C. M. McCay, Cornell University, had demonstrated in long-term experiments (206) that rats, fed throughout their life water containing 1 ppm of fluoride, eventually developed periodontoclasia (gum disease) and kidney disturbances. Before the article was published, Dr John W. Knutson, Asst. Surgeon General, U.S.P.H.S. Dental Division, alleged that the results must have been associated with twenty to thirty times the fluoride concentration recommended for fluoridation.*

A new team, established with P.H.S. assistance, (207) reproduced the same abnormal changes but the authors attributed them to "old age". No fluoride determinations of tissues were made to rule out the possibility that the changes were due to fluoride rather than to "old age".

Dr Reuben Feltman of Passaic, N.K., (208) had administered fluoride tablets to children and to pregnant women. When he reported that about 1 percent of his subjects could not tolerate the drug, the P.H.S. discontinued support for his research.**

The experience of Dr Ionel Rapaport, a perceptive scientist, formerly of the Psychiatric institute, university of Wisconsin, further elucidates how important research is being eliminated. On the basis of official P.H.S. statistics from Wisconsin, Illinois, North and South Dakota, Dr Rapaport in collaboration with local health officials showed that mongolism, a birth defect characterized by mental and physical retardation, occurs in significantly larger numbers in natural fluoride areas than where there is little or no fluoride in water. (209) Dr Chas. Curry, senior dental surgeon at Middlefield Hospital, Knowle, England, and part time dental officer in Liverpool, Surrey, Hampshire, Warwickshire and Worchestershire, has supplemented this evidence by demonstrating an unusually high incidence of mottled teeth affecting 25 to 50 percent of the tooth's surface (210) among mongoloid babies. Dr Rapaport's basic discovery was bound to seriously threaten the promotion of fluoridation.

Shortly after Dr Rapaport's first article appeared in 1956 in the 'Bulletin' of France's National Academy of Medicine, Dr W. T. C. Berry, a British health official and leading British fluoridation promoter, carried out a survey of mongolism in England. (211) Like Dr Rapaport, he compared the number of mongoloid births in British cities where fluoride occurs naturally in water with the number in cities where water contains little or none. In tea drinking Great Britain, such a comparison is fallacious, since most British mothers consume as much or more fluoride through tea alone than the average daily dose imbibed with drinking water. For adequate controls Dr Berry should have selected births from mothers who drink little or no tea. Moreover, thirteen of Dr Berry's sixty-four cases of

mongolism were encountered in cities where the water's natural fluoride content was neither high nor low; thus they did not fall into either category.

In spite of this faulty design which fails to meet scientific criteria, the Berry data have been widely publicised for the purpose of discrediting Dr Rapaport's research.

Like Dr Taylor, Dr Rapaport repeated his studies on a much larger scale and eliminated the basis for criticism. For his statistics he used the mothers' permanent residence rather than the place of their confinement.

In one of the letters critical of Rapaport's work addressed for promotional purposes to the late Dr F. A. Bull, Wisconsin, State Dental Director, dated November 25, 1957, A. L. Russell, D.D.S., Chief of Epidemiology and Biometry, National Institute of Dental Research, a P.H.S. troubleshooter, favoured the state of Illinois for further studies. He explained that the state furnished a large sample with virtually complete fluoride histories, largely the work of his associate Dr Elvove. Like Dr Herman, Dr Rapaport was provided with P.H.S. counsel during the progress of his second study, namely five Illinois state health officials under the leadership of Dr Russell. However, unlike in Herman's case, Rapaport's conclusions remained unaltered.

The second (1959) study established incontrovertibly that fluoride increases the incidence of mongoloid idiocy. There is less than 1 possibility in 1,000 that these statistical results of the 1959 study occurred by chance.

It covered five and a half million people, 335,000 births and 148 cases of mongolism. Presented in the 'Bulletin' of France's national Academy of Medicine, May 12, 1959, (212) it confirmed the 1956 results.

The tabulation of Rapaport's findings (**Table 15**) shows a rate of 34.15 cases of mongolism per 100,000 births in cities where water contained 0.2 ppm or less. Twice as many cases (71.59) occurred in areas where water contains between 1.0 and 2.6 ppm fluoride.

TABLE 15

FREQUENCY OF MONGOLISM IN ILLINOIS TOWNS OF 10,000 TO 100,000 (JANUARY 1, 1950 TO DECEMBER 31, 1956)

Total Number of Births	Fluorine in Water PPM	Number per 100,000	Cases of Mongolism
196,186	0.0-0.2	34.15	67
70,111	0.3-0.7	47.07	33
67,053	1.0-2.6	71.59	48

The validity of Dr Rapaport's 1959 survey like that of Dr Taylor's second (1954) experiments is beyond question. As in Dr Taylor's case, the preliminary research is constantly being quoted by promoters of fluoridation whereas the confirmatory data is disregarded as though they did not exist.

Recent correspondence with Dr A. L. Russell of the National Institute of Dental Research has provided new evidence on the method used to withhold from the medical profession valid research unfavourable to fluoridation.

There is a twofold approach: **1.** A special investigating committee is formed to create a sounding board for public repudiation of the scientist and his research. **2.** A letter written by a top P.H.S. official, usually A. L. Russell, D.D.S., downgrading the research, is placed before the committee.

The "Rapaport Committee" headed by W. D. Stovall, M. D. consisted of

* Knutson, J. W., D. D. S., to Rorty, James, Flatbrookville N.J. 9 August 1956.

** According to F. F. Heyroth's testimony at Santa Fe, N. M., Hearing 16 November 1955.

scientists with no research experience on the relation of mongolism to fluoride. Dr Stovall wrote on May 10, 1960 to Dr J. Z. Bowers, Dean of the University of Wisconsin Medical School, and to four other dignitaries that his committee relied largely "on the correspondence of Dr A. L. Russell and others who have offered criticism and suggestions of re-study or corrections."

Dr Russell, in turn, establishes his case upon the opinion of the committee. In his letter to me dated March 9, 1965 he stated: "As you are probably aware, this data by Rapaport was examined by ourselves at the Institute and by a committee at the University of Wisconsin. Both groups agreed "independently" that the Rapaport data was so full of errors as to be worthless, and that his conclusions are not supported by evidence." When asked to outline specific errors, in another letter dated March 30, 1965, Dr Russell merely repeated his accusations and cited several articles which had little or no bearing on Rapaport's research.

Thus, the inquirer, whether physician, dentist, scientist, medical editor, official of a medical society or member of congress, is bound to infer erroneously that there is general consensus among scientists that the research under discussion is invalid.

Dr Russell's approach preempts presentation of the research through the conventional channels, namely before medical societies and in medical journals where an unbiased appraisal could be obtained. In this way the subject of fluoridation is rendered "non-controversial" and "undebatable" to physicians and dentists.

The main objection to Dr Rapaport's research pertains to whether or not his survey covered every mongoloid birth in the population. Because his conclusions are based upon carefully controlled samples, not upon the total incidence of mongolism, his final results are valid regardless of whether or not all cases in a certain population were discovered.

Recent careful studies on the patterns of occurrence of mongolism by Dr Alan Stoller et al. * of Victoria, Australia, and by Dr E. H. Heinrichs et al. ** of Watertown, S. D., have clearly confirmed that an "environmental factor (is) operative in a high proportion of these congenital anomalies."

Students of fluoridation are rarely aware that it is almost impossible to publish valid research unfavourable to fluoridation such as that by Taylor and Rapaport in most U.S. scientific journals.

When, in 1950, a P.H.S. survey of inhabitants of American Samoa revealed sound teeth where water contains little or no fluoride the findings were not published in any of the official P.H.S. journals. (212a)

At the University of Oregon, Dr H. L. Richardson through a series of experiments determined the cause of abortions, stillbirths and infertility which had gradually wiped out a herd of chinchillas. He proved that the fluoride content of food pellets in the animals' daily ration was responsible. Some of this research is described in detail in a book by a lay person, Mr W. R. Cox, (213) the owner of the chinchilla ranch. It was never presented to the scientific community. In reply to my inquiry for details regarding his work Dr Richardson indicated that his fluoride research had been abandoned. He was apparently reluctant to become involved politically as stated in a letter dated 18 March 1957.

In Evanston, Illinois, extensive P.H.S. studies on fluoridation have been carried out under the direction of Dr J. R. Blayney, a well known exponent of

* Med. Journal of Australia 1:1-4 (2 January 1965).

** The Lancet 2:468, (31 August 1963).

fluoridation. At the meeting of the International Association for Dental Research, in 1954, he reported experiments which showed that persons with kidney disease eliminate only 60% as much fluoride as normal persons when both are drinking water fluoridated at 1 ppm. When both groups consumed water with only a trace of fluoride (0.1 ppm) no difference in fluoride elimination was noted. This important research, although abstracted in the 'Journal of Dental Research', (214) was never published in full, according to Dr Blayney's letter* of February 15, 1963. Had this observation been widely disseminated it would have drawn attention of scientists to the constantly accumulating evidence that fluoridated water is particularly harmful to persons with kidney disease.

Another equally important study by a team of P.H.S. scientists which deals with the fluoride content of organs from air contaminated area of Utah was not presented in any medical journal (215) (see final page).

It would serve no useful purpose to present additional documents from my files which explain why scientific data unfavourable to fluoridation rarely, if ever, reach the practicing physician in the U.S.A. Only one more example will be cited here. It involves the country's foremost medical journal, the 'Journal of the American Medical Association'. In its letter box, a physician inquired whether fluoridated water could cause dermatitis and allergic reactions. (216) Two dentists, Drs J. L. Bernier and D. J. Galagan, served as consultants to the editor on this purely medical question. Dr Bernier stated that there was no documented evidence that fluoridated water will produce an allergic response.

In subsequent correspondence I learned that Dr Bernier, the editor's consultant, was neither familiar with the pertinent literature on dermatitis nor on allergy; that he relied solely upon information received from the P.H.S.; that he, himself, had carried out no research on fluoride, on allergy or on dermatitis. ** His 82 publications were solely concerned with dental surgery, none with any of the three subjects on which he had submitted his reply to this important medical question. Nevertheless, he was selected by the editor as consultant on allergy to fluoride.

I asked the editor for his opinion as to how my cases of allergy (217) and dermatitis (218) due to fluoride, published in two leading specialty journals, could be further documented. In his reply on October 12, 1961, Dr W. G. B., Asst. Editor, acknowledged that he knew of no other methods for determining the cause of a dermatitis than those routinely utilized by me and listed in my letter to him, namely, the taking of a case history, the evaluation of the pattern of the skin eruption, the patch test, and the double blind procedure.

Another dentist's opinion had previously been published in answer to the question as to what effect fluoride tablets administered to a mother would have on her unborn child. B. G. Bibby, D.M.D., not a physician, assured physicians on June 3, 1961, that the unborn child is protected from adverse effects by fluoride. I cited research to the editor with which Dr Bibby was apparently unfamiliar and suggested that it be made available to the profession in view of its major importance to the nation's health.

The editor, J. H. T., replied on August 8, 1961:

"I do not propose to publish another view in opposition to that taken by the House of Delegates and the Council on Foods and Nutrition of the A.M.A."

* Blayney, J. R., D.D.S., to Lampman, H.H., M.D. 15 February 1963.

** Bernier, J. L., D.D.S., to G.L.W. 25 October 1961.

The House of Delegates is the A.M.A.'s political body. The two Councils had arrived at their position under the guidance of three exponents of fluoridation whose approach has been presented elsewhere in this book. One of the three, a retired P.H.S. officer, wrote the report on which the House depended.

When, on a third occasion, I commented, October 10, 1963, upon an editorial of October 5, 1963, which categorically denied all proven harm from fluoridated water, the editor frankly replied:*

"I am not a toxicologist and do not profess competence in either formulating a programme in the field (fluoride research) or evaluating results of others.

"On the acceptance of manuscripts for publication, on the other hand, I am ready to stand firm on my decisions. They are based in part upon the advice and opinion of those whose judgements I value and the deliberation of councils and committees duly authorised by the A.M.A."

He candidly added, "Furthermore, I was on the fluoridation committee for Buffalo when I was teaching in the medical school and did everything I could in support of this vital programme."

This sentence explains his unalterable position. As a member of one of the many fluoridation committees set up by the A.D.A. for the sponsorship of fluoridation on the local level, he had received one-sided promotional data, much of which was designed to arouse his emotions. Scientific data unfavourable to the project which such committees receive are always accompanied by the usual proponent criticisms. Hence, he was bound to be reluctant to lend his ear to an objective appraisal of valid research indicting his position, much less to permit its publication.

Interference with free exchange of scientific data on fluoridation in medical journals has its counterpart in the prohibition of its free discussion in medical societies.

On three occasions members of medical societies had notified me that an invitation to address their society on how fluoride affects the human organism was in the offing. In all three cases action was taken to prevent my appearance.** The third and most recent instance brought forth a full explanation:

On July 24, 1963, R.W.P., M.D., the secretary of a district medical society of a northwestern state, officially invited me to report about my research on fluoride on which I had just published a monograph (34). The date had been set and all arrangements were completed. I intended to limit myself solely to scientific data without touching on the subject of fluoridation.

On October 18, 1963, the secretary of the society wrote again as follows:

"The Executive Committee which comprises Dr M. A. K. L., Dr O. V. L. and myself (Dr R. W. P.) have been vetoed by the . . . District Medical Society comprising all the doctors in this area. Because of the controversial subject on fluoride, the . . . District Medical Society has asked me to tell you that we have cancelled and recalled your invitation to speak to us."

"I am sorry for this as I felt that this would be an interesting subject. Because of the suggestion of another member of our Society, and with the approval of the Executive Committee, I went ahead and invited you."

A subsequent letter from a leading physician from that area casts additional light on the subject. The town had been fluoridated through the efforts of the

* H.T. to G.L.W. 21 October 1963.

** McC. D., M.D., Memphis, Tenn., to G.L.W. 10 February 1959—Miller, R.J., M.D., formerly of Evansville, Ind., to G.L.W. 6 May 1958.

local health officer, Dr P. O. Many members of the District Medical Society are practicing in small nearby towns where the water contains fluoride naturally. When Dr P. O. heard that I was to speak he approached the members, present at one of the Society's meetings, and persuaded them that I intended to stir up sentiment against fluoridation. Physicians have little or no knowledge on what damage fluoride may cause to human health. Undoubtedly my talk would have alerted them, making it possible for them to recognize chronic fluoride poisoning with which they are bound to be frequently confronted. It would also have reflected on the health officer for promoting fluoridation and for being responsible for the illness of citizens whose health it is his duty to guard. Hence, he had ample reasons to campaign against my appearance before the Society.

On January 29, 1957, I received an invitation of a different sort. The Academy of Medicine of New Jersey through its Public Health Committee Chairman, Dr E. C. Hillman, asked me to participate in a panel discussion on fluoridation. I was to be the sole speaker opposed to fluoridation. This time, I was confronted with three proponents, not two as previously.

My experience with the Eastern Dental Club at the Whittier Hotel, Detroit, impelled me to take the precaution of requesting equal time and an equal number of participants on both sides. Moreover, since this was to be a meeting of physicians, I asked that all discussion be confined to the scientific aspect. I submitted a choice of several titles for my talk. Upon receipt of my letter the invitation was promptly rescinded. The purposes of the meeting turned out to be promotion of fluoridation.

I rejected a similar invitation to appear before the British Nutrition Society October 6, 1962, in London.* This meeting was to be the opening gun for initiation of an all-out campaign for fluoridation in Great Britain. Only two of seven participants were to present data unfavourable to fluoridation. One of the so-called "scientific" papers by Dr Dalziel-Ward, Central Council for Health Education, was entitled "The Social Aspects of a Policy of Fluoridation of Water Supplies." It was designed to downgrade opponent scientists.

Several other experiences are indicative of efforts by proponents of fluoridation to impede circulation of important data proving fluoridation hazardous.

Dr H. Velu of Paris, France, one of the pioneers in fluoride research, had written an excellent review article on fluoride in 'Revue Pathologie Generale', February, 1956. (219) When I requested a reprint of his article he referred me to the late Dr H. Trendley Dean, one of the originators of fluoridation, at the time a member of the A.D.A. executive staff. Dr Dean informed me on January 2, 1957, that he had no reprints of this article. I never learned to my satisfaction how it came to pass that Dr Velu had sent all his reprints to Dr Dean.

Similarly, reprints of another important article indicting fluoridation were not obtainable at its source. Dr Paul Pincus, Professor of Dentistry, University of Melbourne, Australia, was puzzled when shortly after his article appeared in the 'Australian Journal of Dentistry', 1952, numerous U.S. dentists requested reprints at the rate of six at a time.** This, he stated, quickly exhausted his supply.

Dr Hans Borei of Copenhagen, Denmark, had published a classic book entitled 'Inhibition of Cellular Oxidation by Fluoride'. (220) It demonstrates how fluoride interferes with the oxidation (breathing) of body cells. Dr Borei, the

* Hollingsworth, D.F., Secy., The Nutrition Society, London, to G.L.W. 21 January 1962.

** Pincus, P., D.D.S. to G.L.W. 10 October 1963.

world's expert on this subject, was offered a position at the University of Pennsylvania where he is now occupied with work along entirely different lines. He has abandoned his valuable fluoride research. When asked by an interested citizen, Mrs G. D. Dreyer, of Mountainside, N. Y., for a list of his publications, he failed to include his important monograph. In this same connection it is interesting that the official London distributor listed on the book cover, H. K. Lewis Co., Ltd., no longer has any record of ever having handled this monograph, according to a letter dated August 3, 1956, addressed to Mrs W. M. S., Huddersfield, England.

Heretofore, odd experiences such as these were rarely, if ever, encountered in science. They suggest that efforts are being made to interfere with the free flow of scientific data, to neutralize research unfavourable to fluoridation and to prevent physicians and dentists from learning all the facts about this dubious health measure.

There is another explanation for the sparsity, in U.S. scientific journals, of research disclosing harm from fluoride. Ever since fluoride in water naturally was first proven damaging to health in the thirties and early forties, numerous grants have been made by corporations and the P.H.S. for research designed to prove fluoridation safe. Little or no money has been available to those in a position to produce data revealing fluoride's hazard. Indeed, like Dr Borei, other U.S. fluoride researchers, among them Dr F. DEeds of San Francisco, California, and Dr M. C. and H. V. Smith of the University of Arizona abandoned further studies on fluoride.

The question arises whether they voluntarily relinquished their fluoride research or whether the P.H.S. denied them continued support of their work. Or is it due to intimidation that a scientist abandons his fluoride research?

In October 1963, two Oxford, England, scientists, Drs R. J. Berry and Wilfred Trillwood, reported in the 'British Medical Journal', (220a) page 1064, that the rate of growth of cancer cells, grown outside of the body, is significantly retarded by sodium fluoride in a concentration as low as 1/10 part in 1 million parts of water (0.1 ppm).

Like Dr Rapaport and myself, Dr Berry has been subjected to much unfounded criticism and—as I learned on a recent visit to Oxford from his close associates—to veiled threats. He decided to abandon all future work on fluoride. As a means of downgrading his important research, the British Ministry of Health propogated a letter, November 22, 1963, written by Professor Neil Jenkins of Newcastle. However, like the widely circulated letters critical of other opponent scientists, Dr Jenkins' views carry weight because of his position of prestige in a dental school.*

The A.D.A. now advises its members to call early research "outdated". Actually the classic descriptions of harm from fluoride by the pioneers, Roholm, the Smiths, DEeds, Velu and Borei are now of greater value than when they were written. They constitute unbiased research, the results of which have not been influenced by support from vested interests.

* Dr W.D. Armstrong and associates published experiments in the British Medical Journal, February 20, 1965, p. 486, which indicated that up to 10 ppm fluoride added to the cell culture had no effect on their growth. This, Dr Armstrong implied, invalidated the Berry-Trillwood experiments.

In the March 20th issue of the same journal on page 793, Dr Berry pointed out that Dr Armstrong's cells failed to show significant growth without which 'inhibition' of cell growth would be impossible to demonstrate.

The guns set up by the promotional forces to counter-attack have been hitting their marks on the scientific front as they already had on the political level. Even the most discriminating scientists have become prejudiced by such ingeniously conceived and widely disseminated promotional material as W. T. C. Berry's paper on mongolism, the critiques of Taylor's research and the Horning letter. Concerning myself, the farfetched rumours have been spread from coast to coast and from country to country:

When I was a witness at a court hearing on fluoridation in St Louis on March 17, 1960, I was obliged to produce my Michigan State Board Registration Certificate. Rumour had it that I was not licensed to practice medicine in Michigan.

A British health official, Dr C. L. Sharp, Medical Officer of Health for Bedford, and the Royal Society for the Promotion of Health were forced in open court (221) to retract a statement about me made at a meeting of the Society June 16, 1960, and previously published and circulated. They had claimed that I was opposing fluoridation for financial gain.

A U.S. journal on dietetics which had libelled me was obliged to publish a retraction in its April 1962 issue.

Fortunately, I have remained unperturbed by personal slights of this kind. The conviction that I have already made important contributions to a most confused subject has enabled me to face these onslaughts calmly.

Yet, one cannot help but ask why those promoting fluoridation so eagerly shield the medical profession from valid adverse information. Every new approach in medicine has been subjected to critical examination of its merits and demerits alike. Why do exponents of fluoridation prevent free discussion of this important subject? True scientists invite criticism.

In one of its pamphlets the American Dental Association advises its members: "At no time should the dentist be placed in a position to defend himself." (70) This alone should make people realise that there is much about fluoridation which does not meet the eye.

Addendum: Call and Associates published their data in Public Health Reports, Vol. 80, pages 529-538, June 1965 five years after completion of the study. Their grants were not renewed, according to Dr Call's letter to the author, June 22, 1964. Therefore, the study of ill-effect of airborne fluoride on kidney disease which their research had disclosed was abandoned.

APPENDIX B

A SHORT HISTORY OF THE N.C.I.'S ENDORSEMENT OF FLUORIDATION (1)

- 1951** The N.C.I. (the National Cancer Institute, U.S.A.) first endorsed fluoridation.
- 1952** A number of scientists expressed their opinion to the Delaney Committee of the U.S. Congress that the safety of artificially fluoridated water was not sufficiently demonstrated.
- 1954** Dr A. Taylor of the University of Texas confirms his earlier (1951) observation that mice drinking water containing 1 ppm fluoride had life spans reduced by 9%: 'Dental Digest' 60:170. Results ignored by N.C.I., and not mentioned at New Zealand's Commission of Inquiry in 1956 either.
- 1963** Drs Herskowitz and Norton of St Louis University showed that low levels of fluoride increased tumour incidence in their experimental animals. Results ignored; N.C.I. intensifies its search for a possible cancer 'virus'.
- 1965** Drs Taylor and Taylor of the University of Texas show that 1 ppm of fluoride in the diets of precancerous mice increased tumour growth rate by 13-17%. Again, no action.
- 1974** The National Health Federation (an independent consumer oriented health organisation in the U.S., funded by public subscriptions and donations) begins a study to see if the carcinogenic effects of fluoride observed in animals were large enough to make a statistically significant difference in cancer death rates of human populations involuntarily exposed to artificial fluoridation. Results in the now famous Burk-Yiamouyiannis graph showing a very positive link with human cancer deaths and water containing 1 ppm fluoride.
- March 5 1975** N.C.I. considers a fluoride cancer link and claims that the increased cancer death rate observed in fluoridated areas is due to lung cancer and not fluoride.
- April 8 1976** Dr John Yiamouyiannis points out to a House Sub-committee on H. E. W. Appropriations (from which the N.C.I. gets its \$3-4 billion budget) that the Burk-Yiamouyiannis graph as published contained detailed tables from which the graph was drawn. These tables showed that the increased cancer deaths were due to **non** respiratory cancer and that lung cancer incidence for both areas, fluoridated and non fluoridated were much the same. N.C.I. abandon their lung cancer claim.

- Feb. 6 1976** N.C.I. claim (1) that the increase is totally due to changes in age and race during the observed period. Congressman Delaney asks the N.C.I. to reveal the step-by-step procedure it had used in coming to this conclusion. N.C.I. refused to disclose it.
- April 8 1976** Burk and Yiamouyiannis report to the House Sub-committee that having themselves adjusted for age and race changes they find no difference to the original graph.
- June 18 1976** N.C.I. send their data and procedure (which they refused to disclose to Congress, but is later produced in Court) to Dr Leo Kinlen, Regius Professor of Medicine, Oxford University, with accompanying letter from N.C.I.'s Dr Hoover saying "If there are queries as to how you obtained the data, I would appreciate it if you would indicate that all the raw data is available from routine publications available to anyone."
- June 1977** Article appears in Lancet by Dr Kinlen and Sir Richard Doll "disproving" fluoride cancer link. The N.C.I. figures appear without alteration. The authors claim the data was obtained from "routine publications" and that the article is original work.
- July 1977** Dr Kinlen passes N.C.I.'s erroneous data to Professors Oldham and Newell of the Royal Statistical Society who publish it under their own name in the British journal "Applied Statistics" 26(2): 125-135. Dr Kinlen's return letter to N.C.I.'s Hoover reads, "Because of criticism which the Royal College has received over the question of cancer and fluoride, the Royal Statistical Society has been asked for an independent opinion. Scientifically, this would ordinarily not have been justified, but politically it was felt that our position should be seen as unassailable."
- 1977** N.C.I. send the same erroneous data and methodology to Dr D. R. Taves of the University of Rochester. Again Dr Taves used N.C.I.'s erroneous methodology, and in addition, added an error of his own, according to testimony he gave at the Pittsburgh trial. While this study has been referred to as the "National Academy of Sciences" study or the "University of Rochester" study, it is in fact another U.S. Public Health Service funded study.
- N.C.I. now quotes the Lancet and Oldham and Newell as independent studies confirming their findings of no cancer link.
- Sept. 26 1977** Dr Hoover (N.C.I.) writes to Dr Kinlen (Oxford) "As I am sure you are aware by this time, the National Health Federation has recently found an error in our tabulation of total number of 1970 observed cancer deaths for the non fluoridated cities in our reanalysis of the N.H.F. time-trend study . . . I am sorry for this error, particularly since it seems to have been perpetuated by yourselves and the Royal Statistical Society. I am a bit distressed also that neither you nor the Society checked some of the original numbers."
- April 14 1978** Dr Aly Mohamed, cytogeneticist and professor of biology at the University of Missouri testifies that he has authored 9 scientific papers

revealing that fluoride causes chromosomal (genetic) damage in plants and animals, even with amounts as small as 1 ppm fluoride in their water.

Nov. 16 1978 N.C.I. furious at Court's findings increases public campaign and outpourings that fluoride is not carcinogenic. Repeats the completely false statement that the Burk-Yiamouyiannis findings did not allow for changes in age, race and sex.

May 15 1979 Judge Flaherty is removed (promoted to the Supreme Court) from the Pittsburgh Case before he has had a chance to issue a final injunction prohibiting fluoridation.

July & Aug. 1978 Consumers Union (2) publishes an article attacking Dr Yamouyianis and the National Health Federation. Lists 7 studies which they state have independently found no link between cancer and fluoridation: **1.** Oxford University Study (published by Dr Kinlen); **2.** Royal College of Physicians (again authored by Dr Kinlen); **3.** Centre for Disease Control (U.S.); **4.** National Heart, Lung and Blood Institute; **5.** Doll and Kinlen's Lancet article; **6.** Oldham and Newell's Royal Statistical Society's publication and **7.** the N.C.I. itself. In fact all of these studies have since been shown to have been purposefully contrived to show a no link conclusion. For example concerning the Oxford Report, which New Zealanders would tend to have respect for; Dr Kinlen, the author, admitted under cross examination at the Pittsburgh trial that out of the 3 tables which his study consisted of, the first and third were not really relevant and the middle one, table No. 2, showed a 5% excess cancer incidence in fluoridated over non fluoridated areas. Once the Pittsburgh case becomes public knowledge in New Zealand the "Consumer Reports" article is widely circulated by U.S. Public Health Service (via the National Institute of Dental Research) and the American Dental Association to New Zealand parties supporting fluoridation. Dental students go armed with photocopies of it to heckle Sir Dove-Myer Robinson addressing a public meeting against fluoridation in Dunedin.

Sept 2 1979 The Principal Dental Officer, Department of Health, F. M. Mackenzie writes in the Dunedin Weekender: "The Burk-Yiamouyiannis so-called Fluoridation Cancer Link has been independently examined by seven of the world's leading medical and scientific organisations. These organisation are as follows . . . (the seven organisations are then listed exactly as in the "Consumer Reports" article). "All these studies," he says, "were done in 1976 and 1977 and unanimously refute the claims of any link between fluoridation and cancer. The Department of health fully supports fluoridation as a safe and effective public health measure."

Sept. 1979 National Cancer Week in New Zealand and emphasis is still on cures and early detection rather than prevention. N.C.I. continues its claim that it's making progress in the fight against cancer. This is despite the fact the cancer death rate has gone up continually since the Institute's inception (3).

June 16 1980 Professor Emslie, Dean of Dental Studies at Guys Hospital Medical and Dental School, Chairman of the Board of Studies in Dentistry University of London, noted British expert in the field of Dental Health and prominent advocate of Fluoridation, makes a public apology for having written in the Daily Telegraph that the Burk-Yiamouyannis Cancer Report was "worthless evidence from suspect sources." The daily Telegraph also apologised to Dr Burk, author of over 150 papers on cancer research in a variety of learned journals. However, a speaker on the Dental/Medical panel at a fluoridation meeting in the Riccarton Town Hall, Christchurch, on 11 August 1980, presumably unaware of Professor Emslie's retraction, used the very same words in describing the cancer link.

Notes

1. Most of the material and all of the quotations, unless otherwise referenced, in this Appendix are taken from the transcript of the evidence in Aitkenhead v West View (1978).
2. Consumers Union is a U.S. Consumers Organisation which has for a number of years taken a strong stand in support of fluoridation. Its monthly publication is called "Consumer Reports".
3. From submissions to the U.S. House Sub-committee on H.E.W. Appropriations, 8 April 1976 by the National Health Federation.

APPENDIX C

FLUORIDATED AREAS IN NEW ZEALAND (1)

NORTH ISLAND

Introduced	Population (2)		
1968 Ardmore College and Airport	350	1971 New Plymouth	44,200
1966 Auckland	149,000	1967 Ngaruawahia	4,380
1966 Birkenhead	20,400	1966 Northcote	9,960
1966 Devonport	10,950	1970 Ohawe	200
1974 Eastbourne	4,780	1970 Okaiawa	308
1966 East Coast Bays	24,200	1966 One Tree Hill	11,150
1966 Ellerslie	5,630	1966 Oroua	90
1966 Fielding	11,050	1966 Otahuhu	10,650
1965 Gisborne	29,900	1962 Palmerston North	58,600
1971 Glen Avon/Bell Block	3,000	1971 Papakura	21,900
1966 Glen Eden	8,620	1970 Papakura Army Camp	1,500
1966 Green Bay	3,500	1966 Papatoetoe	23,100
1966 Hamilton	90,300	1965 Pinehaven	3,050
1953 Hastings	35,300	1965 Porirua	43,200
1970 Hawera	8,560	1979 Pukekohe	8,870
1965 Haywards	150	1965 Stokes Valley	5,000
1966 Henderson	7,160	1973 Stratford	5,430
1965 Heretaunga	3,050	1966 Swanson	1,600
1966 Hobsonville RNZAF	1,200	1966 Takapuna	63,200
1966 Howick	14,050	1964 Taumaranui	6,360
1968 Kaitia	4,580	1965 Taupo	13,050
1966 Kelston	7,900	1963 Tauranga	34,100
1959 Lower Hutt	65,000	1965 Tawa	12,400
1966 Manawatu	110	1966 Te Atatu	17,300
1966 Manukau	142,200	1974 Thames	6,840
1974 Masterton	19,600	1966 Titirangi	8,800
1971 Matamata	5,130	1969 Tokoroa	19,150
1966 Mt Albert	28,300	1968 Turangi	5,560
1966 Mt Eden	19,600	1965 Upper Hutt	31,100
1973 Mt Maunganui	10,290	1969 Waikanae	7,000
1966 Mt Roskill	34,800	1965 Wainuiomata	19,650
1966 Mt Wellington	20,600	1979 Waipukurau	7,890
1966 New Lynn	10,550	1965 Wellington	139,200
1966 Newmarket	1,220	1972 Whakatane	10,500
		1966 Whenuapai RNZAF	600
		1965 Whitby	1,000

SOUTH ISLAND

Introduced	Population		
1966 Ashburton	14,350	1975 Hokitika	3,540
1967 Balclutha	4,750	1963 Invercargill	50,000
1968 Benhar	223	1970 Methven	1,000
1963 Bluff	3,000	1967 St Kilda	6,460
1967 Dunedin	82,500	1973 Timaru	29,500
1969 Gore	9,260	1971 Twizel	7,000
1967 Green Island	7,040	1965 Waimairi County	69,400

Notes

- (1) As at July 1979.
- (2) Population estimated as at 31 March 1979.
- (3) Total population receiving fluoridated water 1,745,941
Total population of New Zealand 3,140,400
Percentage of population receiving fluoridated water 55.6%
Note: The population serviced with water from the above listed cities, boroughs, etc. often exceeds the actual population of the city or borough, etc. Therefore the percentage of population receiving fluoride via the water will be a little greater than that calculated.
- (4) This appendix has been compiled from information from the Ministry of Works and Development's Water Supply Statistics 1976, the New Zealand Department of Health and the author's correspondence with some of the local authorities concerned.
1953 is stated as the year of introduction for Hastings (and hence for N.Z.) as per paragraph 381, Report of Commission of Inquiry, 1957.

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7. The Journal has since ceased publishing any doubts, queries or questions regarding the safety of fluoridation.

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7. See for example, article "Dental fluorosis associated with hereditary diabetes insipidus" by Dr. H. Klein in *Oral Surgery*, December 1975 Vol. 40, No. 6. Severe mottling was experienced at only .5 ppm.
8. For instance the 52 cases of allergy to fluoride reported in *Acta Medica Scandinavica*, p. 156-157, 1956. Also most of the books in the bibliography contain information about cases of harm received from fluoridated water.
9. A double blind test is where neither the patient nor the doctor knows what is being administered but only a third party.
10. See correspondence appearing in the British medical Association's Journals of 1964, especially 29 February 1964 and 4 April 1964 where margin of safety is discussed. The outcome is a figure far below what the Health Department claim as safe.

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12. H. Spencer, M.D. and co-workers at the Metabolic Section of the Veterans Administration Hospital in Hines, Illinois.
13. Water Fluoridation (U.S. Dept. of H.E.W., 1970) by F. J. McClure, p. 219.
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GLOSSARY

Acute	immediate, sudden, coming sharply to a crisis.
A.D.A.	American Dental Association.
ALCOA	Aluminium Company of America Ltd.
A.M.A.	American Medical Association.
Carcinogen	a cancer forming substance (noun).
Carcinogenic	Cancer forming (adjective).
Chronic	Recurring, permanent, or long term.
D.D.S.	Doctor of Dental Surgery (U.S.).
D.E.R.	Department of Environmental Resources (U.S.).
Dental Caries	tooth decay.
D.M.F.	decayed, missing or filled teeth—a measure of dental health.
Enzyme	an organic compound which either causes or speeds a biochemical process by catalytic action.
F.D.A.	Food and Drug Administration (U.S.).
Fluoride	any compound of fluorine.
Fluorine	the element, atomic weight 19, a pungent corrosive gaseous element, member of the halogen group.
Fluorosis	Chronic fluoride poisoning.
Health Department	N.Z. Department of Health.
Health Service	U.S. Public Health Service.
H.E.W.	U.S. Department of Health, Education and Welfare.
Ingest	take into body.
Ion	an atom or group of atoms carrying an electric charge.
J	Journal.
N.C.I.	National Cancer Institute (U.S.).
N.I.H.	National Institutes of Health (U.S.).
Ph.D.	Doctor of Philosophy—usually the highest degree in any particular subject.
P.H.S.	U.S. Public Health Service.
ppm	parts per million.
Sodium Fluoride	A substance made by or a by-product of, chemical processes. Does not occur anywhere naturally in water. "Poisonous, soluble crystalline or powder substance consisting of 54.75% sodium and 45.24% fluorine. If sold as household insecticide, must be tinted Nile blue. USES: insecticide, particularly for roaches and ants, electroplating,

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fluxes, frosting glass. MED. USES: to reduce dental caries formerly used in treatment of hyperthyroidism, rheumatoid arthritis and epilepsy. Severe symptoms from ingestion of .25g—.45g, death from 4gms". **Abbreviated from the Merck Index** 1960 Edition p. 951.

Soft Tissues organs of the body other than bones, teeth, hair and nails e.g. the liver, kidneys, etc.

Synergistic the combined activity of agencies such as trace elements, ions etc which may separately influence a process in the same direction but in such a way that the effect produced together is greater than the sum of the effects of each agency acting alone (adjective).

Toxic acting as poison.

U.S. United States of America.

U.S.P.H.S. U.S. Public Health Service.