

Some Early History

It was our intention to write something about the origins of water fluoridation. However, the subject has been admirably covered in Parts 1 through 3 by Joel Griffiths (et al).

Joel covers the story from the Atom Bomb through to the propaganda stage, and ends with a conference held in 1951. We really need say no more beyond this

And so the story begins ...

Atom Bomb

FLUORIDE, TEETH AND THE ATOMIC BOMB

Part 1 of a series on the early history of fluoride, by Joel Griffiths and Chris Bryson

How it all began.

Some fifty years after the United States began adding fluoride to public water supplies to reduce cavities in children's teeth, declassified government documents are shedding new light on the roots of that still-controversial public health measure, revealing a surprising connection between fluoride and the dawning of the nuclear age.

Today, two thirds of U.S. public drinking water is fluoridated. Many municipalities still resist the practice, disbelieving the government's assurances of safety.

Since the days of World War II, when this nation prevailed by building the world's first atomic bomb, U.S. public health leaders have maintained that low doses of fluoride are safe for people, and good for children's teeth.

That safety verdict should now be re-examined in the light of hundreds of once-secret WWII documents obtained by Griffiths and Bryson - including declassified papers of the Manhattan Project, the U.S. military group that built the atomic bomb.

Fluoride was the key chemical in atomic bomb production, according to the documents. Massive quantities of fluoride - millions of tons - were essential for the manufacture of bomb-grade uranium and plutonium for nuclear weapons throughout the Cold War. One of the most toxic chemicals known, fluoride rapidly emerged as the leading chemical health hazard of the U.S atomic bomb program - both for workers and for nearby communities, the documents reveal.

Other revelations include:

- Much of the original proof that fluoride is safe for humans in low doses was generated by A-bomb program scientists, who had been secretly ordered to provide "*evidence useful in litigation*" against defense contractors for fluoride injury to citizens. The first lawsuits against the U.S. A-bomb program were not over radiation, but over fluoride damage, the documents show.

- Human studies were required. Bomb program researchers played a leading role in the design and implementation of the most extensive U.S. study of the health effects of fluoridating public drinking water - conducted in Newburgh, New York from 1945 to 1956. Then, in a classified operation code-named "*Program F*," they secretly gathered and analyzed blood and tissue samples from Newburgh citizens, with the cooperation of State Health Department personnel.
- The original secret version - obtained by these reporters - of a 1948 study published by Program F scientists in the Journal of the American Dental Association shows that evidence of adverse health effects from fluoride was censored by the U.S. Atomic Energy Commission (AEC) - considered the most powerful of Cold War agencies - for reasons of national security.
- The bomb program's fluoride safety studies were conducted at the University of Rochester, site of one of the most notorious human radiation experiments of the Cold War, in which unsuspecting hospital patients were injected with toxic doses of radioactive plutonium. The fluoride studies were conducted with the same ethical mind-set, in which "national security" was paramount.
- The U.S. government's conflict of interest--and its motive to prove fluoride "*safe*" - has not until now been made clear to the general public in the furious debate over water fluoridation since the 1950's, nor to civilian researchers and health professionals, or journalists.

The declassified documents resonate with a growing body of scientific evidence, and a chorus of questions, about the health effects of fluoride in the environment.

Human exposure to fluoride has mushroomed since World War II, due not only to fluoridated water and toothpaste, but to environmental pollution by major industries from aluminum to pesticides: fluoride is a critical industrial chemical.

The impact can be seen, literally, in the smiles of our children. Large numbers of U.S. young people - up to 80 percent in some cities - now have dental fluorosis, the first visible sign of excessive fluoride exposure, according to the U.S. National Research Council. (The signs are whitish flecks or spots, particularly on the front teeth, or dark spots or stripes in more severe cases.)

Less-known to the public is that fluoride also accumulates in bones - "*The teeth are windows to what's happening in the bones*," explains Paul Connett, Professor of Chemistry at St. Lawrence University (N.Y.). In recent years, pediatric bone specialists have expressed alarm about an increase in stress fractures among U.S. young people. Connett and other scientists are concerned that fluoride - linked to bone damage by studies since the 1930's - may be a contributing factor. The declassified documents add urgency: much of the original proof that low-dose fluoride is safe for children's bones came from U.S. bomb program scientists, according to this investigation.

Now, researchers who have reviewed these declassified documents fear that Cold War national security considerations may have prevented objective scientific evaluation of vital public health questions concerning fluoride.

"Information was buried," concludes Dr. Phyllis Mullenix, former head of toxicology at Forsyth Dental Center in Boston, and now a critic of fluoridation. Animal studies Mullenix and co-workers conducted at Forsyth in the early 1990's indicated that fluoride was a powerful central nervous system (CNS) toxin, and might adversely affect human brain functioning, even at low doses. (New epidemiological evidence from China adds support, showing a correlation between low-dose fluoride exposure and diminished I.Q. in children.) Mullenix's results were published in 1995, in a reputable peer-reviewed scientific journal.

During her investigation, Mullenix was astonished to discover there had been virtually no previous U.S. studies of fluoride's effects on the human brain. Then, her application for a grant to continue her CNS research was turned down by the U.S. National Institutes of Health (NIH), where an NIH panel, she says, flatly told her that *"fluoride does not have central nervous system effects."*

Declassified documents of the U.S. atomic-bomb program indicate otherwise. An April 29, 1944 Manhattan Project memo reports: *"Clinical evidence suggests that uranium hexafluoride may have a rather marked central nervous system effect ... it seems most likely that the F [code for fluoride] component rather than the T [code for uranium] is the causative factor."*

The memo - stamped "secret" - is addressed to the head of the Manhattan Project's Medical Section, Colonel Stafford Warren. Colonel Warren is asked to approve a program of animal research on CNS effects: *"Since work with these compounds is essential, it will be necessary to know in advance what mental effects may occur after exposure...This is important not only to protect a given individual, but also to prevent a confused workman from injuring others by improperly performing his duties."*

On the same day, Colonel Warren approved the CNS research program. This was in 1944, at the height of the Second World War and the nation's race to build the world's first atomic bomb. For research on fluoride's CNS effects to be approved at such a momentous time, the supporting evidence set forth in the proposal forwarded along with the memo must have been persuasive.

The proposal, however, is missing from the files of the U.S. National Archives. *"If you find the memos, but the document they refer to is missing, its probably still classified,"* said Charles Reeves, chief librarian at the Atlanta branch of the U.S. National Archives and Records Administration, where the memos were found. Similarly, no results of the Manhattan Project's fluoride CNS research could be found in the files.

After reviewing the memos, Mullenix declared herself *"flabbergasted."* She went on, *"How could I be told by NIH that fluoride has no central nervous system effects when these documents were sitting there all the time?"* She reasons that the Manhattan Project did do fluoride CNS studies - *"that kind of warning, that fluoride workers might be a danger to the bomb program by improperly performing their duties - I can't imagine that would be ignored"* - but that the results were buried because they might create a difficult legal and public relations problem for the government.

The author of the 1944 CNS research proposal was Dr. Harold C. Hodge, at the time chief of fluoride toxicology studies for the University of Rochester division of the Manhattan Project. Nearly fifty years later at the Forsyth Dental Center in Boston, Dr. Mullenix was introduced to a gently ambling elderly man brought in to serve as a consultant on her CNS research - Harold C. Hodge. By then Hodge had achieved status emeritus as a world authority on fluoride safety. *"But even though he was supposed to be helping me,"* says Mullenix, *"he never once mentioned the CNS work he had done for the Manhattan Project."*

The *"black hole"* in fluoride CNS research since the days of the Manhattan Project is unacceptable to Mullenix, who refuses to abandon the issue. *"There is so much fluoride exposure now, and we simply do not know what it is doing,"* she says. *"You can't just walk away from this."*

Dr. Antonio Noronha, an NIH scientific review advisor familiar with Dr. Mullenix's grant request, says her proposal was rejected by a scientific peer-review group. He terms her claim of institutional bias against fluoride CNS research *"farfetched."* He adds, *"We strive very hard at NIH to make sure politics does not enter the picture."*

Fluoride and National Security

The documentary trail begins at the height of WW2, in 1944, when a severe pollution incident occurred downwind of the E.I. du Pont du Nemours Company chemical factory in Deepwater, New Jersey. The factory was then producing millions of pounds of fluoride for the Manhattan project, the ultra-secret U.S. military program racing to produce the world's first atomic bomb.

The farms downwind in Gloucester and Salem counties were famous for their high-quality produce - their peaches went directly to the Waldorf Astoria Hotel in New York. Their tomatoes were bought up by Campbell's Soup.

But in the summer of 1943, the farmers began to report that their crops were blighted, and that *"something is burning up the peach crops around here."*

Poultry died after an all-night thunderstorm, they reported. Farm workers who ate the produce they had picked sometimes vomited all night and into the next day. *"I remember our horses looked sick and were too stiff to work,"* these reporters were told by Mildred Giordano, who was a teenager at the time. Some cows were so crippled they could not stand up, and grazed by crawling on their bellies.<.p>

The account was confirmed in taped interviews, shortly before he died, with Philip Sadtler of Sadtler Laboratories of Philadelphia, one of the nation's oldest chemical consulting firms. Sadtler had personally conducted the initial investigation of the damage.

Although the farmers did not know it, the attention of the Manhattan Project and the federal government was riveted on the New Jersey incident, according to once-secret documents obtained by these reporters. After the war's end, in a secret Manhattan Project memo dated March 1, 1946, the Project's chief of fluoride toxicology studies, Harold C. Hodge, worriedly wrote to his boss Colonel Stafford L. Warren, Chief of the Medical Division, about *"problems associated with the question of fluoride contamination of the atmosphere in a certain section of New Jersey. There seem to be four distinct (though related) problems,"* continued Hodge:

1. "A question of injury of the peach crop in 1944.";
2. "A report of extraordinary fluoride content of vegetables grown in this area.";
3. "A report of abnormally high fluoride content in the blood of human individuals residing in this area.";
4. "A report raising the question of serious poisoning of horses and cattle in this area."

The New Jersey farmers waited until the war was over, then sued du Pont and the Manhattan Project for fluoride damage - reportedly the first lawsuits against the U.S. A-bomb program.

Although seemingly trivial, the lawsuits shook the government, the secret documents reveal. Under the personal direction of Manhattan Project chief Major General Leslie R. Groves, secret meetings were convened in Washington, with compulsory attendance by scores of scientists and officials from the U.S. War Department, the Manhattan Project, the Food and Drug Administration, the Agriculture and Justice Departments, the U.S. Army's Chemical Warfare Service and Edgewood Arsenal, the Bureau of Standards, and du Pont lawyers. Declassified memos of the meetings reveal a secret mobilization of the full forces of the government to defeat the New Jersey farmers:

These agencies *"are making scientific investigations to obtain evidence which may be used to protect the interest of the Government at the trial of the suits brought by owners of peach orchards in ... New Jersey,"* stated Manhattan Project Lieutenant Colonel Cooper B. Rhodes, in a memo c.c.'d to General Groves ...

27 August 1945

Subject: Investigation of Crop Damage at Lower Penns Neck, New Jersey

To: The Commanding General, Army Service Forces, Pentagon Building, Washington D.C.

"At the request of the Secretary of War the Department of Agriculture has agreed to cooperate in investigating complaints of crop damage attributed... to fumes from a plant operated in connection with the Manhattan Project."

Signed, L.R. Groves, Major General U.S.A

"The Department of Justice is cooperating in the defense of these suits," wrote General Groves in a Feb. 28, 1946 memo to the Chairman of the U.S. Senate Special Committee on Atomic Energy.

Why the national-security emergency over a few lawsuits by New Jersey farmers? In 1946 the United States had begun full-scale production of atomic bombs. No other nation had yet tested a nuclear weapon, and the A-bomb was seen as crucial for U.S leadership of the postwar world. The New Jersey fluoride lawsuits were a serious roadblock to that strategy.

"The specter of endless lawsuits haunted the military," writes Lansing Lamont in his acclaimed book about the first atomic bomb test, *"Day of Trinity."*

In the case of fluoride, *"If the farmers won, it would open the door to further suits, which might impede the bomb program's ability to use fluoride,"* said Jacqueline Kittrell, a Tennessee public interest lawyer specializing in nuclear cases, who examined the declassified fluoride documents. (Kittrell has represented plaintiffs in several human radiation experiment cases.) She added, *"The reports of human injury were especially threatening, because of the potential for enormous settlements - not to mention the PR problem."*

Indeed, du Pont was particularly concerned about the *"possible psychologic reaction"* to the New Jersey pollution incident, according to a secret 1946 Manhattan Project memo. Facing a threat from the Food and Drug Administration (FDA) to embargo the region's produce because of *"high fluoride content,"* du Pont dispatched its lawyers to the FDA offices in Washington, where an agitated meeting ensued. According to a memo sent next day to General Groves, Du Pont's lawyer argued *"that in view of the pending suits...any action by the Food and Drug Administration... would have a serious effect on the du Pont Company and would create a bad public relations situation."* After the meeting adjourned, Manhattan Project Captain John Davies approached the FDA's Food Division chief and *"impressed upon Dr. White the substantial interest which the Government had in claims which might arise as a result of action which might be taken by the Food and Drug Administration."*

There was no embargo. Instead, new tests for fluoride in the New Jersey area would be conducted - not by the Department of Agriculture - but by the U.S. Army's Chemical Warfare Service because *"work done by the Chemical Warfare Service would carry the greatest weight as evidence if ... lawsuits are started by the complainants."* The memo was signed by General Groves.

Meanwhile, the public relations problem remained unresolved - local citizens were in a panic about fluoride.

The farmer's spokesman, Willard B. Kille, was personally invited to dine with General Groves - then known as *"the man who built the atomic bomb"* - at his office at the War Department on March 26, 1946. Although he had been diagnosed with fluoride poisoning by his doctor, Kille departed the luncheon convinced of the government's good faith. The next day he wrote to the general, wishing the other farmers could have been present, he said, so *"they too could come away with the feeling that their interests in this particular matter were being safeguarded by men of the very highest type whose integrity they could not question."*

In a subsequent secret Manhattan project memo, a broader solution to the public relations problem was suggested by chief fluoride toxicologist Harold C. Hodge. He wrote to the Medical Section chief, Col. Warren: *"Would there be any use in making attempts to counteract the local fear of fluoride on the part of residents of Salem and Gloucester counties through lectures on F toxicology and perhaps the usefulness of F in tooth health?"* Such lectures were indeed given, not only to New Jersey citizens but to the rest of the nation throughout the Cold War.

The New Jersey farmers' lawsuits were ultimately stymied by the government's refusal to reveal the key piece of information that would have settled the case - how much fluoride du Pont had vented into the atmosphere during the war. *"Disclosure... would be injurious to the military security of the United States,"* wrote Manhattan Project Major C.A. Taney, Jr. The farmers were pacified with token financial settlements, according to interviews with descendants still living in the area.

"All we knew is that du Pont released some chemical that burned up all the peach trees around here," recalls Angelo Giordano, whose father James was one of the original plaintiffs. *"The trees were no good after that, so we had to give up on the peaches."* Their horses and cows, too, acted stiff and walked stiff, recalls his sister Mildred. *"Could any of that have been the fluoride?"* she asked. (The symptoms she detailed to the authors are cardinal signs of fluoride toxicity, according to veterinary toxicologists.)

The Giordano family, too, has been plagued by bone and joint problems, Mildred adds. Recalling the settlement received by the Giordanos, Angelo told these reporters that *"my father said he got about \$200."*

The farmers were stonewalled in their search for information, and their complaints have long since been forgotten. But they unknowingly left their imprint on history - their claims of injury to their health reverberated through the corridors of power in Washington, and triggered intensive secret bomb-program research on the health effects of fluoride. A secret 1945 memo from Manhattan Project Lt. Col. Rhodes to General Groves stated: *"Because of complaints that animals and humans have been injured by hydrogen fluoride fumes in [the New Jersey] area, although there are no pending suits involving such claims, the University of Rochester is conducting experiments to determine the toxic effect of fluoride."*

Much of the proof of fluoride's safety in low doses rests on the postwar work performed by the University of Rochester, in anticipation of lawsuits against the bomb program for human injury.

Fluoride and the Cold War.

Delegating fluoride safety studies to the University of Rochester was not surprising. During WWII the federal government had become involved, for the first time, in large-scale funding of scientific research at government-owned labs and private colleges. Those early spending priorities were shaped by the nation's often-secret military needs.

The prestigious upstate New York college, in particular, had housed a key wartime division of the Manhattan Project, studying the health effects of the new "*special materials*," such as uranium, plutonium, beryllium and fluoride, being used to make the atomic bomb. That work continued after the war, with millions of dollars flowing from the Manhattan Project and its successor organization, the Atomic Energy Commission (AEC). (Indeed, the bomb left an indelible imprint on all U.S. science in the late 1940's and 50's. Up to 90% of federal funds for university research came from either the Defense Department or the AEC in this period, according to Noam Chomsky's 1996 book "*The Cold War and the University*.")

The University of Rochester medical school became a revolving door for senior bomb program scientists. Postwar faculty included Stafford Warren, the top medical officer of the Manhattan Project, and Harold Hodge, chief of fluoride research for the bomb program.

But this marriage of military secrecy and medical science bore deformed offspring. The University of Rochester's classified fluoride studies - code-named Program F - were conducted at its Atomic Energy Project (AEP), a top-secret facility funded by the AEC and housed in Strong Memorial Hospital. It was there that one of the most notorious human radiation experiments of the Cold War took place, in which unsuspecting hospital patients were injected with toxic doses of radioactive plutonium. Revelation of this experiment in a Pulitzer prize-winning account by Eileen Welsome led to a 1995 U.S. Presidential investigation, and a multimillion-dollar cash settlement for victims. (Read Eileen Welsome's account of the [U. of Rochester's Medical Experimentation](#))

Program F was not about children's teeth. It grew directly out of litigation against the bomb program and its main purpose was to furnish scientific ammunition which the government and its nuclear contractors could use to defeat lawsuits for human injury. Program F's director was none other than Harold C. Hodge, who had led the Manhattan Project investigation of alleged human injury in the New Jersey fluoride-pollution incident.

Program F's purpose is spelled out in a classified 1948 report. It reads: "*To supply evidence useful in the litigation arising from an alleged loss of a fruit crop several years ago, a number of problems have been opened. Since excessive blood fluoride levels were reported in human residents of the same area, our principal effort has been devoted to describing the relationship of blood fluorides to toxic effects.*"

The litigation referred to, of course, and the claims of human injury were against the bomb program and its contractors. Thus, the purpose of Program F was to obtain evidence useful in litigation against the bomb program. The research was being conducted by the defendants.

The potential conflict of interest is clear. If lower dose ranges were found hazardous by Program F, it might have opened the bomb program and its contractors to lawsuits for injury to human health, as well as public outcry.

Comments lawyer Kittrell: "*This and other documents indicate that the University of Rochester's fluoride research grew out of the New Jersey lawsuits and was performed in anticipation of lawsuits against the bomb program for human injury. Studies undertaken for litigation purposes by the defendants would not be considered scientifically acceptable today,*" adds Kittrell, "*because of their inherent bias to prove the chemical safe.*"

Unfortunately, much of the proof of fluoride's safety rests on the work performed by Program F Scientists at the University of Rochester. During the postwar period that university emerged as the leading academic center for establishing the safety of fluoride, as well as its effectiveness in reducing tooth decay, according to Dental School spokesperson William H. Bowen, MD. The key figure in this research, Bowen said, was Harold C. Hodge - who also became a leading national proponent of fluoridating public drinking water. Program F's interest in water fluoridation was not just 'to counteract the local fear of fluoride on the part of residents,' as Hodge had earlier written. The bomb program needed human studies, as they had needed human studies for plutonium, and adding fluoride to public water supplies provided one opportunity.

The A-Bomb Program and Water Fluoridation

Bomb-program scientists played a prominent - if unpublicized - role in the nation's first-planned water fluoridation experiment, in Newburgh, New York. The Newburgh Demonstration Project is considered the most extensive study of the health effects of fluoridation, supplying much of the evidence that low doses are safe for children's bones, and good for their teeth.

Planning began in 1943 with the appointment of a special New York State Health Department committee to study the advisability of adding fluoride to Newburgh's drinking water. The chairman of the committee was Dr. Hodge, then chief of fluoride toxicity studies for the Manhattan Project.

Subsequent members included Henry L. Barnett, a captain in the Project's Medical section, and John W. Fertig, in 1944 with the office of Scientific Research and Development, the Pentagon group which sired the Manhattan Project. Their military affiliations were kept secret: Hodge was described as a pharmacologist, Barnett as a pediatrician. Placed in charge of the Newburgh project was David B. Ast, chief dental officer of the State Health Department. Ast had participated in a key secret wartime conference on fluoride held by the Manhattan Project, and later worked with Dr. Hodge on the Project's investigation of human injury in the New Jersey incident, according to once-secret memos.

The committee recommended that Newburgh be fluoridated. It also selected the types of medical studies to be done, and *"provided expert guidance"* for the duration of the experiment. The key question to be answered was: *"Are there any cumulative effects - beneficial or otherwise, on tissues and organs other than the teeth - of long-continued ingestion of such small concentrations ...?"* According to the declassified documents, this was also key information sought by the bomb program, which would require long-continued exposure of workers and communities to fluoride throughout the Cold War.

In May 1945, Newburgh's water was fluoridated, and over the next ten years its residents were studied by the State Health Department. In tandem, Program F conducted its own secret studies, focusing on the amounts of fluoride Newburgh citizens retained in their blood and tissues - key information sought by the bomb program: *"Possible toxic effects of fluoride were in the forefront of consideration,"* the advisory committee stated. Health Department personnel cooperated, shipping blood and placenta samples to the Program F team at the University of Rochester. The samples were collected by Dr. David B. Overton, the Department's chief of pediatric studies at Newburgh.

The final report of the Newburgh Demonstration Project, published in 1956 in the Journal of the American Dental Association, concluded that "*small concentrations*" of fluoride were safe for U.S. citizens. The biological proof - "*based on work performed ... at the University of Rochester Atomic Energy Project*" - was delivered by Dr. Hodge.

Today, news that scientists from the atomic bomb program secretly shaped and guided the Newburgh fluoridation experiment, and studied the citizen's blood and tissue samples, is greeted with incredulity.

"*I'm shocked -- beyond words,*" said present-day Newburgh Mayor Audrey Carey, commenting on these reporters' findings. "*It reminds me of the Tuskegee experiment that was done on syphilis patients down in Alabama.*"

As a child in the early 1950's, Mayor Carey was taken to the old firehouse on Broadway in Newburgh, which housed the Public Health Clinic. There, doctors from the Newburgh fluoridation project studied her teeth, and a peculiar fusion of two finger bones on her left hand she had been born with. Today, adds Carey, her granddaughter has white dental-fluorosis marks on her front teeth.

Mayor Carey wants answers from the government about the secret history of fluoride, and the Newburgh fluoridation experiment. "*I absolutely want to pursue it,*" she said. "*It is appalling to do any kind of experimentation and study without people's knowledge and permission.*"

Contacted by these reporters, the director of the Newburgh experiment, David B. Ast, says he was unaware Manhattan Project scientists were involved. "*If I had known, I would have been certainly investigating why, and what the connection was,*" he said. Did he know that blood and placenta samples from Newburgh were being sent to bomb program researchers at the University of Rochester? "*I was not aware of it,*" Ast replied. Did he recall participating in the Manhattan Project's secret wartime conference on fluoride in January 1944, or going to New Jersey with Dr. Hodge to investigate human injury in the du Pont case - as secret memos state? He told the reporters he had no recollection of these events.

A spokesperson for the University of Rochester Medical Center, Bob Loeb, confirmed that blood and tissue samples from Newburgh had been tested by the University's Dr. Hodge. On the ethics of secretly studying U.S. citizens to obtain information useful in litigation against the A-bomb program, he said, "*that's a question we cannot answer.*" He referred inquiries to the U.S. Department of Energy (DOE), successor to the Atomic Energy Commission.

A spokesperson for the DOE in Washington, Jayne Brady, confirmed that a review of DOE files indicated that a "*significant reason*" for fluoride experiments conducted at the University of Rochester after the war was "*impending litigation between the du Pont company and residents of New Jersey areas.*" However, she added, "*DOE has found no documents to indicate that fluoride research was done to protect the Manhattan Project or its contractors from lawsuits.*"

On Manhattan Project involvement in Newburgh, the spokesperson stated, "*Nothing that we have suggests that the DOE or predecessor agencies - especially the Manhattan Project - authorized fluoride experiments to be performed on children in the 1940's.*"

When told that the reporters had several documents that directly tied the Manhattan Project's successor agency at the University of Rochester, the AEP, to the Newburgh experiment, the DOE spokesperson later conceded her study was confined to *"the available universe"* of documents. Two days later spokesperson Jayne Brady faxed a statement for clarification: *"My search only involved the documents that we collected as part of our human radiation experiments project - fluoride was not part of our research effort."*

"Most significantly," the statement continued, relevant documents may be in a classified collection at the DOE Oak Ridge National Laboratory known as the Records Holding Task Group. *"This collection consists entirely of classified documents removed from other files for the purpose of classified document accountability many years ago,"* and was *"a rich source of documents for the human radiation experiments project,"* she said.

The crucial question arising from this investigation is: Were adverse health findings from Newburgh and other bomb-program fluoride studies suppressed? All AEC-funded studies had to be declassified before publication in civilian medical and dental journals. Where are the original classified versions?

The transcript of one of the major secret scientific conferences of WW2 - on *"fluoride metabolism"* - is missing from the files of the U.S. National Archives. Participants in the conference included key figures who promoted the safety of fluoride and water fluoridation to the public after the war - Harold Hodge of the Manhattan Project, David B. Ast of the Newburgh Project, and U.S. Public Health Service dentist H. Trendley Dean, popularly known as the *"father of fluoridation."* *"If it is missing from the files, it is probably still classified,"* National Archives librarians told these reporters.

A 1944 WW2 Manhattan Project classified report on water fluoridation is missing from the files of the University of Rochester Atomic Energy Project, the U.S. National Archives, and the Nuclear Repository at the University of Tennessee, Knoxville. The next four numerically consecutive documents are also missing, while the remainder of the *"MP-1500 series"* is present. *"Either those documents are still classified, or they've been 'disappeared' by the government,"* says Clifford Honicker, Executive Director of the American Environmental Health Studies Project, in Knoxville, Tennessee, which provided key evidence in the public exposure and prosecution of U.S. human radiation experiments.

Seven pages have been cut out of a 1947 Rochester bomb-project notebook entitled *"Du Pont litigation."* *"Most unusual,"* commented chief medical school archivist Chris Hoolihan.

Similarly, Freedom of Information Act (FOIA) requests by these authors over a year ago with the DOE for hundreds of classified fluoride reports have failed to dislodge any. *"We're behind,"* explained Amy Rothrock, FOIA officer for the Department of Energy at their Oak Ridge operations.

Was information suppressed? These reporters made what appears to be the first discovery of the original classified version of a fluoride safety study by bomb program scientists. A censored version of this study was later published in the August 1948 Journal of the American Dental Association. Comparison of the secret with the published version indicates that the U.S. AEC did censor damaging information on fluoride, to the point of tragicomedy.

This was a study of the dental and physical health of workers in a factory producing fluoride for the A-bomb program, conducted by a team of dentists from the Manhattan Project:

- The secret version reports that most of the men had no teeth left. The published version reports only that the men had fewer cavities.
- The secret version says the men had to wear rubber boots because the fluoride fumes disintegrated the nails in their shoes. The published version does not mention this.
- The secret version says the fluoride may have acted similarly on the men's teeth, contributing to their toothlessness. The published version omits this statement.

The published version concludes that *"the men were unusually healthy, judged from both a medical and dental point of view."*

Asked for comment on the early links of the Manhattan Project to water fluoridation, Dr Harold Slavkin, Director of the National Institute for Dental Research, the U.S. agency which today funds fluoride research, said, *"I wasn't aware of any input from the Atomic Energy Commission."* Nevertheless, he insisted, fluoride's efficacy and safety in the prevention of dental cavities over the last fifty years is well-proved. *"The motivation of a scientist is often different from the outcome,"* he reflected. *"I do not hold a prejudice about where the knowledge comes from."*

After comparing the secret and published versions of the censored study, toxicologist Phyllis Mullenix commented, *"This makes me ashamed to be a scientist."* Of other Cold War-era fluoride safety studies, she asks, *"Were they all done like this?"*

About the authors:

Archival research by Clifford Honicker.

Joel Griffiths is a medical writer in New York City, author of a book on radiation hazards and numerous articles for medical and popular publications.

Chris Bryson holds a Masters degree from the Columbia University Graduate School of Journalism, and has worked for the British Broadcasting Corporation, The Manchester Guardian, The Christian Science Monitor and Public Television.
