

Book Review: Kieler Amalgam Gutachten

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Review and all translated quotations by Birgit Calhoun

My interest in mercury did not stem from an environmental interest. I was more interested in the high incidence of (1) depression that can't be explained solely by referring to the stresses of the modern world and (2) of anger-related crimes that seem to be arising from motivations too trivial to warrant violent reactions (e.g. shootings at schools).

I use the Internet to find answers to all my questions. So I typed, "depression, irritability, anger" into the Google question box. The answers from Google came in the form of hundreds of links suggesting "mercury from dental amalgam" to be the culprit. The unexpected nature of the answer intrigued me. I realized that there is an extremely large number of people with amalgam fillings in their teeth. Could it be that the small quantity of mercury from fillings causes a toxic reaction? Without losing sight of my original subject I started researching what there was to find about mercury and its toxic aspects.

Because the Internet is transient by nature I also looked for non-internet published research that could confirm what I had learned on the Internet. It turns out that the American Dental Association has never seen the need to investigate one of its most cherished substances. For reasons beyond the scope of this Book Review the FDA has never had to go through the process of investigating and approving amalgam. The reasons are partly historical and partly stem from the greed of amalgam manufacturers and the fear that maybe mercury is not as harmless as has been purported for over 150 years. I finally found The "Kieler Amalgam Gutachten 1997 - Medizinische insbesondere toxikologische Feststellungen im Zusammenhang mit einer rechtlichen Beurteilung der Herstellung und des Vertriebs von Amalgam als Material fuer Zahnfuellungen." German laws are not the same as U. S. laws. But it turns out that the situation there is very similar to our situation here in the United States.

The Institut fuer Toxikologie im Klinikum der Christian-Albrechts-Universitaet zu Kiel was commissioned by a German governmental agency to write this expert opinion as a response to the increasing numbers of complaints it had received questioning the safety of dental amalgam. The report investigates medical, and in particular, toxicological aspects of dental amalgam and, in view of those findings, attempts a legal assessment of the manufacture and distribution (sale) of amalgam as a material for dental fillings. This report deals with the German situation in 1997.

All through the years, since about 1850 already, people have warned against the use of amalgam as a means for dental restoration because its main component is mercury, a metal, which is considered to be the most toxic of non-radioactive heavy metals.

For this comprehensive report Prof. Dr. O. Wassermann, M. Weitz, Priv. Dozent Dr. C. Alsen-Hinrichs and Dr. Sybille Mai gathered information and assessed pertinent literature and studies dealing with the dangers of dental amalgam. Over 400 documents and studies are referenced in this report, including approximately 140 in English.

Over the years dental amalgam has changed somewhat in its composition. Where nowadays the mercury content in a "silver" filling is about 53% and the silver content about 30%, the remainder being divided between copper, tin, zinc and sometimes traces of cadmium, amalgams used - until at least 1985 in Germany

- to contain 64% mercury, 35% copper and small amounts of tin and zinc. Copper amalgam was recommended particularly for baby teeth, presumably because it was easier to use. But regardless of the amount of the other metals contained in the mixture, the issue is mercury. All through the 150 years of amalgam use, and in spite of all the warnings of its toxicity amalgam manufacturers and dental associations have remained in a state of denial about the real nature of amalgam. The main reason why amalgam is used is because it is easy to use and it is cheap.

The "boulevard press and journals of dental medicine in general maintain that there are 'keine toxisch bedingten Auswirkungen des Amalgams (no toxics-dependent effects from amalgam).'" The investigation by *Wassermann et al.* goes into amply referenced details about what amalgam is, that it is toxic, and the likelihood that mercury is constantly being released from amalgam. It discusses at great length how it is possible for the mercury to be released and how the presence of other metals (as are found in gold crowns) can exacerbate the deleterious effects of mercury from amalgam.

The report points out, supported again by a multitude of studies, that amalgam contributes more mercury to the human organism than all other sources from the environment (food, water, air) combined. I deduce from that statement that, if mercury indeed is bad for pregnant mothers and their fetuses, as the recent warnings about eating fish have indicated, that, yes, pregnant women should avoid certain fish because they contain more mercury than desirable. But even before thinking about fish, they should think about avoiding amalgams in their teeth before becoming pregnant. In a section dealing with birth defects, the report discusses one French study having to do with miscarriages:

... Wives of Hg-exposed workers (n = 152) in the Chlorine-Alkali Industry had, in a French study (Cordier et al.), a noticeably higher number of miscarriages in comparison with wives of non-Hg-exposed workers ((n = 374). The rate of miscarriages rose with the Hg content in the urine of the husbands [measured] before impregnation. The authors name as reason for this correlation a "direct action of mercury on the paternal reproductive system and indirect toxicity to the mother or embryo through the father." In the group of workers with over 50 microns Hg/l urine the rate of miscarriages doubled in their wives in comparison to that of miscarriages in wives of the collective total (8.9 %) to 18.4 %. (p.18)

This report names the following symptoms of low grade mercury poisoning from Hg vapor:

Damage to the nervous system, inflammation to the mouth, possible kidney manifestations (glomerular damage to the kidney in the sense that there is a greater excretion of long chain proteins), headaches, dizziness, nervousness, lack of awareness, fine motor tremors in the hands, later also the eye-lids and tongue, distorted writing, increased saliva flow, metallic taste, ulcers of the gums, lacquer-red coloring of the entrance to the throat, blue-violet seam at the gums, irritability, explosive behavior, sleeplessness, depression, hyperthyroidism, amyotrophic lateral sclerosis [Lou Gehrig's disease], encephalopathy, dizziness, deafness, Atkinson-reflex (dark brown color reflex of the anterior lens capsule), loss of self-control, lack of appetite, loss of weight, distrustfulness, shyness, hair-loss (p.16aa).

Do some of these symptoms lead to an increase in those violent, poorly-motivated action I was looking for? Further down on the same page the report quotes from a paragraph about mercury poisoning (Handbuch der gesamten Arbeitsmedizin [Complete Handbook of Worker Medicine], Bd. II, 1. Teilband, Urban & Schwarzenberg, Berlin, 1961, p. 158-176):

...It can lead to real outbursts of temper. Simply watching him work can induce helpless insecurity in the worker, while just a little bit of criticism is already capable of causing unbridled states of agitation. Diminishment of awareness, memory lapses and a feeling of intellectual insufficiency with shyness (relating to people) complete the picture. The physician would do well to always find unmotivated, psychical behavior of workers indicative of chronic mercury damage. These character changes are often misjudged by the uninitiated. The patients are thought of as neurasthenics, hysterics, schizophrenics, etc. Non-physicians believe it is deliberate rudeness and contrariness....

The scientific community is loath to say that the mercury from amalgam can cause the same kinds of symptoms that have been known to arise from clearly defined toxic events in Iraq and Japan making it easier to ignore rather than confront this difficult subject. Subclinical symptoms can, instead, be suppressed or brushed aside by attributing them to "just nerves."

Amalgam manufacturers then use to their advantage the fact that dental schools and associations alike state that:

Scientifically accepted testing procedures [correlating mercury amalgam to specific symptoms] do not exist as yet.

However, after being pressed, the German Association for Tooth, Mouth and Jaw Medicine (Deutsche Gesellschaft fuer Zahn-, Mund- und Kieferheilkunde, DGZMK) conceded that one couldn't assume that damage from mercury in amalgams does not exist just because there is no as yet acceptable scientific proof of its existence.

The report also deals with the legal ramifications for amalgam manufacturers. It repeats again and again that through the years, starting in 1926 with Alfred Stock who wrote and lectured about mercury amalgam, manufacturers should have known what hundreds of researchers have stated since then - backed up by well-thought out studies - that mercury escapes from amalgam fillings in the form of vapors and winds up in the human body, in the kidneys, the brain, the lungs, the liver and the heart.

Having read some of the references, specifically Alfred Stock's writings, I found the research in this document well documented and based on sound principles.

The amalgam manufacturers apparently found this report convincing enough to threaten the German governmental agency, which had asked for this report, with a lawsuit thus effectively preventing its publication. The report has been widely distributed in spite of the fact that it was not published. Its first edition appeared in 1995. The report is now in its second printing. Note: The only amalgam manufacturer, Degussa, mentioned in this report by name, is currently not manufacturing amalgam any longer.

Link to Dental Amalgam and Mercury Page: <http://www.stanford.edu/~bcalhoun/amalgam.htm>