



Chapter Review: *Industrial-Strength Denial* Chapter on Leaded Gasoline

Book: Industrial-Strength Denial: Eight Stories of Corporations Defending the Indefensible, from the Slave Trade to Climate Change

Book written by Barbara Freese; Chapter 4 reviewed by Theresa Gordon, Member of The LEAD Group's Technical Advisory Board

Chapter 4 "How Wrong One Can Be" Bias, Tribalism, and Leaded Gasoline.

For those of us that understand the health and environmental damage caused by lead, the sorry tale in Chapter 4 of this book is especially confronting.

In 1921, when tetraethyl lead (TEL) was put forward by Thomas Midgley as the answer to stopping the annoying knocking in motor car engines, the dangers of lead were well known. To quote the book, *"In the 1920s, lead was perhaps the world's single most well-recognized, indeed conspicuous, occupational and environmental toxin"*.

So what went wrong? At the suggestion of lead being added to petrol, appropriate bureaucratic protective measures using the science were convened to prevent a possible public health threat. However, Barbara Freese explains how these protective processes failed miserably against economic pressures, vested interests, scientific bias and tribal type industry attacks on any scientists offering an anti-lead perspective.

Indeed, alerts from the US Surgeon General, together with Midgley's own acute lead poisoning from TEL and multiple deaths and incidences of TEL workers going horribly and violently insane, were not enough to stop the reckless use of this toxin. Fighting negative press, the Industry embarked on a campaign of denial, reframing themselves as an industry serving the greater good. There appeared to be no limits to the absurdity of the industry's claims. Media questions about the incidence of TEL workers suffering insanity were met with an industry statement that the workers *"probably went insane because they worked too hard"*. Charles Kettering, Midgley's boss, was often quoted as saying *"the price of progress is trouble, and I don't think the price is too high"*. The book uncovers years of industry sponsored research denying lead as a hazard. Between 1920 and 1960 virtually all research into lead's effect on the human body was conducted at the Kettering Laboratories. Research was conducted by those who least wanted to find the harm.

On a brighter note, we are introduced to an anti-lead hero. In the late 1940's and early 1950s a geochemist named Clair Patterson, challenged the TEL industry's consistent reassuring perspective on lead. Patterson became the nemesis of a popular young physician named Robert Kehoe who assured critics that the industry would stop selling TEL, if the facts showed TEL as an actual hazard. Despite the petroleum industry offering Patterson bribes not to publish and then threats to block his funding, Patterson published his research showing a dramatic rise in lead contamination to the



environment. He concluded the source of lead was probably petrol. In 1965, pushing through the constant threats and intimidation Patterson presented findings that Americans probably had one hundred times (later changed to six hundred times) more lead in their bodies than prehistoric humans. Attacks on Patterson's credibility increased but he persevered and his work can be credited with starting to turn the tide on the wanton use of lead. Over the years Patterson's research continued to gather damning evidence against lead and its threat to human health. He continued to challenge the industry's assertions and argued that Americans were "*being subjected to severe chronic lead insult*".

In 1970 GM announced its intention to introduce the catalytic converter which needs unleaded petrol to function. This together with America's new Clean Air Act was the beginning of the end of leaded petrol in the US. Sadly, I must point out that leaded petrol was not fully phased out in Australia until 2002; an impressive achievement of The LEAD Group as the main driving force behind this major public health and environmental improvement.

Over the years the industry continued to attempt to confuse the science on lead, even trying at one point to produce a study that claimed lead was actually an essential micronutrient (only debunked by a US EPA panel of experts in 1983). In the mid 1980s the lead industry focused on character assassination and manufacturing uncertainty about emerging scientific consensus. The main target of their attacks was the paediatrician Herbert Needleman, a man well known to those of us concerned about lead. Needleman was a pioneer in the discovery of the effects on children of low levels of lead. Not only were Needleman's findings attacked but they accused him of professional misconduct.

An unfathomable revelation in the book is that Algeria is the last country in the world to continue the use of TEL in petrol, with production scheduled to cease in 2020. How has this been justified and allowed for so long?

It's also disconcerting to read that Midgely and GM had successfully experimented with ethanol in 1920 but ethanol couldn't be patented and therefore didn't offer the revenue stream promised by TEL. The book leaves us to ponder the resulting lead burden to the public at large, and asks, "*what sort of people might we have been if we had all developed to our full potential and been a little smarter, more attentive, less anxious, and less impulsive than we have been*". What a sobering thought to end on.



Volcano Art Prize (VAP) 2020 Entrant: Theresa Gordon

Title: Lighter and lighter. Losing the lead weight. Lead-Safety Message: This is my feeling about what the LEAD Group has done for generations of Australian children.

Description of Work: "Balloons Spring Nature" Watercolour by Silvio Z from <https://pixabay.com/illustrations/balloons-spring-nature-watercolour-1615032/>

URL: <https://volcanoartprize.com/portfolio-item/lighter-and-lighter-losing-the-lead-weight/>