

How Natural Variations Became Environmental Crises: The Word Game

By Frank Schnell — February 16, 2016



In [How Natural Variations Became Environmental Crises: The](#)

[Numbers Racket](#) [1], we looked at how officially safe levels of exposure gradually went from conservative, to ultra-conservative, to completely ridiculous.

Even before the manipulation of *numbers* became commonplace, the manipulation of *words* was a major tool in promoting fear about science and keeping it alive. Simple words in common usage, like risk, known, similar and equivalent were given esoteric, colloquial meanings that bore little resemblance to their definitions in Webster's Dictionary and of which the general public was completely unaware..

Thus, unbeknownst to the average citizen, EPA's so-called *quantitative* cancer risk assessments have *never* assessed the *true* risk of potentially carcinogenic exposures. In EPA's 1986 Risk Assessment Guidelines, the following, uncharacteristically honest, and seldom quoted (except by me) statement was made: The *true* risk is unknown and may be as low as zero. Obviously, if the true risk is unknown, then the risk that is supposedly *quantified* in EPA risk assessments is *not* the true risk.

Throughout my career as an ATSDR toxicologist, I routinely quoted the zero true risk statement in all of my toxicological evaluations for health assessments that addressed potential cancer hazards on site. And, it never failed to irritate agency management and even some of my colleagues.

The Word Game:

Originally, EPA classified chemicals as known, probable or possible carcinogens. These classifications were strictly defined. In particular, a substance could be classified as a known Human Carcinogen *only* if sufficient epidemiological evidence existed to establish a cause-and-effect relationship between cancer and exposure to that substance. However, in 1996 (the date of the first draft), EPA rewrote its Cancer Risk Assessment Guidelines (CRAGs) to allow it to classify substances as known human carcinogens in the *absence* of any epidemiological evidence of a cause-and-effect relationship.

The *final* draft of EPA's new CRAGs was not actually published until 2005, but, 5 years earlier (2000), dioxin (2, 3, 7, 8-tetrachlorodibenzodioxin) became the first chemical to which the new CRAGs were applied, resulting in that chemical's re-classification as a known human carcinogen.

On November 28, 2006, late in my career as an ATSDR toxicologist, I delivered an in-house lecture entitled Frank's Last Word on Dioxin to a very small audience. I concluded my lecture by predicting that the next bogus human carcinogen would be trichloroethylene. Just 5 years later (September 2011), TCE was, indeed, declared by EPA to be a known human carcinogen, notwithstanding all of the epidemiological data to the contrary.

Strictly speaking, my prediction was off by 4 months, because *inhaled* formaldehyde was also reclassified as a known human carcinogen in June of 2011, in the wake of the toxic trailers scare after Hurricane Katrina.

None of these 3 chemicals (dioxin, TCE and formaldehyde) is actually known to cause cancer in humans, because there is no epidemiological evidence of a cause-and-effect relationship. Nevertheless, ever since EPA redefined the word known to mean whatever the Agency wants it to mean, evidence of a cause-and-effect relationship has become unnecessary.

During the run up to the esoteric re-definition of dioxin as a known human carcinogen, EPA was fond of stating that human cancer patients who had been exposed to dioxin had similar concentrations of dioxin in their tissues as did lab rats that developed cancer after chronic treatment with dioxin. However, what they *didn't* acknowledge was that their in-house definition of the word similar was *within a factor of ten*.

By that definition, 10 and 99 aspirin tablets would represent similar doses of acetylsalicylic acid. Except that 10 tablets would upset your stomach, while 99 would most likely *kill* you.

The general public does not know that, when EPA uses *non-technical* words like similar, and risk (as in carcinogenic risk), and known (as in the known human carcinogen, dioxin) and equivalent (as in human equivalent concentration), those terms have been redefined in house, *without* the public's knowledge, with esoteric meanings that bear little or no resemblance to those same words as they are defined in Webster's Dictionary. If you think that such shenanigans are *not* tantamount to *lying* to the general public, then I have some swamp land in Florida I'd like to sell you.

From Effects, to Exposure, to Concern:

If one decides that even *lower* funny numbers are required to keep the fear alive, then it becomes necessary to abandon altogether the concept of adverse health effects caused by chemical exposures, and replace it with something more subtle. Thus, toward the end of my career at

ATSDR, health effects were seldom even mentioned, as such. The focus on levels of effect had been replaced by a focus on *exposure*, regardless of the presence or absence of exposure-related adverse health effects. Later, even measureable exposure was no longer an absolute requirement.

The focus finally shifted from exposure and effects to levels of concern. Thusly, did a major U.S. public health agency switch its focus from the Objective to the Subjective. From the perspective of the environmental activist, *and* the federal agencies that pandered to them, this was a tidal shift in a spectacularly useful direction. For, no longer was it necessary to demonstrate even the remotest possibility that an actual adverse effect was causally associated with a measureable exposure. A sufficiently uninformed and propagandized individual could be deeply concerned in the complete *absence* of *either* an exposure or an effect.

From this point forward, real science became so politicized as to be utterly irrelevant to the effective propagation of public health scares. Hereafter, the environmental movement would be able to thrive on political propaganda, alone. And, public health scares would graduate from the relatively small stage of chemophobia to the much grander stage of phony global climate disasters. The *normal* occurrence and purely *natural* basis of ozone holes and global warming, independent of CFC and CO₂ levels, have been understood by apolitical scientists for several decades, now. But, the science no longer matters. Political propaganda has taken its place. Science will eventually recover from this sad period of history, just as it eventually recovered from the scientifically bankrupt ideas of T. D. Lysenko in Stalinist Russia.

But, between now and then, the politicization of science in much of the civilized world can still do incalculable harm to the peoples of the Earth.

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