

**Colin L. Soskolne and Xaver Bauer**

# ***Discussion***



**“Industry’s offensive against the regulation of health and safety hazards uses academics to downplay or deny the seriousness of the hazards...”**

**Clayson and Halpern  
J. of Public Health Policy  
September, 1983**

The Four D's applied to scientists studying  
that which does not support the *status quo*

- ❑ **Deny**
- ❑ **Delay**
- ❑ **Divide**
- ❑ **Discredit**
  - [ **Dismiss** ]

# Manufacturing Doubt

- **S Epstein**

*The Politics of Cancer, 1978*

- **D Davis**

*When Smoke Ran Like Water: Tales of Environmental Deception and the Battle Against Pollution, 2002*

*The Secret History of the War on Cancer, 2007*

*Disconnect: The Truth About Cell Phone Radiation, 2010*

- **D Michaels**

*Doubt is their Product: How Industry's Assault on Science Threatens Your Health, 2008*

- **J McCulloch & G Tweedale**

*Defending the Indefensible: The Global Asbestos Industry and its fight for survival, 2008*

- **N Oreskes & E Conway**

*Merchants of Doubt: How a Handful of “Scientists” Obscured the Truth on Issues from Tobacco Smoke to Global Warming, 2011*

- **C Cranor**

*Legally Poisoned: How the Law Puts Us at Risk from Toxicants, 2011*

- **MJ Walker**

*Corporate Ties That Bind: An Examination of Corporate Manipulation and Vested Interest in Public Health, 2017*

**- By fomenting uncertainty, the health policy-maker's role is undermined**

**- A mechanism for the subversion and ambushing of science**

# Classical techniques that skew results: from biased methods to junk science

Cranor (2011) has assembled generally well-known techniques used by such people as they contribute to 'junk science', the latter being produced usually through funding provided by powerful interests. The latter is used to infiltrate the literature such that, in court proceedings, doubt will work in favour of the defendant and make it unlikely that policy change will ensue.

# The standard techniques that these scientists use to foment uncertainty about cause-and-effect include:

- Statistically under-powered studies
- Inadequate follow-up methods
- Inadequate follow-up time
- Contaminated controls, and a broad range of degree and types of exposure among the presumed exposed group
- Ignoring known synergies among components of the mixture of chemicals to which people are exposed
- Inadequate laboratory practices that systematically under-estimate exposures
- Inappropriate analytical methods for calculations
- Unbalanced discussion
- Selective disclosure of competing interests
- Linear-reductionist quantitative methods without post-normal qualitative approaches to complement them

# Arguments used to delay action in support of maintaining the *status quo* include classical techniques used to skew research results:

- Making a biased or selective interpretation
- Ignoring mechanistic information for inferring effects
- Exaggerating differences between human and toxicology studies, the insistence being on separating effects seen in animals from effects in humans, or the converse as is convenient
- Ignoring the fact that molecular structures predict hazard potential

# Classical techniques employed that skew and delay policy, and also create an unhelpful division among scientists:

- The insistence on first demonstrating effects in local populations of exposed people despite demonstrated effects in humans elsewhere
  - The failure to make explicit the implicit value judgements that go into deciding appropriate standards of evidence for drawing policy-relevant conclusions (viz. by the researcher suppressing dominant interests and values that may skew the results)
- Soskolne C. L. (2017) 'Global, Regional and Local Ecological Change: Ethical, Aspects of Public Health Research and Practice', Chapter 1 in: Ethics of Environmental Health, edited by Zölzer F., Meskens G. Routledge Studies in Environment and Health. London and New York, NY: Routledge, Taylor & Francis.





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