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

- By fomenting uncertainty, the health policy-maker’s role is undermined
- A mechanism for the subversion and ambushing of 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)

We promote health for all through ethical, independent and transparent science.
INEP’s mandate is to promote the ethical and unbiased application of epidemiology. We use epidemiological evidence to inform rational policy development for government and other policy-making organizations. When special interests misuse or create scientific evidence to manufacture doubt, our goal is to provide independent evidence and bring clarity to correct what is scientifically flawed. The Committee works to minimize unjustified delays in the implementation of sound public health policy. We volunteer our expertise to protect the public and to promote health and well-being.