Abstract
Entering a new millennium seems a good time to challenge some old ideas, which in our view are implausible, have little supportive evidence, and might best be left behind. In this essay, we summarize a decade of work, raising four issues that involve toxicology, nutrition, public health, and government regulatory policy. 

a. Paracelsus or parascience: the dose (trace) makes the poison. Half of all chemicals, whether natural or synthetic, are positive in high-dose rodent cancer tests. These results are unlikely to be relevant at the low doses of human exposure.

b. Élén Rachel Carson was made of chemicals: natural is. synthetic chemicals. Human exposure to naturally occurring rodent carcinogens is ubiquitous, and dwarfs the general public’s exposure to synthetic rodent carcinogens.

c. Errors of omission: micronutrient inadequacy is genotoxic. The major causes of cancer other than smoking do not involve exogenous carcinogenic chemicals: dietary imbalances, hormonal factors, infection and inflammation, and genetic factors. Insufficiency of many micronutrients, which appears to mimic radiation, is a preventable source of DNA damage.

d. Damage by distraction: regulating low hypothetical risks. Putting huge amounts of money into minuscule hypothetical risks damages public health by diverting resources and distracting the public from major risks.

Keywords: Cancer prevention; Micronutrients; Natural chemicals; Mutagens; Cancer mechanism; Animal cancer tests