

The apple never falls far from the tree*

Proverb – probably European

The proverb, *The apple never falls far from the tree*, is usually interpreted to mean that a child's behavior is much like that of the parents who were, in turn, influenced by their culture. However, the proverb can also apply to civilization as a whole as it tends to maintain the status quo. The transition of *Homo sapiens* from hunter-gatherer tribes to agrarian societies about 10,000 years ago was an enormous change for the species. Then the Industrial Revolution was powered by cheap, abundant fossil fuel, and, in the 20th century, the cornucopian era was in full swing, accompanied by rampant consumerism (at least for the middle and, especially, the upper classes). The era beginning with the Industrial Revolution has been called the anthropocene, which was the beginning of consumerism, biodiversity loss and biotic impoverishment, increased anthropogenic greenhouse gas emissions, the automotive culture, the global economy, overfishing the oceans, increased destruction of old growth forests, and continued exponential human population growth. At present, about half Earth's human population is not well nourished, is poorly educated and housed, lacks adequate medical care, and does not have adequate, potable fresh water.

After a few centuries of the anthropocene era, talk began about unsustainable use of the planet, but humankind is far from living sustainably as 2011 begins. Being sustainable is like being pregnant – a woman either is or isn't. In ecological terms, if a single, crucial, limiting factor is depleted, then humankind may become extinct.

The proverb may also apply to nations as past behavior is a good indication of future behavior. International conferences such as the Cancun, Mexico, and Copenhagen, Denmark, climate conferences had a few forward looking statements of intent, but otherwise produced no hard, binding numbers on anthropogenic greenhouse gas emissions or firm commitments on dates for meeting reduction deadlines. Moreover, no "hard" targets were set for reduction of atmospheric concentrations of greenhouse gas emissions. Finally, no substantive discussions occurred on response measures in the event that positive feedback loops become more active. For example, vast amounts of frozen hydrated methane exist on the ocean floor and vast amounts of carbon dioxide are stored in permafrost soils. Increased temperatures are already causing some of this greenhouse gas release, and increased global temperatures will almost certainly increase release from storage. Perhaps such discussions will be avoided until multiple catastrophes occur that have a major impact on all nations with major anthropogenic greenhouse gas emissions.

The attacks on scientists and their evidence, which vary from nation to nation, are strong and well financed in more than one nation with major greenhouse gas emissions. Scientists rely on the universal laws of physics, chemistry, and biology. All human actions, goals, plans (including the human economy) must be congruent with these laws or the human actions will fail – usually catastrophically. All science is basically an endeavor to determine how these laws work. If a scientist manages to publish something that is not in context with the preponderance of scientific evidence about the laws, it is rejected by scientists using the scientific process. However, rejecting scientific evidence because it conflicts with ideology eventually ends in disaster. Denial of the preponderance of scientific evidence may be attractive in the short term, but is inevitably fatal in the long run.

Acknowledgment. I am indebted to Darla Donald for transcribing the handwritten draft and for editorial assistance in preparation for publication.