## Uncertainty, the Precautionary Principle, and Climate Change

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The precautionary principle is a political principle, not a scientific one. The principle is used to urge the cessation or avoidance of a human activity in situations of uncertainty, just in case that activity might cause harm to human health or the natural environment. There is an interesting discussion of the history of the term in <u>Wikipedia</u>.

In practice, the precautionary principle is invoked when an interest group identifies an issue that can help it to achieve its objectives. If the interest group is successful in its efforts to raise fears about the issue, the application of the scientific method is rejected and a new orthodoxy is imposed. Government dictates follow. People who dissent from the orthodox view are vilified, ostracized, and may have their livelihoods taken away from them.

Consider the case of "climate change". Warnings of dangerous manmade global warming from scientists, politicians, and celebrities have received much publicity. They admonish us to dramatically reduce emissions of  $CO_2$  in order to prevent disaster over the course of the  $21^{st}$  Century. Efforts have been made to stifle a scientific approach to the issue. In an article titled "Veteran climate scientist says lock up the oil men", James Hanson, who heads the NASA Goddard Institute for Space Studies, was quoted as suggesting that those who promote the ideas of global warming skeptics should be "put on trial for high crimes against humanity." The skeptics themselves have been ejected from, for example, State Climatologist positions and prevented from publishing research in mainstream journals, and they and their views are routinely attacked.

Much complexity and uncertainty surround climate change. The cumulative empirical evidence on proper forecasting procedures suggests that the most appropriate method in this case is naïve extrapolation. In simple terms, this means to forecast no change. Of course there will be change, but with current knowledge there is no more reason to expect warming than to expect cooling.

As we describe in <u>our paper</u>, we have been unable to find any forecast derived from evidence-based (scientific) forecasting methods that supports the contention that the world faces dangerous manmade global warming.

Appeals for urgent curtailment of human activity "just in case" are often couched in ways that imply that industrial societies are inherently sinful, rather than that there might be a problem to be dealt with. Indeed, interpretation of the precautionary principle is subjective and it is arguable that it is being misapplied to the issue of climate change.

Firstly, even if forecasts of increasing temperatures turned out to be accurate, predicted temperatures and other conditions are within the range of variations that have been experienced in the past. There is no evidence that the natural environment "prefers" relatively cool to relatively warm average temperatures. In fact, life in general prefers warmth.

Secondly, curtailing human activity would harm people's health by making them poorer than they would otherwise have been. This is likely to be the case even if curtailing human activity happened to reduce global average temperatures. When the situation is framed in this way, the precautionary principle dictates that it is policies to curtail economically efficient human activity that should themselves be curtailed.

The outlook for the climate over the 21<sup>st</sup> Century is highly uncertain. There is a word in the English language to express high uncertainty. That word is "ignorance". And ignorance is not a basis for responsible government action. We should expect our politicians to have the courage to resist interest groups' calls for action in the face of ignorance.

The precautionary principle brings to mind the slogan on the Ministry of Truth building in George Orwell's *1984*: "Ignorance is Strength." Instead of this political principle, we hope that politicians will turn to scientific principles for making public policy.