

# Misbehaving models and missing mammals

Jennifer Marohasy reviews

## *Science and Public Policy: The Virtuous Corruption of Virtual Environmental Science*

by Aynsley Kellow  
(Edward Elgar, 2007, 218 pages)

In 2000 the International Union for the Conservation of Nature (IUCN) claimed a species of Cambodian mountain goat, *Pseudonovibos spiralis*, was endangered with a fragmented population of 2,500 mature individuals. The species was included in the 2003 and 2006 edition of the IUCN Red List of Threatened Species.

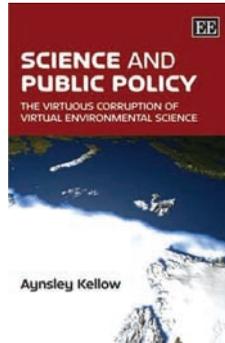
But the *Pseudonovibos spiralis* never existed.

Cambodian artisans had been fooling collectors for years by removing the sheath from the horns of domestic cattle, soaking them in vinegar, heating them in palm sugar and bamboo leaves before moulding and carving the horns and then selling them as wall mounts. There had been no sightings of the goats, and DNA analysis indicated the skull bones to be those of cattle, but the idea of a rare creature that needed saving captured the imagination of the local Worldwide Fund for Nature (WWF) program manager and he featured the IUCN listing in his fight against land mines and rainforest destruction.

In a new book *Science and Public Policy: The Virtuous Corruption of Virtual Environmental Science* Aynsley Kellow, Professor and Head of the School of Government at the University of Tasmania, uses this and other case studies from conservation biology and climate science as examples of 'noble cause corruption'. The phenomenon is recognised in law enforcement circles where

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police officers manufacture evidence to ensure a conviction.

The thesis of Kellow's book is that noble cause corruption gives as much cause for concern about the reliability of science as the potential influence of money.

Kellow shows that noble cause corruption is rife in the environmental sciences, and he shows how the corruption is facilitated by the virtual nature of much of the science.

After opening with the somewhat comical example of the bogus listing of the mythical Cambodian mountain goat, Kellow gets into the history of conservation biology. He explains how in the early 1980s ecology lacked a scientifically respectable method for studying life. The ecosystem approach potentially provided scientific respectability by supplying ecologists with mathematical tools developed by physicists beginning with the species-area equation and the theory of island biogeography.

While the theory could explain the number of insect and arthropod species colonising mangrove islands off the coast of Florida as a function of their distance from the mainland, the theory's extrapolation to non-island situations and terrestrial ecology more generally was not justified.

And predicting species loss by extrapolating backwards to suggest, for example, that a reduction in the area of forest will produce the same rate of species reduction as does its growth, has no basis in observational data but is com-

mon practice in conservation biology.

It is this approach, in particular the dominance of mathematical models, which makes it possible for groups like Greenpeace to use figures of 50,000–100,000 species becoming extinct every year, with support from the scientific literature, when they would be hard pressed to provide evidence of any actual extinctions.

Furthermore, an ecosystem as Kellow explains is nothing more than a construction: 'Ecologists tried to study ponds as examples of ecosystems, but soon found even they were not closed systems but connected to the water-table, and affected by groundwater flows, spring run-off and migrating waterfowl.'

In *Science and Public Policy*, Kellow shows how the misguided approach to the complexity of 'ecosystems' facilitated the subsequent development of climate science as 'post-normal' science. Kellow begins by explaining that climate change is an area of science where models inevitably play an important role—there is little scope for laboratory experimentation.

Climate models are constructed using historical data and then tested against the same data. Until about 1996 they produced a warming climate even with constant carbon dioxide. It is a vast undertaking and many scientists involved in modelling future climates have to assume the results of others are correct, and so it becomes partly a construct—dealing with enormous complexity and non-linear processes.

Furthermore, Kellow details how lapses in scientific standards have occurred—involving the misuse of statistics on emissions scenarios and the incorrect reinterpretation of tree-ring data—which have had the effect of conveniently contributing to the political case for action to mitigate climate change.

The second half of the book is very much about politics beginning



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with a detailed analysis of the campaign by scientists against statistician Bjorn Lomborg and his book *The Skeptical Environmentalist: Measuring the Real State of the World* and following with a critique of why there seems to be a closer affinity between environmentalism and left-leaning parties in western democracies and greater hostility towards environmental protection from right-leaning parties.

Kellow argues that there are cultural factors associated with the appreciation of nature that align with political ideologies and that these factors become exaggerated by the now virtual nature of many scientific disciplines. This further facilitates the corruption of science and public policy.

Kellow disputes the claim that the rise of environmentalism simply reflects increasing affluence and a progressive agenda, and considers the history of environmentalism and the myth of the balance of nature in the context of a long tradition of Western thought often involving catastrophic

decline from some idyllic past—usually as a result of sin.

The idea of the ‘balance of nature’ persists, even though it is not supported by the observational data, because, if we accept this myth, any change in ecosystems can be attributed to human activity and imparted with a deep social meaning.

Within this paradigm, ecology involves all manner of projections of human values onto observed nature including through the use of terms such as ‘invasive species’ and ‘alien’.

Quoting Robert Kirkman, Kellow suggests that a belief in ecologism provides a moral compass pointing in the direction of holistic harmony, but it is an illusion.

This shift of environmentalism onto a religious plane, coupled with the descent of much of ecology into the virtual world of mathematical modelling has seen the marriage of environmental science to political activism. Classic liberalism, Kellow explains, with its emphasis on separation between the

individual and the state, can provide a protection against ‘the darker possibilities of environmentalism’.

The book ends with a warning to scientists to not usurp the role of policy-makers. But rather provide those policy-makers with informed choices.

Indeed public policy is almost never resolved by some piece of scientific information. When science is used to arbitrate it eventually loses its independent status and disqualifies itself.

*Science and Public Policy* is an important book as a philosophical and historical analysis of environmental activism particularly over the last 30 years.

It will be especially appreciated by naturalists and biologists who remember the good old days when tramping about in work boots observing wild goats at close range or, in my case, collecting live lepidopteron, was encouraged—that is, before the advent of environmental science and sitting at desks crunching numbers for computer models.

