

## The Role of Science in Public Policy: Higher Reason or Reason for Hire?

James Gerrie and Stephen Haller  
Journal of Agricultural and  
Environmental Ethics (2007) 20:139-  
165

### Scientists as Third Party Arbiters

- Francis Bacon's "Solomon's House"
  - From his utopian novel *New Atlantis*
- Office of Technology Assessment (1970s)
  - To assess the impact of complex technological and scientific matters and communicate these findings to legislators in an understandable manner
- Environmental Impact Assessment
  - to assess impacts thoroughly and objectively
- Endangered Species Legislation
  - In US gov't scientists choose which species are endangered

## The Two Step Process for the Interaction Between Science and Public Policy-Making

1. Scientists first find the value neutral facts
2. Then decision-makers can apply values to these value neutral facts to make well-informed decisions

## Why Question the Two Step Process?

- ***Mandated Science*** (1988) by Liora Salter
- In the 20<sup>th</sup> cent Scientists increasingly used as “expert witnesses” in court cases
- Experienced culture shock when their traditional qualifications of results were interpreted as prevarication
- Had to learn how to present findings more forcefully in the service of the side under whose mandate they were serving (Eg. Truscott Case and time of death assessment)
- “Mandated science” is science commissioned specifically to help support evaluative arguments

## Problem of Endpoints

1. Some fact claim conclusively supports one side of an issue.
2. Some fact claim puts this claim into serious doubt.
3. Some other fact claim puts this doubt into serious doubt.

How can one judge where we are in this process?  
Either one's values must guide such a judgement  
or one must leave it to the serendipity of the  
research interests of scientists

## Notorious example of Endpoint Problem

1. An increase in CO<sup>2</sup>, in the absence of countervailing factors, will cause warming
2. The albedo effect from clouds formed by CO<sup>2</sup> use is a countervailing factor that could offset the increase in CO<sup>2</sup>
3. Some yet unknown factor will offset this effect or put such research into question

## Recent example of Endpoint Problem

- Peregrine Falcons: Endangered or Not?
- Depends in part on whether they have a safe enough level of genetic diversity in re-established populations
- Current tests reveals diversity is low
- Novel research using stuffed examples from previous centuries reveal low level is not outside historic norms

## Three Kinds of Public Science

- Curiosity Driven Science
  - Gov't patronage of scientific research
- Enforcement Science
  - Science undertaken to provide gov't with facts necessary to know whether predetermined standards are being respected
- Mandated Science
  - Science undertaken to support “the Making of Standards” (*Salter*) or the justification of specific policy decisions

# Conclusions

In all instances of mandated science:

- Inappropriate to present scientists as “third party” arbiters
- “Mandates” should be made clear
- Room should be made for presentation of opposing scientific views (adversarial “hired guns” model) Eg. “Environmental Hearings” instead of “Environmental Assessments”
- Public should not expect single unified “scientific” perspective, but be prepared to judge between competing scientifically informed evaluative positions Eg. The overly protracted debate about global warming