

How the Nature of Nature and the Nature of Science Affects the Nature of Environmental Stewardship

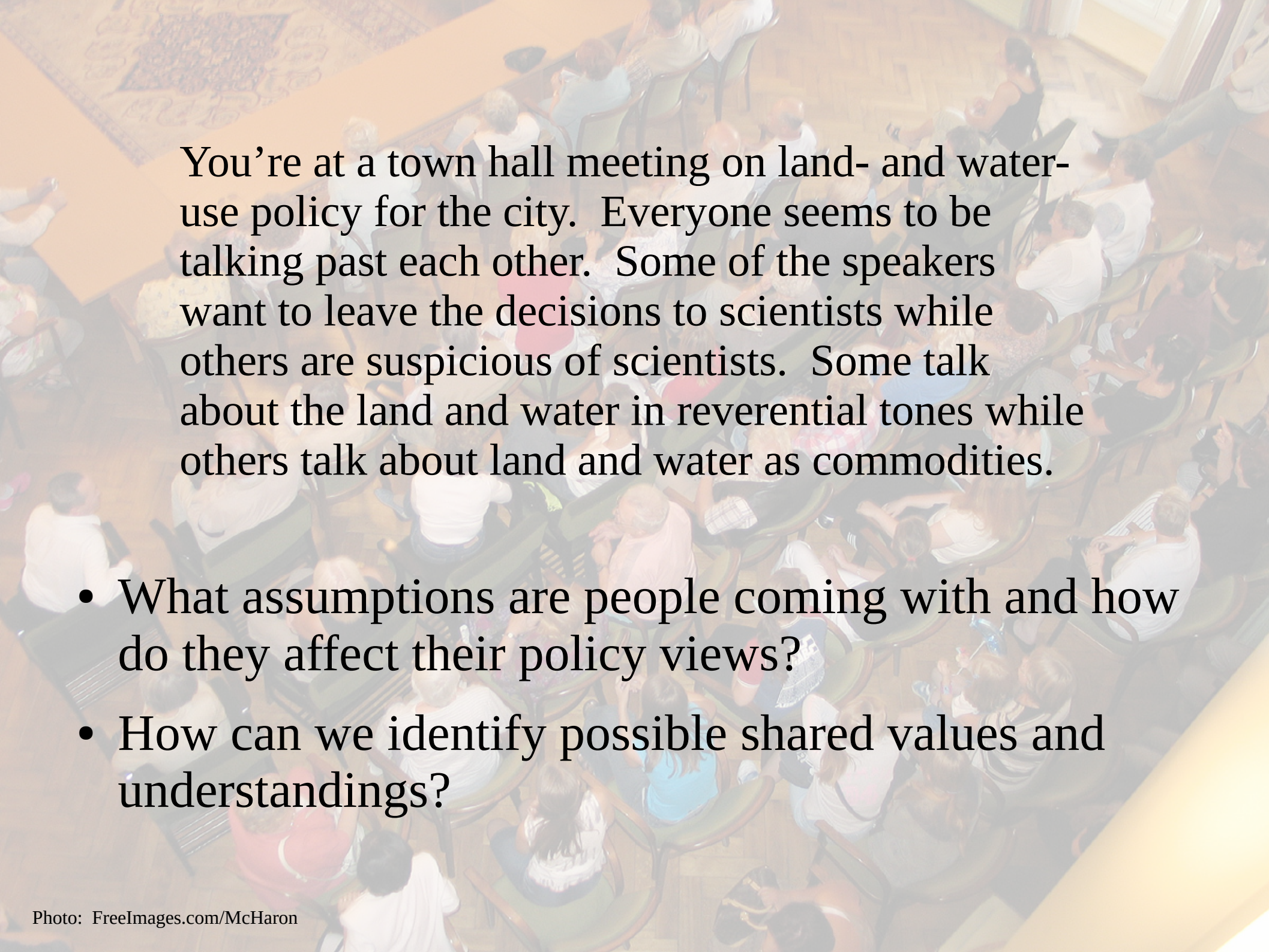
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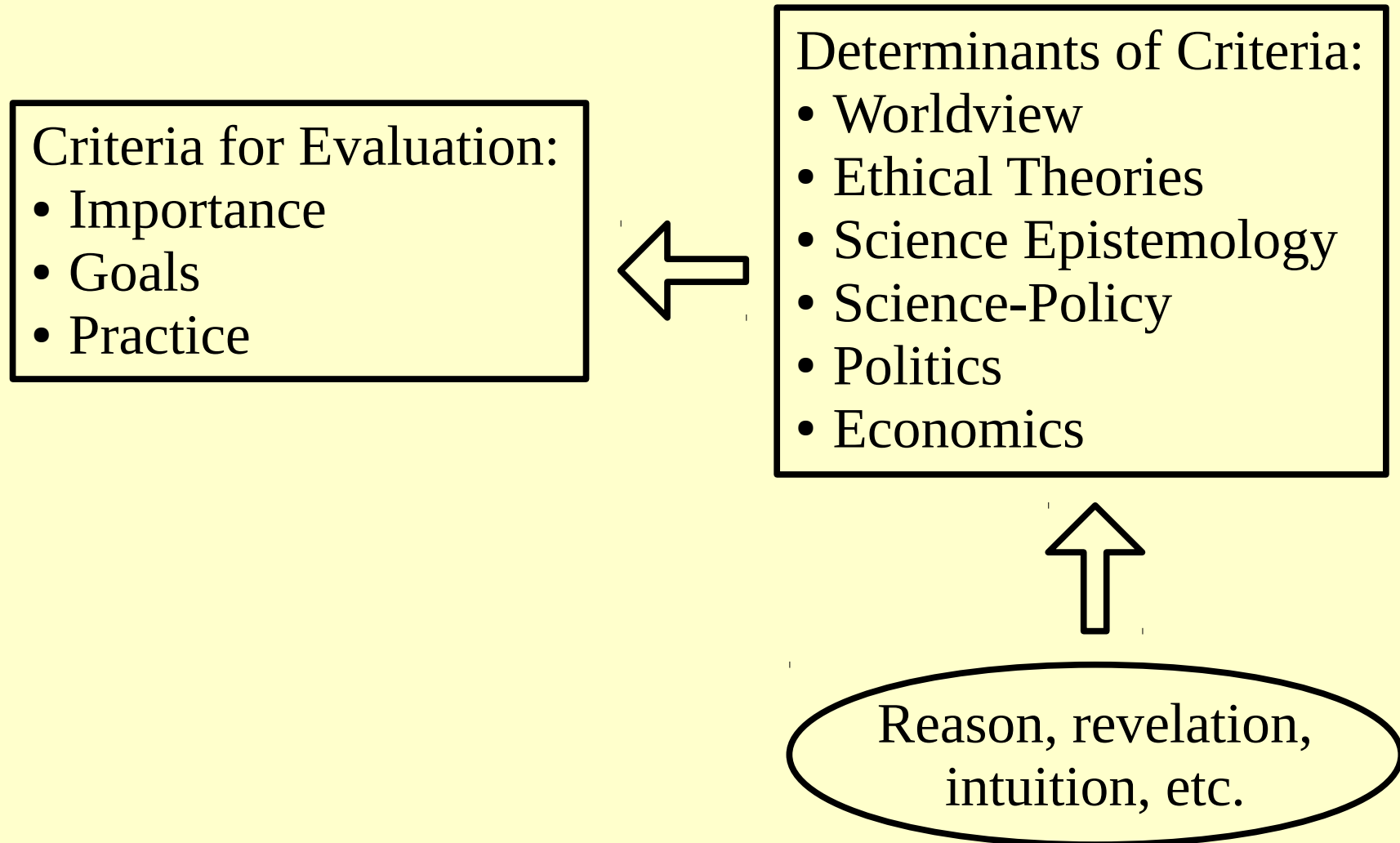
Imagine the Following Scenario ...



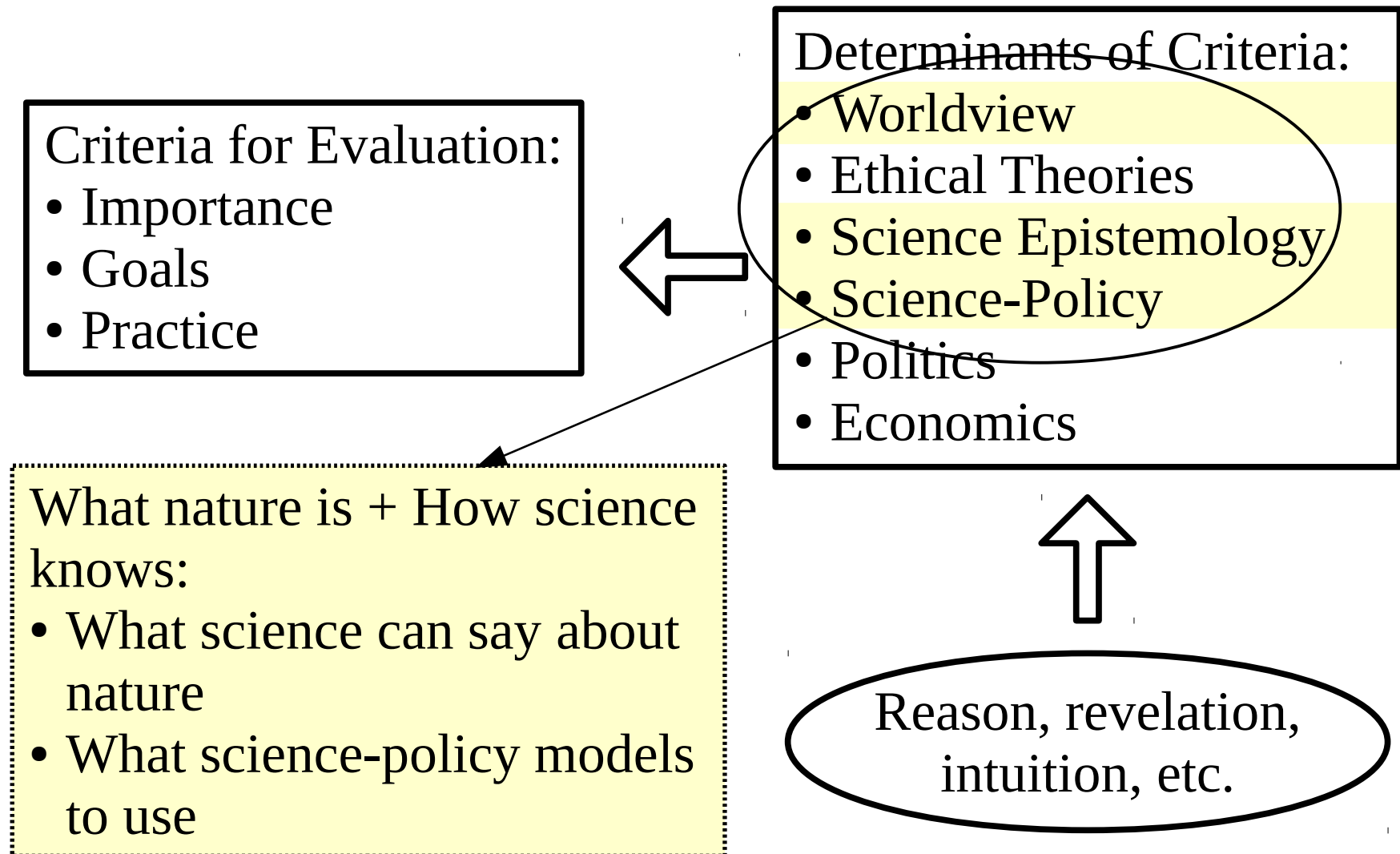
You're at a town hall meeting on land- and water-use policy for the city. Everyone seems to be talking past each other. Some of the speakers want to leave the decisions to scientists while others are suspicious of scientists. Some talk about the land and water in reverential tones while others talk about land and water as commodities.

- What assumptions are people coming with and how do they affect their policy views?
- How can we identify possible shared values and understandings?

How to Really Understand What Is Good Environmental Stewardship



Figuring Out Why People Hold the Views They Do About Science and Policy

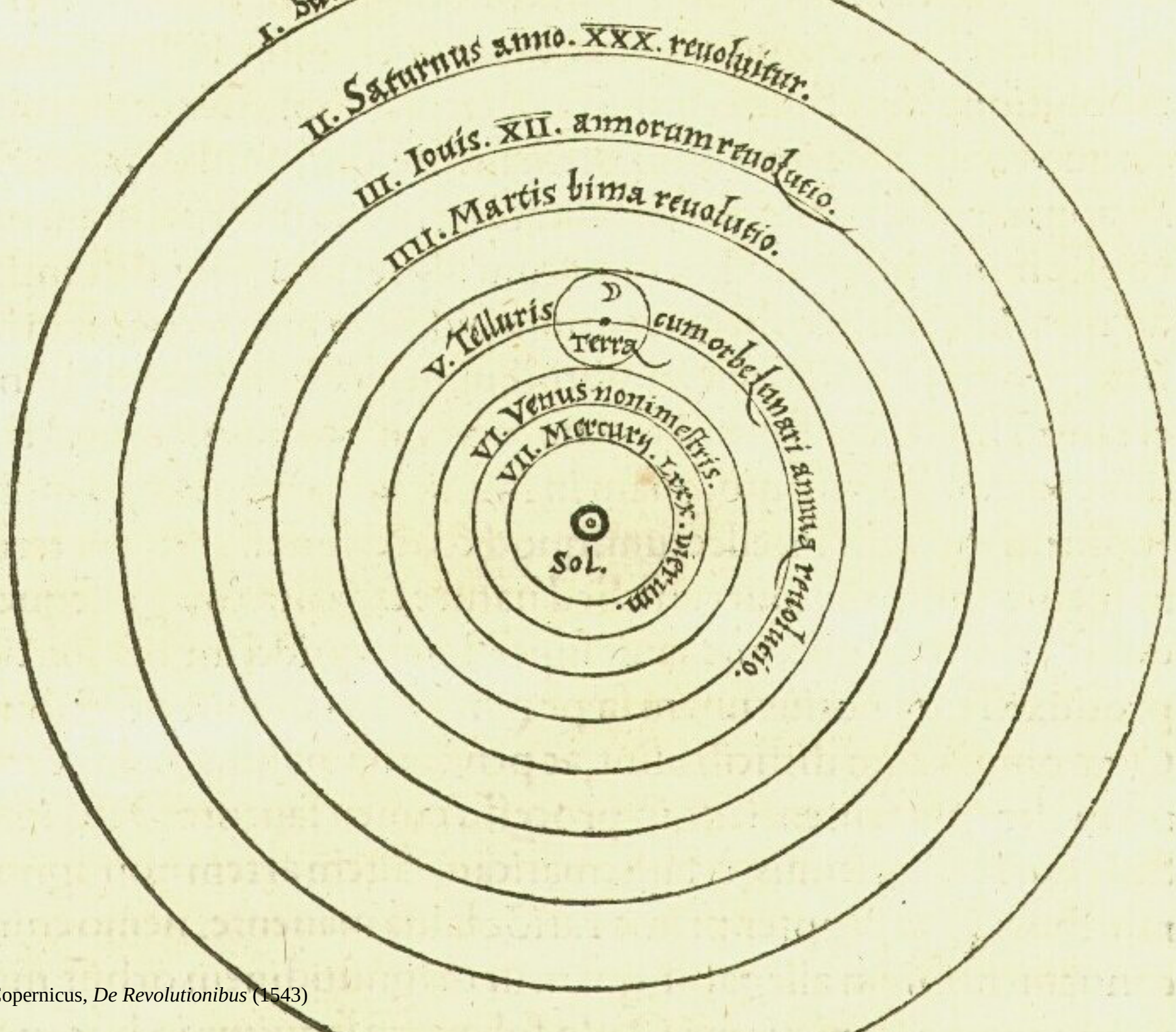




Spiral Staircase, Vatican Museums (photo © User:Colin / Wikimedia Commons)

Understanding The Range of Views of What Nature Is

- Buddhist: Existence is all there is and there is no ontological separation between humanity and nature
- Christian: God made a material (but not “merely” material) nature and have assigned humans to take care of it
- Confucian: This world is all there is and humans are “elder brothers” to nature
- Taoism: The world is all there is and humans must live in harmony with the rhythms of nature (“go with the flow”)
- (Neo-)Enlightenment: Nature is mere “matter in motion” and purposeless
- Romantic: Nature is best understood via aesthetics



Understanding the Range of Views of How Science Knows and Science's Authority

- Science as hypothesis testing:
 - Hypothesis → Test → Confirmed? → Retest
 - Truth is accretive and multiple cycles lead to truth
- Popperian falsification:
 - Cannot generate positive truth
 - Negative results very powerful: can nullify consensus
- Kuhnian paradigm shift:
 - New models supplant use because of usefulness not truthfulness
 - Emphasis on science as a social construct



Understanding the Range of Science-Policy Models (Grouped by Epistemic Authority)

- Science has high epistemic authority:

- Policy prescriptive
- Fact-value dualism

science → policy
values

- Science unique in certain ways but less than commonly believed:

- Supporting Role (Science is Neutral)
- Honest Broker of Policy Alternatives

science → values → policy

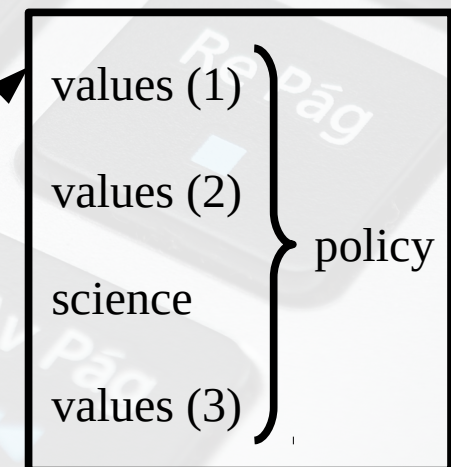
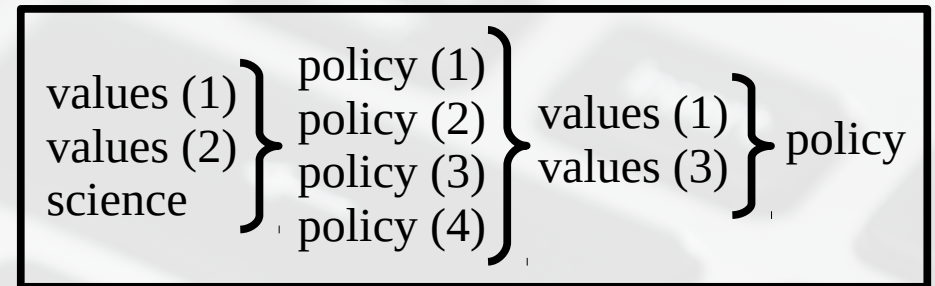
- Science is not unique:

- Supporting Role (Science May Not Be Neutral)

values (1)
values (2) + science → policy
values (3)

Understanding the Range of Science-Policy Models (Grouped by Epistemic Authority, cont.)

- Science has high epistemic authority:
 - Policy prescriptive
 - Fact-value dualism
- Science unique in certain ways but less than commonly believed:
 - Supporting Role (Science is Neutral)
 - Honest Broker of Policy Alternatives (Pielke 2007)
- Science is not unique:
 - Supporting Role (Science May Not Be Neutral)



Combining Worldviews and Epistemology to Obtain Science-Policy Models

Combining Worldviews and Epistemology to Obtain Science-Policy Models

- Questions to ask:
 - Does science only give us knowledge of the material?
 - How “material” is nature?
 - What level of epistemic authority does science have?
- Implications of answers: Choose science-policy frameworks where science plays a humbler role if:
 - Science only addresses the material and important aspects of nature are not material.
 - The epistemology of science one uses implies science does not have epistemic authority.

Combining Worldviews and Epistemology to Obtain Science-Policy Models: Example

- One possible set of answers to questions:
 - Science is limited to describing the material.
 - World is material but important elements are non-material.
 - Science has elements of objectivity but is limited in its epistemic authority.
- Implications of answers: A person holding these answers may favor science-policy frameworks where science plays a humbler role:
 - Supporting Role (Science is Neutral).
 - Honest Broker of Policy Alternatives.
 - Supporting Role (Science May Not Be Neutral).

Understanding Just Science and Policy Is Not Enough

- How science connects to policy is strongly affected by views of what is nature and what is science:
 - Little work in policy studies examines the impact of worldviews
 - Little work in ecotheology connects to science epistemology
- Really understanding good environmental stewardship requires examining all determinants:
 - Here we looked at just **one** effect of two determinants (what nature is + how science knows)
 - It's complex but not hopeless ...

Determinants of Criteria:

- Worldview
- Ethical Theories
- Science Epistemology
- Science-Policy
- Politics
- Economics

Getting a Handle on the Breadth of Complex Motivations

The Nature of Environmental Stewardship
(Pickwick Publications, 2016)

<http://nature.johnny-lin.com>

- Sample chapter on website
- Amazon: Print, Kindle

