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Global Warming

PHIL 101

Self, World, & God

Fall 2011

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Naomi Oreskes' Study

- *An Inconvenient Truth*
- "Beyond the Ivory Tower: The Scientific Consensus on Climate Change"
- *Science* 3 December 2004
- The "consensus" opinion
- Institute for Scientific Information (ISI) data base
- 928 papers surveyed
- Keywords: "climate change"
- 10% of the total
- Some articles thrown out

Critical Thinking

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Naomi Oreskes' Study

- Six categories
 - explicit endorsement of the consensus position
 - evaluation of impacts
 - mitigation proposals
 - methods
 - paleoclimate analysis
 - rejection of the consensus position
- 75% explicit or implicit endorsement of consensus view (1st three categories)
- 25% take no position (next two categories)
- 0% reject consensus position

Critical Thinking

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The Evidence

- e₁. In a sample of 928 peer reviewed papers addressing "climate change," not one rejected the consensus view that "most of the observed warming over the last 50 years is likely to have been due to the increase in greenhouse gas concentrations"
- =====
- t₀¹. Most, if not all, scientists working on climate change agree with the consensus view.

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Rival Explanations

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t₁. It's just a statistical fluke that the articles from the sample showed such unanimity .

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t₂. It's just a statistical fluke that the articles listed in the ICI data base showed such unanimity .

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t₃. The ICI data base is biased and only lists "green" articles.

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t₄. Oreskey, because of her biases, misinterpreted many of the articles as favorable, or neutral, when in fact the authors were arguing against the consensus view.

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t₅. Respectable scientists arguing against the consensus view cannot get their articles published in peer reviewed journals.

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The Best Explanation?

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- Some of the rivals are possible

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- The prestige of *Science*

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- Oreskey's reputation

- Articles rejecting Oreskey's thesis?

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- Giere's rule of thumb

- Censorship in science?

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- Simplest, most plausible, explanation of the sample?

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A Different Sample

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e_2 . In a sample of 18% of the articles published in major newspapers on global warming in the past 14 years, over one half gave equal weight to the contentious view, and the rejection of the consensus view.

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t^2_0 . Journalists see the consensus view very controversial.

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Gore's Evidence For Global Warming

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- e_1 & e_2
- e_3 Historical data on temperature
- e_4 Recent data on temperature
- e_5 20 of the 21 hottest years occurred in the past twenty-five years
- e_6 Examples:
 - Melting glaciers
 - Melting polar ice
 - Drowning polar bears
 - Severity of storms
 - Insurance claims
 - Recurrence of disease and pests

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t^3_0 . Global warming is occurring

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Gore's Evidence For Human Cause

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- e₁ - e₆
- e₇ Basic physics and chemistry regarding atmospheric warming
- e₈ Revel's research and the Keeling curve
- e₉ Data from ice cores
- =====
- t₉ CO₂ levels are rising dramatically
- =====
- e₁₀ Human cultural and industrial changes
- =====
- t₁₀ Human cultural and industrial changes are causing the rising levels of CO₂

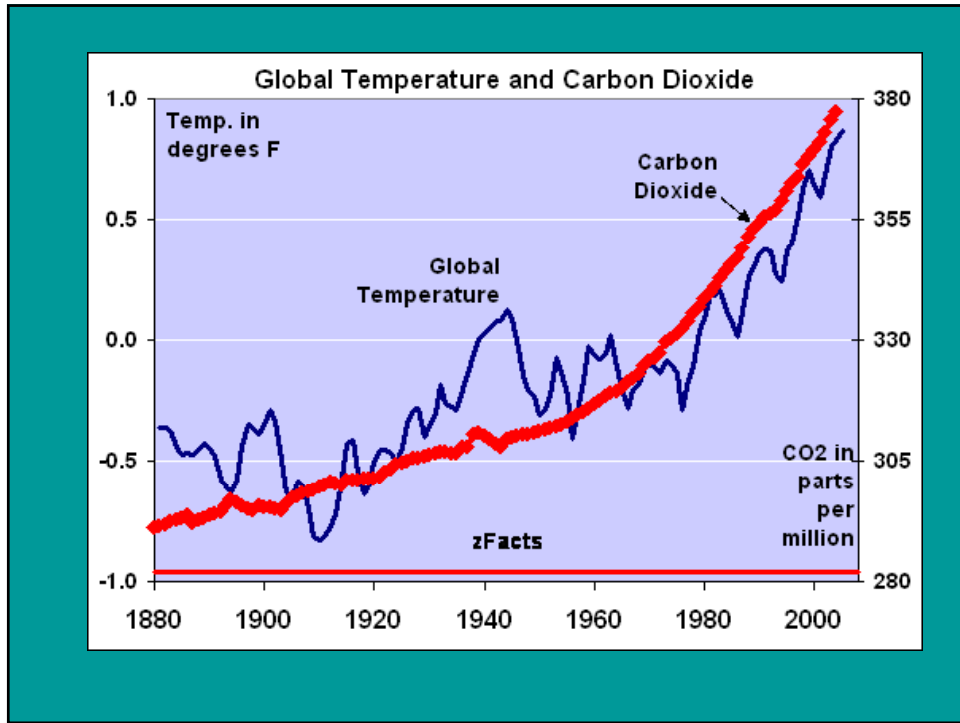
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A Simple Correlation

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- e. Things that are happening right now are correlated with increased temperatures.
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- t. These things are causing increased temperatures.

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Explaining Correlations

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e₁₁. There is a strong correlation between CO₂ levels and the Earth's average temperature.

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t₆. CO₂ concentrations cause global temperature variations.

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Explaining Correlations

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- t⁶₁. Global temperature variations cause varying CO₂ concentrations.
- t⁶₂. Increased CO₂ concentrations cause increased temperatures, while, increased temperatures cause increases in CO₂ concentrations.

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