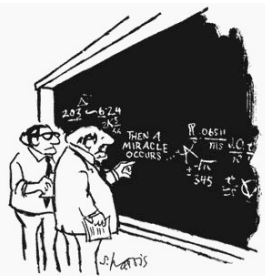## PHIL 110A
Week 6: Religion & Science
Paul Thagard

God

Creationism

Science & reality

Please turn off and put away all electronics.

"I THINK YOU SHOULD BE MORE EXPLICIT HERE IN STEP TWO."

How to decide if X exists?

1. Construct hypotheses about X.
2. Collect evidence relevant to X using reliable procedures such as perception, memory, testimony, instruments, experiments.
3. Use arguments to assemble hypotheses and evidence. Consider alternative hypotheses.
4. Accept the hypotheses most coherent with the evidence.
5. Believe in X if hypotheses about X are accepted; otherwise, don't believe in X.

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Super argument vs. God

1. Science can explain the main evidence for God: cosmos, design, miracles, religious belief, religious experience, morality.

2. Science does not assume supernatural entities and actions (simplicity).

3. Science can explain natural and human evil.

4. Therefore, scientific hypotheses are more coherent with the evidence than ones about God. So God does not exist.

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Super argument problems

1. Scientific explanations of cosmos, morality, etc. are not very good.

2. Science is not simple: need many scientific hypotheses.

3. Religion can explain natural evil as result of complexity, and human evil as result of free will.

4. Religion is a matter of faith, not arguments.

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Creationism

1. Creation is a scientific hypothesis.

2. Evolution is a theory, not a fact.

3. Design displays "irreducible complexity".

4. Therefore, creation is a better explanation of biological design than evolution.

Also consider: God designed evolution.

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What is Science?

How is science different from pseudoscience, religion, metaphysics?   Demarcation problem.

1. Verifiability (testability – logical positivists): science can be confirmed by observations.

2. Falsifiability (Popper): science can be refuted by observations:
   Hypothesis implies observation.
   Observation fails.
   So hypothesis is false.

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SCIENCE	PSEUDOSCIENCE
Causal explanations using mechanisms	No causal mechanisms
Correlation thinking (statistical)	Resemblance thinking (similarity)
Evaluate theories with alternatives	Ignore alternatives
Simple theories (few assumptions)	Many extra hypotheses
Progress with new theories and evidence	Stagnant

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What is Evidence?

1. Reliability: source produces truths.

2. Intersubjective: different people.

3. Repeatable: different times.

4. Robust: different instruments and methods.

5. Causal correlation with the world, e.g. by perception or objects.

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What is Explanation?

1. An explanation is a description.

2. An explanation is an answer to a question (erotetic).

3. An explanation is a deduction from laws (deductive-nomological).

4. An explanation is a description of *causes*.

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What is Causation?

1. Causation is constant conjunction (Hume).

2. Causation is an illusion.

3. Causation is correlation:
   Probability(effect/cause) > Probability(effect).

4. Causation is a special power.

5. Causation is the result of a mechanism.

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Mechanistic Explanation

How does a bicycle move?

Parts: frame, wheels, gears, chain, pedals, etc.

Structure: e.g. pedal connected to gear.

Interactions: e.g. pedal moves chain.

Changes: e.g. wheels turn.

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What is a Mechanism?

1. A mechanism is a system of parts whose interactions produce regular changes.

2. Biological examples: digestive system, evolution by natural selection

3. Social example: families, organizations.

4. Physical examples: social systems, earthquakes.

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