

# Is Evolution Incompatible with Intelligent Design?

Edwin Chong

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## Outline

- Evolution vs. Intelligent Design (ID)
- What are the claims on each side?
- Sorting out the claims.
  - Rhetoric
  - Politics
  - Philosophy
- Could both sides be right in some sense?

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## Disclaimers and Caveats

- I cannot possibly resolve the debate: not my goal.
- I cannot possibly evaluate all (or even most) of the arguments put forth.
- The main part of this talk is quite technical.
- I will use “ID” for “intelligent design” (not “independence day”).
- I assume you are already at least somewhat familiar with the terms of the evolution-ID debate.
- I assume you are open to arguments from either side.
- Please don’t read between the lines.
- The views presented here are my own and don’t necessarily represent those of my employer or associates.

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## Personal Data

- Born in Kuala Lumpur, Malaysia.
- Have lived in Australia, New Jersey, Indiana.
- Professor of Electrical & Computer Engineering and Professor of Mathematics, Colorado State University (Fort Collins).
- Ph.D., Princeton University.
- Amateur interest in philosophy and theology.

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# The Debate

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# Claims

- Over the years, many evolution-vs-ID debates have taken place.
  - *Many* arguments have been put forth.
- I will outline *one* salient claim from each of the following sides:
  - Pro evolution
  - Pro intelligent design
  - Anti evolution
  - Anti intelligent design

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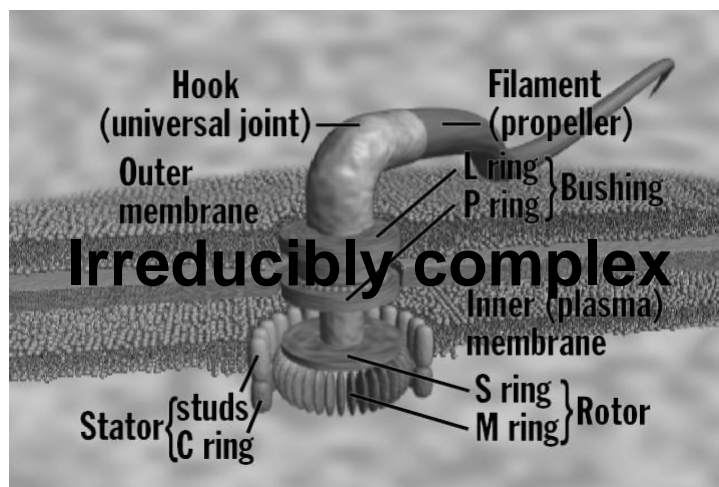
## Pro Evolution

- Evolution is a very successful scientific theory.
- Historically, resistant to critique.
- Difficult to argue against the claim that random changes occur in nature.

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## Pro Intelligent Design



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## Anti Evolution

- If God created the universe, then evolution is false.

## Anti Intelligent Design

- If evolution is true, then there is no intelligent design.

## Focus

- Most of the debate has focused on the **pro** arguments (both sides).
- I will focus on the **anti** arguments.
  - Underlying motivations for taking sides in the debate.
- Undercurrent: Theism vs. atheism.

## Theist Claims

- God created the universe.
- The universe appears to be designed because God designed it.

## Discovery Institute's ID

- “The theory of intelligent design holds that certain features of the universe and of living things are best explained by an intelligent cause, not an undirected process such as natural selection.”  
[[www.discovery.org/csc/topQuestions.php#questionsAboutIntelligentDesign](http://www.discovery.org/csc/topQuestions.php#questionsAboutIntelligentDesign)]
- “Features of the universe”: observable evidence.
- “Best explained”: account for evidence.
- So “intelligent design” is something you can tell from observing nature.

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## Atheist Claims

- The universe doesn't appear to be designed but appears to be random.
  - Random: Unpredictable, purposeless, etc.
- Concede that the universe *appears* to be designed, but in fact it is not (because there is no God).
  - “Biology is the study of complicated things that give the appearance of having been designed for a purpose.”  
Richard Dawkins, *The Blind Watchmaker* (New York: W.W. Norton & Company, 1986), p. 1.

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## More Precise Definitions

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## Some Technical Terms

- Need to define more precisely some terms:
  - Strong ID
  - Weak ID
  - Strong evolution
  - Weak evolution

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## Strong ID

- The universe came about by intelligent design and this is “detectable” through *scientific* processes.
- Discovery Institute’s version is *strong ID*.
- An *ontological and epistemological* claim.

## Weak ID

- Only claim that the universe came about by intelligent design.
- From the point of view of observable evidence, might be indistinguishable from lack of intelligent design.
- An *ontological* claim.

## Strong Evolution

- Evolutionary processes appear random and involve actual randomness.
- What does “actual randomness” mean?
- Enough to say it’s *nondeterministic*.
- An *ontological and epistemological* claim.

## Weak Evolution

- Evolutionary processes have the appearance of randomness.
- The process might be deterministic.
- An *epistemological* claim.

# Compatibility Chart

		Evolution	
		Weak	Strong
ID	Weak	?	?
	Strong	?	?

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## ID and Evolution: Discovery Inst.

- Quote from Discovery Institute:
- **Is intelligent design theory incompatible with evolution?**  
It depends on what one means by the word "evolution." If one simply means "change over time," or even that living things are related by common ancestry, then there is no inherent conflict between evolutionary theory and intelligent design theory. However, the dominant theory of evolution today is neo-Darwinism, which contends that evolution is driven by natural selection acting on random mutations, an unpredictable and purposeless process that "has no discernable direction or goal, including survival of a species." (NABT Statement on Teaching Evolution). It is this specific claim made by neo-Darwinism that intelligent design theory directly challenges.  
[[www.discovery.org/csc/topQuestions.php#questionsAboutIntelligentDesign](http://www.discovery.org/csc/topQuestions.php#questionsAboutIntelligentDesign)]

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## ID and Evolution: Discovery Inst.

- Interpretation: Strong ID *incompatible* with strong evolution.
- Strong ID also *incompatible* with weak evolution.
  - “no discernable direction or goal”

## Compatibility Chart

		Evolution	
		Weak	Strong
Focus ID	Weak	?	?
	Strong	No	No

# Complicating Factors

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# Two Complicating Factors

Often-heard claims:

- Intelligent design is not science.
- The intelligent designer is God.

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## Science and ID

- Is ID scientific?
- Which kind of ID (weak or strong)?
- What does it mean for something to be scientific?
- Strong ID: a scientific hypothesis.
  - Note: Whether or not it's true is a different issue.
- Weak ID: not a scientific hypothesis.
  - Note: Whether or not it's true is a different issue.
- Pro-ID people claim strong ID, but anti-ID people concede at most weak ID.
- Endless arguments from both sides talking past each other.

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## God the Designer

- Significant to both sides of the debate.
- Evolutionists: If God is the designer, then ID is not part of science.
  - Already dealt with this issue.
- ID theorist: If God designed the universe, then we should be able to detect it (i.e., strong ID is true).
- But what if strong ID isn't true?  
Why not settle for weak ID?

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## Weak ID Proposals

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## Weak ID Theist Proposals

Two common proposals for weak ID to be compatible with evolution:

- Proposal 1: God is indeed the creator of the universe, but he doesn't actively "control" it.
- Proposal 2: God does actively control the universe, but we cannot scientifically detect it.

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## Hands-Off Proposal

- Proposal 1: God is indeed the designer and creator of the universe, but he doesn't actively "control" it.
- God is "hands-off" and evolution rules.
- Deism.
- Unsatisfactory to many theists because it rules out much of traditional theism related to God's interaction with the world.

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## Hiddenness Proposal

- Proposal 2: God does actively control the universe, but we cannot scientifically detect it.
- Main objection: How can this be?
- The objection here is based on the belief that "active control" and "lack of detection" are logically incompatible.
- But are they?
- Two possibilities:
  - Weak evolution.
  - Strong evolution.

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## Weak ID and Weak Evolution

- Easy: Seems clearly compatible.
- But still doesn't address the objection that "active control" and "lack of detection" are logically incompatible.

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## Compatibility Chart

		Evolution	
		Weak	Strong
ID	Weak	<b>Yes</b>	<b>?</b>
	Strong	<b>No</b>	<b>No</b>

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## Weak ID and Strong Evolution

- But what about weak ID and strong evolution?
- Are they compatible?
- If yes, then theism could be true even if strong evolution holds.
- Significant to both theists and atheists.
- Primarily directed toward theists.
- Have to show how “active control” and “lack of detection” are compatible.

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## Strong Evolution in a Controlled World

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## Goal and Approach

- To argue that it is *possible* for God to exercise meticulous control through evolutionary random processes.
- By describing a model of divine control with the following features:
  - There are random events.
  - God has a special kind of foreknowledge about randomness (called middle knowledge).
  - God can exercise meticulous “risk-free” control through decision-making even before creation.

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## Technically Speaking

- To put it in more technical terms, I will argue that it's possible that the following hold simultaneously:
  - Weak ID
  - Strong evolution
  - Risk-free divine control
- Preserves *ontological* claims of both sides.

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## Risk-Free Divine Control

- God controls his creation by acting on it.
- God acts based on his knowledge.
- Two views on nature of divine control:
  - Risky control: God's prevolitional knowledge (including how he decides to act) does not uniquely specify an actual world.
  - Risk-free control: Not risky.

## Worlds and World Segments

- Need a way to describe a complete set of facts (state of affairs) associated with how the world could possibly be created.
- **World**: maximal state of affairs.
  - Maximal: Either includes or precludes every other state of affairs.
- **World segment**: world up to some point in time.
- **World book**: contains all true propositions (for the particular world).

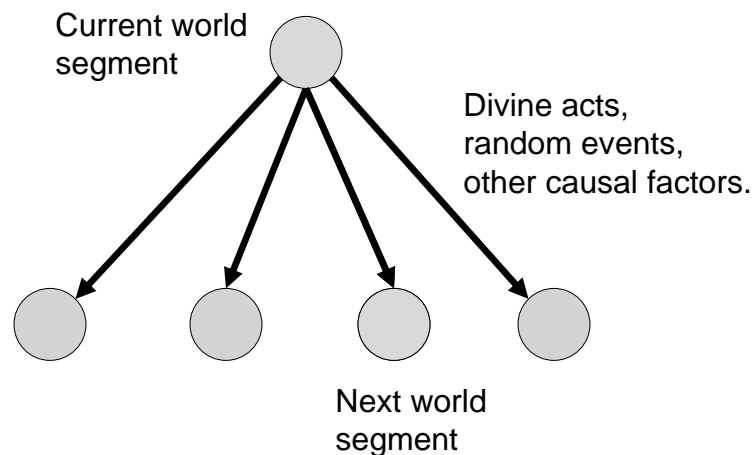
# Possible World

- Possible world: A possible state of affairs that is maximal.
- Possible requires defining what factors restrict worlds.
  - Does not violate “broadly logical” laws.
- Assume that there is such a thing as a “random event,” of the kind referred to in strong evolution.

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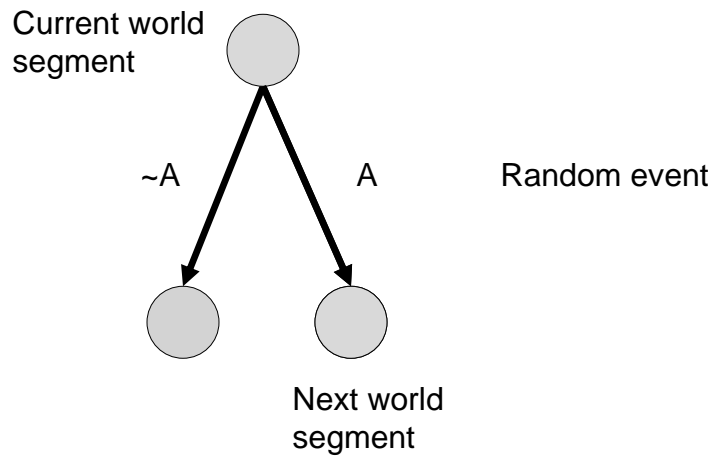
# How World Segments Grow



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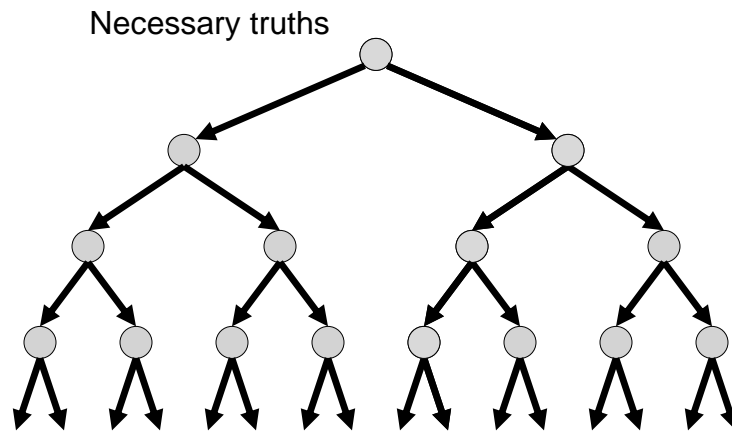
# Random Fork



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# Divine Decision Tree



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## World Paths

- In the DDT, a path represents a world.
- A subpath represents a world segment.
- Risk-free control means that God's prevolitional knowledge implies a unique path.

## Risk-Free Control

- Suppose we want risk-free control.
- Everywhere there is a fork of randomness, God must *know* beforehand how it actually will resolve.
- But how does he foreknow this?
- Examine two proposed solutions:
  - Determinism
  - Molinism

## Determinism

- Basic premise: All events are caused, even random events.  
(*Principle of universal causality.*)
- Deterministic examples of randomness:
  - Decimal expansion of  $\pi$
  - Chaos

## Determinism and Control

- Determinism: For every world segment  $S$  and every random event  $A$  in  $S$ , occurrence or not of  $A$  is determined and known.
- All random forks are resolved by knowing, for each given world segment, whether a random event occurs or not.
- Therefore, knowing all God's actions specifies a unique world (unique path through the DDT).
- But deterministic solution doesn't address strong evolution.



## Middle Knowledge

- Middle Knowledge: God knows (prevolitionally) how every random event will resolve in all possible world segments.
- Counterfactual of randomness: In world segment  $S$ , random event  $A$  occurs.
- Recall: In determinism, such counterfactuals are also known to God.
- Luis de Molina (1535-1600): Applied to freedom.
- Alvin Plantinga.

## Molinism and Control

- Middle Knowledge: For every world segment  $S$  and every random event  $A$  in  $S$ , occurrence or not of  $A$  is determined and known.
- All random forks are resolved by knowing, for each given world segment, whether a random event occurs or not.
- Therefore, knowing all God's actions specifies a unique world (unique path through the DDT).
- Main objection: Why does God have middle knowledge?  
A topic of contemporary scholarship.

## Summary: Compatibility

		Evolution	
		Weak	Strong
ID	Weak	<b>Yes</b>	<b>Yes</b> ← <b>Hard</b>
	Strong	<b>No</b>	<b>No</b>

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## Conclusion

- It is *possible* that God exercise meticulous control through evolutionary random processes.
  - Strong evolution, weak ID, risk-free control.
  - Theory of middle knowledge.
- In this case, the fact that the universe was “designed” is not scientifically detectable.
  - Strong ID is false.
- Possible that theism is true even if strong evolution holds.

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## Continuing Debate

- So why continue the evolution-ID debate?
- Both sides talking right past each other.
- “Compromise” unacceptable:
  - Atheist: Even weak ID is too much.
  - Theist: Weak ID is not enough.
- Confine claims to specific situations
  - E.g., Strong ID applies only to flagellum.
- Other hidden presuppositions play a role in the disagreement.
  - Theism vs. atheism.

## Questions?

[www.edwinchong.us](http://www.edwinchong.us)