

# Real science theories must be testable

No doubt about it, intelligent design theory belongs in the classroom.

It belongs in psychology class, studied as a social phenomenon of how some people react when their beliefs contradict reality. It belongs in history class, studied in the context of 19th-century Christian fundamentalism and its emergence from creationism after an unfavorable Supreme Court decision.

But ID does not belong in science class. Not because of a conspiracy, not because of censorship, but because ID is not science. ID is pseudoscience: A doctrine people who believe it will never change their minds about because they already know it is True. Don't believe me? Ask IDers what evidence would change their minds.

Science produces testable guesses. If something isn't testable, it's not scientific. If the test isn't passed, you admit error. That's where ID fails.

ID proponents claim scientific evidence that living systems were purposefully designed by an intelligent designer. They don't call it God, but it's pretty clear they don't think we were created by space aliens.

Their evidence lies in the notion of "irreducible complexity." Systems with irreducible complexity are made of multiple parts which, when you take away one, cause the system to break. They claim such systems can only be produced by intelligence.

That claim is false.

Evolution can take systems initially used for one purpose and modify them to suit another. The classic example of this is the bacterial "tail," or flagellum. In the early days of ID, believers loved to offer this as an example of irreducible complexity. When an evolutionary pathway was later identified, IDers shifted the focus to something else.

This happens all the time with ID. Just a few years ago, an article was published in the journal *Nature* that showed an exquisitely designed molecular "lock" fitting perfectly into a chemical "key." The authors found both parts were related to other compounds through known evolutionary pathways. When asked to comment, a leading ID theorist said irreducibly complex systems actually needed "three or more" parts. Surprise, surprise.

But what kills ID is its claim the supernatural is part of science. That is flat out wrong. If it's supernatural, it's not science. Not because we're trying to keep God out, but science is about things that could be



OPINION

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wrong, and supernatural explanations can never be proven wrong. They can explain anything, which means they explain nothing.

So what about evolution? Is evolution a science? Critics say it's a religion. I'm delighted to agree that religion shouldn't be taught in science class.

Unfortunately for its deniers, evolution is absolutely scientific.

Scientists make testable predictions based on evolutionary theory all the time, including the existence of transitional fossils (there are hundreds) and the creation of drugs with lifesaving properties.

What about teaching the controversy? I'm of two minds about this. On the one hand, some people think the Holocaust never happened. Do their views belong in a history classroom? Is the only difference that Holocaust deniers are morally repugnant, where as IDers are mostly nice people? Or does the evidence actually matter?

On the other hand, while there is some religious controversy about evolution, there is no scientific controversy. Evolution, understood as descent from common ancestry through modification through various naturalistic processes, is as widely accepted in science as general relativity, continental drift and the standard model of the atom.

Sure, there are lots of interesting details to fill in, but so far ID has nothing to offer that's even close. No testable predictions, no interesting research questions, only passionately held statements of faith.

Ultimately, IDers rely not on scientific arguments, but emotional ones, like an appeal to "fairness." ID advocates claim that it's not fair that ID can't get a hearing in science class. To which I reply: Who said life was fair?

There is no "fair" in science. There is only what the evidence shows. Think you've got something better? Bring it to the table. Make testable predictions that experiments can show to be wrong. Do something better than what our current theories can do. Do that, and you'll have earned the right to stand in front of a science class.

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