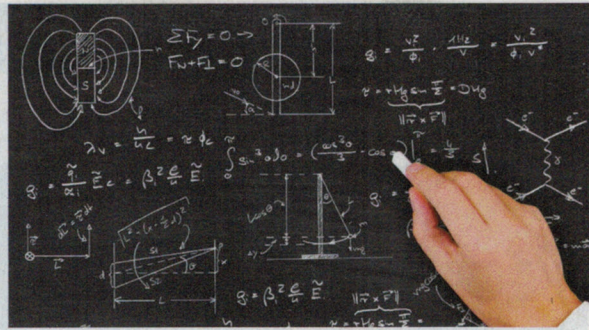


FOR YOUR CONSIDERATION

BY JEFF HESTER



Great Deceiverism 101

Explanation or theory: Therein lies the rub.

The most rewarding part of teaching intro astronomy was always introducing students to a different and useful way to approach knowledge. I'd start with a fun little activity.

Me: "The world was created three seconds ago by a Great Deceiver intent on fooling us into believing that it is much older."

Amid befuddled stares, a student raises her hand.

Student: "But Dr. Hester, I remember when I was a kid!"

Me: "No, you don't. The Great Deceiver gave you those false memories three seconds ago."

Student: "But light from distant stars has traveled for thousands of years!"

Me: "No, it hasn't. The Great Deceiver just makes it seem like that."

The questions and responses go on until a student asks the \$64,000 question.

Student: "This is crazy. How could you know about a Great Deceiver?"

Me: "I remember my parents telling me about it. The Great Deceiver gave me those memories to show me he exists!"

Then I laugh, they relax, and we get into the oh-so-important distinction between explanations and theories.

As an explanation, Great Deceiverism is truly amazing. It can explain anything! For every "what about" question, Great Deceiverism has an answer. That very fact is Great Deceiverism's downfall. Nothing could ever show that Great Deceiverism is wrong. It

is unfalsifiable. It can't be tested. That leaves Great Deceiverism in an epistemological no man's land. Regardless of whether it is true or not, it can never be more than a flight of fancy that tells us nothing about the world.

A theory is a different beast. I've written about this before and will again, I'm sure. This is not a touchstone. When discussing knowledge, this is *the* touchstone. A theory is an explanation that could, in principle, be proven incorrect. A theory makes predictions that, should they fail, would kill it. That vulnerability is its

comes through with flying colors. That's how I know the world isn't three seconds old.

There are many popular explanations that sit on the shelf right beside the Great Deceiver. Intelligent design is one. I don't pick on intelligent design because I don't like it. My opinion makes no more difference than anyone else's opinion. What puts intelligent design there beside the Great Deceiver is that it is untestable. Whatever we might discover, well, that's just what the Intelligent Designer decided to do.

Were there no explanatory theory to account for life on

promising notions), the crucible of falsifiability has only made them stronger.

So there it is. Why do I dismiss ideas like the Great Deceiver and intelligent design? Because they are untestable. And because there are successful, testable alternatives that don't rely on anything but logic and physical law.

Here is my simple challenge to those who would prefer I go easier on intelligent design. Tell me what observation or experimental results would show that intelligent design is incorrect. Tell me what objective evidence would make you abandon the idea. Turn intelligent design into a falsifiable theory, and we can talk. Until then, Great Deceiver, Intelligent Designer, take your pick!

The examples go on and on. Change "three seconds" to "6,000 years," and many people believe in the Great Deceiver outright. Things like pansychism and biocentrism, a favorite of another of *Astronomy's* columnists, are trendy but untestable, unnecessary cousins of the Great Deceiver.

At the end of our discussion, I would leave my classes with a thought. If someone (even yourself) offers up an explanation, ask, "How would you know if that's wrong?" If they can't or won't give you a good answer, they are peddling Great Deceiverism. ☹

"Explanations exist; they have existed for all time; there is always a well-known solution to every human problem — neat, plausible and wrong."

— H.L. Mencken

strength. When predictions that could have destroyed a theory are verified, confidence in the theory grows. That confidence never reaches 100 percent. Apart from statements like $1 + 1 = 2$, there is no such thing as certain knowledge. But a well-tested theory is as close as we humans can get.

Great Deceiverism is even weaker because it's a solution to a non-problem. There is a far better explanation; I have been alive for going on 60 years, and can tell you physics works. Physics as an explanation is a theory. It makes all sorts of testable predictions, and always

Earth, intelligent design might be a tempting philosophical notion to play with. But like the Great Deceiver, intelligent design solves a nonexistent problem. I've written about how the random march of entropy produces structure and complexity. I've discussed how the unguided algorithm of evolution produces organisms ever better suited to their environments. Those explanations — those theories — make countless testable predictions. So far they have withstood the test. Rather than forcing us to abandon those ideas (as we have had to abandon so many

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