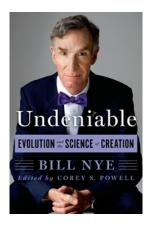
# Why Evolution Is Undeniable

# 'Science guy' Bill Nye explains why the tale told by creationists is totally implausible.

By Michael Morella Dec. 5, 2014



More than two in five Americans believe that God created human beings in essentially their current form within the last 10,000 years, according to a Gallup poll, about twice as many as those who think the species evolved over millions of years and God had no role in the process. In his new book "<u>Undeniable: Evolution and the Science of Creation</u>," TV's "science guy" Bill Nye sifts through the evidence supporting evolution to debunk the ideas of creationism. Nye recently spoke with U.S. News about the "troubling" persistence of such beliefs and the importance of early science education. Excerpts:

#### What prompted you to write this book?

[Ken Ham, president and founder of the fundamentalist group Answers in Genesis,] challenged me to this debate on the subject "Is creationism a viable model?" It turned into a big old deal with millions of views. They work hard to influence students and kids. That's where they cross a line.

#### What is your main argument against creationism?

It's just unreasonable. How can you have all these things we observe in nature and then conclude that the Earth is somehow 6,000 years old? Billions of people in the world are devoutly religious, and they're apparently enriched by the communities that they belong to through their religions. But the Earth is not 6,000 years old. And there's a deep irony that [creationists] exploit or take advantage of all that science brings them – Facebook, cellphones, the food system that we have here in the United States, which is extraordinarily safe – but then promote the idea that the way we came to have all this is somehow wrong.

#### Why do people hold onto these beliefs?

Well, if you're brought up in it, if you're indoctrinated before you're 10 years old, it's a hard thing to get over. I'm not saying I condone it, but I understand it. There are carefully constructed arguments for every reasonable question. And most of what they have is wrong. You can go around and around with these guys. I think of the book really as a primer on evolution – things we should all know about but apparently most of us were never exposed to in science class.

#### What do you make of new education standards in science and math?

My only concern is that they've got to allow enough time for science education at the elementary level. What everybody's worried about is science is being set aside in order to make sure you've got reading, writing, arithmetic, which are all very, very important. Fortune 500 companies are run by businesspeople, to be sure, but [many of them] are trained as engineers. So what I want the science [and] the core standards to include is time for science education at the elementary level. All of those people in Fortune 500 companies got their passion for science before they were 10 years old, I guarantee you. By just making sure that there's time for science in elementary school, we can keep the United States in the game economically.

## What would you have policymakers do to improve science education?

Ebola is the result of evolution. Everybody's running around right now talking about the strains of Ebola, the mutations of Ebola – that's evolution. So this Ebola thing, I hope, is calling attention to the importance of science education. And then policymakers can, I hope, embrace that and make adjustments. Built into our political system is change, which is akin for me to the process of evolution. We are able to adapt. We have a responsibility to lead the world in Ebola.

#### What can be done to get more children interested in science and math?

I guarantee you that everybody in elementary school is interested in science. But we beat it out of them because there's too much to do. If I were king, science would be a high priority at every school grade. And an adjustment I believe we can easily make with regard to math education is to algebra. Algebra is the single most reliable indicator of whether or not a person will pursue a career in science. If we just started teaching symbols to represent numbers earlier in school and then had less pressure on a student by the time he or she gets to seventh grade or eighth grade, then we'll have more success in algebra education, we will have more success in science education, and we will have a better economy. I believe it's cause and effect. We don't want to raise a generation of science students who have no critical-thinking skills, who cannot evaluate evidence. That's a formula for disaster.

## What's your message for teachers?

Evolution is the fundamental idea in all of life science, and when you understand it you will know more about yourself and every other living thing on Earth. We are made of atoms that were blasted out of ancient stars, and so we are somehow at least one way that the universe knows itself. That fills me with reverence, and I hope it fills teachers with reverence. I hope that the passion associated with reverence they can imbue into their students.