

# Cosmic Chatter

Thoughts on space and human exploration

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## AMERICAN SCIENCE EDUCATION IS FAILING

I like polling data. Maybe it appeals to the quantitative side of my brain, or perhaps I just like the little peek into people's thinking. A [Pew poll](#) which hit the news today caught my attention. In a robust survey of nearly 2,000 Americans, they found that a third of our population rejects the notion of evolution. What's worse, the numbers aren't falling. In fact, they're rising.

It's an astonishing contrast - never before have our lives been so immersed in scientific achievements, yet we increasingly doubt the processes which produce them and the people who toil in those labors. From the GPS in our cars to the phones in our pockets to the bottles in our medicine cabinets, most of us could not imagine life without the products of 20th century science. But, when pressed, more and more Americans are shying away from acceptance of the wider world of scientific thought. How can this be?

I'm going to go ahead and equate not believing in evolution with not believing in science. After all, evolution by natural selection is among the most studied and tested and accepted theories in any branch of science. Far more than string theory, or gamma-ray bursts, or any of the other things we often talk about on this site. Can we be absolutely, tee-totally, 100% sure it's correct? Of course not, but we're about as sure as we can be and, if you can't accept that, how can you accept anything else in science?

So, here we are: about a third of Americans don't believe in science. That's not good. And it's even worse considering the decades we've spent with the STEM (science, technology, engineering, math) fields at the forefront of our educational efforts. Somehow, despite the billions of dollars spent, innumerable textbooks written, and the comprehensive tests developed, we cannot convince many students of even the most well-accepted facts in a fundamental field.

Perhaps this is because many of those teaching science do not believe it themselves. No one is going to go the extra mile for an idea they don't even accept themselves. These students are never properly exposed to scientific thought and then they go on to become teachers and perpetuate an unfortunate cycle.


Maybe the whiz-bang nature of our technology today abstracts the scientific principles at work behind our everyday tools. It's not too hard to understand how a water wheel works; a microwave oven is nigh impenetrable. Even I, physics degree in hand, often find myself wondering how some nifty new gadget functions. Arthur C. Clarke once postulated that any sufficiently advanced technology is indistinguishable from magic. Without common, everyday experiences with the physical principles that govern our technological lives, we are forced to take their existence on faith. And once faith is in the mix, other, far more vocal messages come into play.

Could that be the solution, then? To simply be louder and more vocal about the ways in which science affects our lives? Science doesn't just give us the obvious stuff - planes, electricity, and MRIs - it also created the glue that binds the pages of my book together and the cookie dough (!) in my ice cream. If we could see the sheer volume of scientific accomplishment needed just in the room we're sitting, it'd be harder to reject any scientific principle out of hand. And that'd go a long way towards helping me sleep at night.

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 December 30, 2013 /  Morgan Rehnberg

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