

Curiosity and Wonder

The Kansas Board of Education kept the debate over teaching evolution in the national media last week. They voted to adopt a curriculum that casts doubts on the theory of evolution. Several national science organizations have weighed in against elected boards establishing such standards. To many scientists these efforts seem like meddling. So unless the critics of evolution find more support from the scientific establishment, this political strategy is fraught with problems.

Nonetheless, it must be acknowledged that many Americans are concerned about what their children are being taught in science class. However, I think their concerns are misplaced. Society has an ethical obligation to teach the best available science. However, we also have an ethical obligation to teach science in the best possible way. Perhaps the controversy should focus more on the way science is being taught. The reason being that science education is often dogmatic, and this is a more insidious threat to faith, and perhaps science.

After graduating from college with a science degree, I taught physics and chemistry for a few years. I especially remember an extremely bright physics student, because she was always asking, "How do they really know that?" This became irritating because we had so much material to cover. But she was right to ask. She had the true scientific attitude of a skeptic. Many of the other students seemed happy to master the required information without giving it much thought. Their goal was to earn a grade, and in order to do this they submitted to the authority of the textbook and the instructor. Regrettably, science education often reinforces this attitude. The courses I taught were rigidly structured by a state-mandated outline. The outline was exhaustive and left little time for anything but to work through the material.

The point here is that, whether by design or not, this approach requires that science be taught dogmatically. Students are presented with a set of unquestionable facts and formulas, which seem to have fallen from heaven fully formed. The dramas, personalities, conflicts and controversies that have created the all too human enterprise of modern science have been largely edited out. The evolution of modern science is colorful and messy, but students receive a sanitized and dehumanized version of this story. There is an implicit message in this method of teaching science: science is an authoritative body of unassailable truths.

This implicit message reinforces one of the more extreme and outdated versions of the scientific enterprise. Richard Dawkins is a popular defender of this version. His understanding of science leads him to be a strident opponent of faith, which he sees a poor excuse for weak thinking. Dawkins holds that Darwinian theory is the supreme insight into nature. He writes in *The Blind Watchmaker*, "Our existence once presented the greatest of all mysteries, but...it is a mystery no longer because it is solved. Darwin and Wallace solved it, though we shall continue to add footnotes to it for a while." For Dawkins, understanding means nothing but scientific understanding, and purpose nothing but Darwinian purpose. The science writer Paul Horgan summarizes an interview with

Dawkins by saying: “Dawkins...leaves no room for mystery, meaning, purpose—or for great scientific revelations beyond the one that Darwin gave us.” In Dawkins’ version of the scientific enterprise, science provides us with an authoritative body of truths. It follows that science education becomes dogmatic. Moreover, this approach leaves no place for wonder and mystery in the classroom.

Luckily there are other versions of science where scientific curiosity and religious wonder are not in opposition. Many scientists throughout history have seen scientific curiosity and religious wonder as complementary. For example, the scientist and theologian, Alistair McGrath writes in his book, *The Reenchantment of Nature*, that as a child, he was “fascinated by the mysterious patterns of the constellations” and “the slow movement of the planets.” This sense of wonder led him to study science at Oxford University. McGrath writes of his studies, “Contrary to what one might expect, my sense of wonder at the intricacies of nature was in no way diminished by my research in the physical and biological worlds. If anything I found myself increasingly appreciative of the beauty and complexity of the world.” McGrath approvingly quotes Richard Powers, who writes, “[Science] is about cultivating a perpetual sense of wonder in face of something that grows one step richer and subtler than our latest theory about it.” In this version of the scientific enterprise, the fruits of scientific curiosity are never final. Nor does science displace mystery and wonder. Rather they work together to enrich each other.

In closing, the debate between science and religion in the classroom might be advanced if scientific education were to become more scientific. That is less dogmatic and more skeptical. This would have the positive effect of encouraging in students both curiosity and wonder.

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