Photo courtesy of Emily Ewins

Reality: Better than Fiction

Like many Americans, my taste for the sciences was soured at a young age. I recall lugging around heavy, impersonal textbooks full of confusing diagrams and bizarre word problems. I was frustrated by the rigidity of the left-brain dominant disciplines and emerged from high school with great animosity towards the subject as a whole. From the course material presented I learned that 17th century revolutionaries had reshaped primitive notions of an Earth-centric universe and cracked the governing codes of nature. Neither quantum mechanics nor general relativity had been introduced as anything other than far-fetched, ungraspable notions reserved for supercomputing brains like Albert Einstein's.

My teachers taught classical physics as the ultimate doctrine, but I refused to accept it as the concluding step in scientific progress. Despite my opposition, my instructors dogmatically insisted that Newton's laws and descriptions of the universe were as close to a complete understanding as I would get. I was able to adequately regurgitate that information on command, but my rebellious nature would not allow me to personally accept such a definitive end of advancement in any subject matter. So, inspired by the adventurous tales of historical radicals, I rejected physical laws as universal and took it upon myself to develop a unique, alternative perception of my physical surroundings.

Up through the spring semester of 2006, I created intricate theories about the nature of reality; the more far-fetched, I thought, the better. I truly believed that our universe was freely interpretable and that empirical data was no more convincing than my own mental constructs. This notion came crashing down during the preview lecture for a course that would ultimately change my perspective on the universe.

"Cosmos" is an intense, upper-division general-education physics course. It allows non-science majors to appreciate the glory of cosmology and astrophysics without demanding the mathematical background required of most science classes. In my course, lecturer Stone Brusca provided qualitative explanations of numerical calculations involved in quantum mechanics, general relativity, and special relativity. He combined these with Web pages featuring incredible images of earth-scapes and outer-spatial phenomena, impressive demonstrations (including an unforgettable episode involving a professor sandwiched between two beds of nails), and numerous visual analogies to ensure that all brain types and learning styles were able to grok the complex ideas presented. Bridging the fissure between left- and right-brain processes, the multimethod technique used in this course brings an understanding of the cosmos into the grasp of any interested person.

This newfound knowledge challenged me to reevaluate my spiritual constructs and provided the foundation for a richer appreciation of the complexity of our universe. I am now proud to call myself an utter and complete "Cosmos" nerd. Easily distracted by images of virtual particle eruptions, I am fascinated by the possibilities of intricate phase entanglements, and have night frights about matter-antimatter annihilation occurring in my room. I am a dork, and I love it! For the first time in my academic career I have become completely consumed by a subject… ironically, one that I had long rejected from years of negative exposure.

After fifteen weeks of rampant dendrite development, we wrapped up our semester by addressing the last of seven backbone conclusions: the the anthropic principle, to introduce the theory of evolutionary cosmology. After years of soul-searching for bizarre speculations about the nature of our universe, I finally discovered that empirical, scientific "truths" really are stranger than fiction. I would never have reached such an astounding conclusion on my own.

I have recently been inspired by a Serbian proverb that means infinitely more to me now than it ever could have prior to studying the cosmos. "Be humble, for you are made of earth. Be noble, for you are made of stars." This guidance effectively summarizes the paradoxical duality I now face in feeling so small and insignificant in the universe, and simultaneously so priveleged to be part of an existence that developed with such finely-tuned precision.

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