Evolution course explores theory in context of science, philosophy and religion

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Prof. Michael J. Chapman’s evolution course resonates in a way many courses don’t. Its scope is immense: it examines the geological development of the Earth and the origins of many plant and animal species, including humans. While it contains much hard science—genetics, mitosis, meiosis and the like—it also raises questions that would appeal to a religion or philosophy major: Can science reconstruct prehistory? How do people react to scientific evidence that seems to challenge their religious views? Why are we here?

Chapman, a general geneticist, earned his doctorate from UMASS and went on to postdoctoral research with Lynn Margulis, an established name in biology (they are still associates; their most recent collaboration was in cell motility). Chapman taught high school for a year—he says that was “interesting”—and worked as a researcher at Mount Holyoke College before coming to Holy Cross. Chapman is enjoying his first professorial position here. It combines two of his loves: teaching, which he views as “more than a job or profession,” and research.

“Students are important to me,” says Chapman, and he feels he has a “good rapport with them.” Part of this rapport must come from his approach in front of the blackboard: he is a compelling and enthusiastic guide to course material. Chapman also seems like a guy who’d be welcome at any Super Bowl party in America; he’s easy-going, brews his own beer and tells funny jokes. For instance, he says he wears “earth tones” because he imagines an alien predator swooping to earth would target a “brightly-dressed fool.”

The evolution course, taught in the fall, is open to non-biology majors only. It examines evolution on the molecular, species and population levels. Along the way, there is a field trip to the Harvard Museum of Natural History, which features a trove of dead plants and animals housed in what feels like a creepy old attic. A few films supplement the lectures and discussions, including a couple episodes from an eight-part PBS series on evolution. In fact, Chapman recommends this series, which still airs from time to time on WGBH, to anyone.

The course also addresses the intense controversy that has always surrounded evolution. Today, the majority of scientists adhere to the theory. Chapman even believes that it is a central paradigm in science and that “nothing in biology makes much sense except in light of evolution.” Even the Pope conduced some principles of evolution in a 1996 statement to the Pontifical Academy of Sciences.

Fundamentalist Christians, however, still hate the whole idea that the Earth is billions of years old and that species have changed drastically over time. Furthermore, Chapman says “evolution is threatening to religious people because it seems immoral.” Survival of the fittest is “a selfish phenomenon” that seems to “go against the things Jesus said.” Thus, many conservative Christian colleges offer what they call “a biblical response” to evolution, while other creationist groups deny it as a false religion. The website creationist.org speaks for this faction: “The priests of evolution labor diligently in our public schools to indoctrinate our children” with what they repeatedly call “bad science.”

Still, neither creationists nor much else can frustrate Prof. Chapman. He says that to be a researcher, “frustration tolerance is more important than smarts.” In fact, one summer, when he was researching his dissertation at UMASS, a fungus invaded his greenhouse and attacked the evening primrose plants he worked with. Hundreds of plants died, and his project was set back a whole semester. Of course, this fungus didn’t stop Chapman. Survival of the fittest was at work.

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