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California college helps place humans in universe story

Sharon Abercrombie | Nov. 11, 2011

In the class "Accretion and Solar Activity," students simulate the birth of planets.

After two brief months of studying "big history," Andy Gramajo, 18, has a new perception of the human species.

"When compared to the universe, we are a pixel on a computer screen," he said. "I feel privileged to learn about the big bang and evolution."

Gramajo is among 250 freshmen who are participating in a unique educational venture at Dominican University in San Rafael, Calif.

Big history has become the school's First Year Experience for freshmen. It has brought together the social sciences, the arts, humanities and sciences to look at the place of human beings within the context of the universe story, explained Mojgan Behmand, English professor and program director.

According to Behmand, 50 big history classes are taught on campuses around the world. But Dominican, a secular school with Catholic roots, is the only university that currently requires all of its freshmen to take the classes, she said. They study the origins of the universe, and consider such topics as human cultures, political systems, visual arts, trade, sex and gender, philosophy, and religion through the lens of big history.

Now in its second year, big history includes a sophomore follow-up component. Students move into areas of social and environmental justice work, connecting with the school's Green Master of Business Administration program and other progressive groups in the Bay Area.

Brian Swimme, coauthor of *The Universe Story: From the Primordial Flaring Forth to the Ecozoic Era -- a Celebration of the Unfolding of the Cosmos*, considers the university's educational innovation "as a momentous first step [away] from the industrial to the planetary era."

Dominican's First Year Experience is the work of 35 faculty members who collaborated to bring together their particular fields of expertise into a collective body of knowledge and wisdom, Behmand said.

One of the chief shapers of the program is Cynthia Stokes Brown, a professor emeritus in history and education at Dominican. "Big history is everybody on the planet's story," she told *NCR*. "It doesn't belong to any one

religious tradition but puts human history in the context of the universe."

Last August, in a *Marin Independent Journal* story, she elaborated: "It reinforces the idea of looking at something globally rather than regionally, reinforcing your sense of identity as a human being, rather than a part of the United States or even Western civilization."

In 2007 Brown wrote a book about the topic titled *Big History: From the Big Bang to the Present*. She begins by telling about the universe when it was the size of an atom, and concludes with the situation of our planet today -- a place inhabited by 6.1 billion people in an age of global warming. It views prehistoric geology, human evolution, the rise of agriculture, the Black Death, Columbus' voyages, the industrial revolution, scientific advances and environmental degradation.

A National Book Award winner, Brown has based her knowledge of big history on the work of its founder, David Christian. Christian, a professor of history at Macquarie University in Sydney, Australia, coined the phrase in 1991, she said. Brown began offering a class on big history at Dominican during the 1990s, incorporating refinements each year.

Her teachings inspired the First Year Experience.

A major feature of the new big history offering is its experiential component. Classes move students out of their heads into their hearts and souls to ponder the processes they've taken part in.

For example, Gramajo and his classmates recently spent a night outside, stargazing. A group of 20 local amateur astronomers helped them define what they were seeing.

One day, they simulated the birth of planets, by orbiting around their teacher, who was playing the sun. Wearing different colored ribbons on their wrists, the students gravitated toward those wearing the same colors. This exercise modeled how the planets formed from large chunks of rock, iron and ice as they began to circle around each newly formed star.

Students discovered that Earth was the only planet that happened to be situated in the habitable zone, where water can exist as a liquid.

For another class, they examined resin replicas of seven different hominoid skulls of our ancient ancestors.

In early September, students and faculty viewed a new 52-minute documentary, "Journey of the Universe," by Swimme, a cosmology professor at the California Institute of Integral Studies in San Francisco. The film is a collaboration between himself and Mary Evelyn Tucker, codirector of the Yale University Forum on Religion and Ecology in New Haven, Conn.

Swimme is no stranger to the Dominican University environs. "I gave my first public lecture here 30 years ago and it meant a lot," he said.

Swimme told students that big history is an exciting threshold moment in the evolution of the universe, one of those events that happen thanks to a creative intelligence at work. "We've now learned that we don't live in a meaningless, mechanical universe. It doesn't go through various cycles over again. Instead it changes and creates capacities for it to invent itself in new ways," he said.

"It is no longer enough that we have our American, African and French stories," he remarked. "It is now

possible to study how to become a dimension of the conscious planet itself, something you can't get from the study of nation-states. "

In an email to *NCR*, Swimme said that for the past 300 years Western civilization has "utterly failed to orient its citizens into Earth's systems of life. This is especially obvious if we examine the curricula of our universities, where the only course all first-year students have to take is always based on not Earth, but either Western civilization or world history. No wonder we're oblivious to the destruction of the planet's life. But now the universe itself -- not humanity -- is being taken as the fundamental context for education."

After the film, one student asked Swimme which part excited him the most. "The explosion of the supernova," he answered. "It is so unbelievable that an entire star had to explode in order to create carbon for our skins." Other points of wonder for him, Swimme said, are "the care and love which species have developed for their young over millions of years," and the excitement of seeing where the evolution of love takes human beings in the future.

Inevitably the question of God came up. One faculty member asked Swimme how he handles the notion of a supreme being since "God is such an integral part of people's life."

"I handle it very poorly," Swimme acknowledged. "But here is one way to think about it. If you start to talk about God, which God are you talking about? I believe that within the context of big history, theologians will discover new insights for us. The universe is so spectacular. It is an ongoing miracle, a mystery. The universe is permeated by an astounding creativity which lives in all of us."

Behmand said, "As to the question of God's presence in this program, this is the wrong question. I believe we should neither teach God's presence nor absence in these courses. Either attempt would be misguided. What we do teach in this course is learning to live with new ideas -- for some students and faculty -- and the ambiguity and struggle resulting out of the synthesis of sometimes contradictory ideas."

Behmand believes that if big history teaches participants "the skill to listen and to make room for ideas uncongenial to their way of thinking, to struggle to synthesize ideas that on the surface seem to exclude one another, then we have taught and learned a skill that is fundamental and equips us to live in the 21st century and be true guardians of our planet."

Phil Novak, a professor of humanities and religion at Dominican University and part of the big history project, notes that the importance of the universe story and big history "lies in [Passionist Fr.] Thomas Berry's hope that by teaching these concepts we can move toward 'reinventing the human at the species level.' "

"What I am pointing toward," Novak said, "is not inoculating the course with spiritual thoughts, but telling the story with a pervasive, but not intrusive sense of the spiritual, philosophical questions it raises about human nature and destiny.

"If big history undermines our former sense of God, but we find ourselves unable to abandon our deepest intuitions of spiritual presence, then how shall we understand those intuitions in light of the deliverances of big history?"

[Sharon Abercrombie, a frequent contributor to *NCR*, writes from Columbus, Ohio.]

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