



Harvard Divinity School *online*

Going Beyond Scientific Discourse

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The once prevalent suggestion that religious thinkers and scientific scholars cannot truly engage in meaningful discourse has been mostly reduced to a moot point.

Take, for example, two recent MTS graduates from Harvard Divinity School, Mara Block and Chris Halloran. They don't just talk about science, they do science—studying experiments, working in labs, and finding new ways of thinking about discovery and scientific inquiry.

Along with seven other Harvard students from across the University, Block and Halloran were part of the inaugural course, History of Science 126: "The Matter of Fact," taught in spring 2008 by Jimena Canales, Assistant Professor of the History of Science.

"The course addressed the question of how facts come to be understood," says Block. "I'd never taken a history of science course, and I didn't realize how hard and how different the historical aspect would be."

Much of the course was devoted to examining various historical instruments of science, which the students were able to select for themselves from a vast collection located in the basement of Harvard's Science Center.



Chris Halloran, MTS '08, poses with microtome and microscope.

At the end of the semester, students from "The Matter of Fact" and students from another course, "More than Meets the Eye," organized a joint exhibition on the second floor of the history of science department's Putnam Gallery. The event served to showcase the instruments, and students provided an accompanying description together with a fact they explored about each chosen instrument. The exhibition will remain open through the 2008 fall semester and possibly beyond.

As an undergraduate at the University of Redlands in California, Mara Block majored in physics and religious studies. She will stay on at Harvard, pursuing a doctorate in the study of religion.

When asked why she chose religious studies over a scientific discipline, Block recalled that, while doing an internship at NASA, she found herself working alone with a computer for long stretches of time.

"I like talking and interacting with people," she said. "And I really want to teach. I thought if I was teaching, for example, Calculus II, the content is never going to change. No one would ever have anything to teach me. Whereas with religious studies, the issues are constantly changing. I would be learning from students, and I think it would be much more fun to teach."

Block described walking around the basement of the Science Center with Jean-François Gauvin, curator of the collection of historical scientific instruments, looking for an instrument that would serve as the basis for her final project. Her interest in optics eventually led her to choose two mirrors that Wilmer C. Anderson used at Harvard in 1939 to more accurately measure the speed of light. At the time, the experiment was widely praised, receiving media attention from *Life* and *Time* magazines.

Handling the heavy mirrors was something Block appreciated. "I'm usually in the library doing research or writing," she said. "This involved a different kind of research, and there was a lot more creativity involved."

The course was designed by Professor Canales, who has a few slots each year where she is given "free reign" to create a class she wants to teach. With "The Matter of Fact," she was told early on that there would be an opportunity to open an exhibition at the Putnam Gallery.

"We were the pioneers," Canales said. "Nobody had done this before, and there were a lot of things we had to iron out along the way. In the end I was happy because, with nine students in the class, all of them got to choose an instrument."

One of the benefits of organizing an exhibit that is topic based, rather than being organized chronologically or by instrument or discipline, is that, otherwise, some instruments that would normally never make it out of the basement are suddenly thrust into view.

"We ended up doing a lot of introspection as to why they had chosen their particular instrument," Canales explained. "Why was it evocative to them? Was it how it looked, or what they thought it did?"

Allowing the students to examine and explore the instrument added a component to the class that was not textual. When Canales first conceived of the assignment, she wanted them to write the personal story of the fact.

"But that's sort of ambiguous," she explained. "Because it's personal to whom? Personal to the fact? Personal to them? That was a way for them to get out of the usual narrative of simply introducing the instrument, the instrument's maker, and the date it was first used. I wanted them to find out for themselves, and then to tell us, why they found certain facts intriguing."

Canales admitted to being surprised there were Divinity School students interested in this type of class. On the other hand, she said it made perfect sense that they would be interested in the core question of the class: What is a fact?

Before coming to HDS, Chris Halloran studied biology and religious studies at the University of North Carolina. It was during a conversation with Block that he learned of the class.

"I was going to end up taking all my courses here at HDS," he said. "But Mara told me about the class, and she knew about the final exhibit, which hooked me."

As he was perusing the vast number of instruments with his classmates, he noticed the microtome, which slices biological specimens into very thin fragments that then can be put onto microscope slides.

"For three years before I came to HDS, I worked as a lab tech in a neuropharmacology lab in North Carolina," Halloran said. "I used a vibratome, a cousin to the microtome, so it felt like a natural fit to look at the microtome. Then the microscope just fell into my lap, because it was owned by the same man, William Morton Wheeler. I was able to juxtapose the two instruments."

Halloran, the only student in the class to examine two instruments, knew the class and final project would involve ways of thinking he'd never explored.

"To go from the mostly philosophical work of HDS to the history of science, or to being a historian, was one of the challenges I enjoyed about the class. It was a paradigm shift."

Block and Halloran do their best to avoid the often cantankerous debate that has, in the minds of some, pitted science against religion.

"I'm more interested in the interpretive issues, which involves stepping back and questioning the whole framework," says Block.

According to Halloran, with so many people portraying science and religion as two boxers sparring in a ring, a greater knowledge of science by those who study religion is beneficial, if not necessary.

"Personally, I don't see a conflict," Halloran explained. "I've taken my religious or spiritual beliefs and tried to make them align with scientific knowledge. That's why I am a Deist. Everything else, to use a William James term, is an overbelief."