Science, Religion

It is the mark of an educated mind to be able to entertain a thought without accepting it.

Aristotle

Contents

FACULTY INTENSIVE
Day Four

We saved Thursday for one of the most difficult topics of them all: religion. Unlike many campuses in the contiguous states, Alaska universities do not include large, visible student populations with religious backgrounds other than Christian. But like many other campuses, we've been struggling with how to work well with our evangelical or fundamentalist Christian students. How do we respect their religious identities and convictions while simultaneously honoring our academic responsibilities to prompt students to see their set of values as one possibility among others and to critically evaluate the assumptions that underlie their world views?

Sample Agenda

- Exercise: Role Playing
- Discussion: Books of the Year
- Exercise: Cocktail Party
- Presentation: Theological Arguments for Staying in the Conversation
- Panel Discussion: Religion in the Classroom

We tried a variety of approaches in our faculty intensives. In one, we introduced a song with lyrics that challenged strict interpretations of the Jesus story, pairing it with an exercise called the Cocktail Party, in which people mingled as if at a social event, having a series of conversations about their responses to the song. In another, we showed a DVD from Portland Community College's Illumination Project (also sponsored by the *Difficult Dialogues* initiative) which uses a strategy called the Theatre of the Oppressed to explore religious issues on campus. The technique consists of a performance in which students and other audience members act out various scenarios in alternate ways to explore the potential for achieving different endings. We did our own version with a role-playing exercise to help participants practice responding when religion surfaces in the classroom.

We also had a few traditional lectures. Greg Kimura, president of the Alaska Humanities Forum, presented some theological arguments to refute the myth that religion and reason are in irreconcilable conflict. Religion instructor Kristin Helweg Hanson gave a presentation on faith-based developmental theory that explained what's at stake with regard to religious identity in the classroom (how some religions require their members to witness, for example). She gave a second presentation on teaching to the whole student that explored student needs for finding meaning and purpose in life in addition to intellectual skill-building. For the third intensive, English Professor Toby Widdicombe shared strategies for using our Books of the Year to explore themes of religion and politics in the classroom.

Also during the third intensive, we held a panel discussion on religion in the classroom featuring APU Professor of Marine Biology Leslie Cornick, UAA Professor of Physics and Astronomy Travis Rector, and APU Professor of Religious Studies Regina Boisclair. This panel extended a conversation begun in a previous faculty workshop led by Leslie, Travis, and UAA English Professor Daniel Kline. As it happened, the panel discussion triggered one of the liveliest dialogues of the whole year-long project.

STARTING THE CONVERSATION

Role Playing

Say, for instance, you're a science professor. You're teaching your class, covering your content, talking about evolution or the physical age of the earth or the vastnesses of space and time. Suddenly one of your students erupts. In response to the scientific content of your class, the student stands up, calls you "the devil's own messenger" and begins witnessing about religion. How do you handle this? What do you do?

Because something similar had happened to one of our participants, we used this scenario in one of our faculty intensives as the basis of a role-playing exercise. The idea is to take a basic story, something that has happened to one or more of those present, and replay it in multiple ways with different people acting out alternate endings. In the spirit of the theater, this exercise creates a rehearsal space. The person who presents the story gets to be the director, while others act out the roles of professor and student(s). As the actors play out alternate endings, the whole group gets to see and consider a multitude of possible responses. As they watch others wrestle with uncomfortable situations, participants can clearly see how hard these kinds of teaching challenges are for their colleagues as well. In a situation with no single right answer, we come to realize that we are all in it together.

We've found role-playing to be an effective exercise. It works even though nobody has a definitive answer. It works because it's a practice. Through repetition, the sting goes out; through alternate responses, you have a real chance of discovering a strategy that will work for you; through practice, you have a better chance of responding more productively the next time you find yourself in a similar situation.

Role Playing

This exercise creates a practice space for trying out alternate potential endings to classroom incidents.

Scripting
Choose an incident that happened to one of you or define a scenario that is substantially similar to something several of you have experienced. Specify how many players are involved.

Casting
The faculty member who has experienced the situation acts as director, with others taking the roles of faculty member, students, or other necessary players in the scene.

Staging
On the first run-through, try to act the scene exactly as it happened – unsatisfactory ending and all. Then do it again, but this time, the player acting as faculty member can improvise a different response and see how that plays out. Repeat several times, with other players stepping into the roles and improvising alternate endings.

Critiquing
After the last run-through, engage in a group critique of the various strategies and outcomes.

The role-playing exercise was the most helpful technique of the week for me. It was useful to hear how the original instructor handled the situation and to see how others chose to facilitate it. This was the most like situations I deal with, where the topic at hand is not necessarily controversial to me, and thus the direction the students take it in, or the charged nature of it for some students, takes me by surprise. How to handle those situations is exactly what I was hoping to come away with.

Tracey Burke
Social Work

Books of the Year

For the second year of our program, we chose two Books of the Year that provide nuanced perspectives of religious extremism: *The Handmaid's Tale* by Margaret Atwood and *The Swallows of Kabul* by Yasmina Khadra. Both are works of fiction. Both explore a kind of fundamentalism (one Christian, the other Islamic) and its effects on human relationships. One is by a female author, the other a male author (writing under a female pseudonym). One's writing style is relatively spare, the other lush (translated from the French). Both books are short and accessible to students from many backgrounds.

These two books invite dialogue around certain related themes:

- The impacts of religious fundamentalism
- The types of love between couples
- The power of crowd behavior
- Power relationships (between men and women, between women and women, and between men and men)
- Environmental collapse and response

We selected these themes to complement a large-scale community education project called *Engaging Muslims: Religion, Cultures, Politics* that also ran throughout the year. The APU-sponsored series brought four nationally prominent Islamic scholars to Anchorage for a series of lectures and workshops.

BOOKS OF THE YEAR 2007-08

The Handmaid's Tale
— Margaret Atwood

This modern classic tells the story of Offred, a Handmaid in the republic of Gilead, who has become a slave for her ovaries in a dystopia where fertility is declining and politics and religion have become powerfully intertwined. Offred can remember a time when things were different, when women had families and jobs of their own, and access to knowledge and literature as well.

The Swallows of Kabul
— Yasmina Khadra

This chilling novel tells a story of two couples living in Afghanistan under Taliban rule. Mohsen and Zunaira are survivors of Afghanistan's educated middle class; Atiq and Musarrat are a jailor and his dying wife. The public stoning of a condemned prostitute sets these four people on new paths in a world awash with extremes of both fanaticism and tenderness.

Using a Book to Explore Religion and Politics

A few suggested techniques to help students explore issues in a common reading.

Discover relevant themes
Ask students to identify themes in the book relevant to your course. Have them provide an example (with a quote and page number) that illustrates each theme, and discuss parallels in modern American culture and society.

Pair it with a film
Show a film on a related subject or pair it with a film version of the book itself. Ask students to look for differences and to notice the effects of those choices on the original themes.

Pair it with the Five Minute Rule
Ask students to imagine the worldview represented or held by characters in the book. Under what conditions might this perspective be true? What would be different if it were true? What is interesting, helpful, intriguing about this view?

A novel in a science class? It only seems like a contradiction. *The Handmaid's Tale* explores themes of biology, psychology, ecology, and sociology, to name just a few of the sciences represented. This essay describes some simple assignments that link readings from the book to the content of a social science seminar on gender. As the students discovered parallels to the world around them, the professor rediscovered the book's place in her own past.

Using *The Handmaid's Tale* in a Social Science Seminar on Gender

Dr. Claudia Lampman
Professor of Psychology
University of Alaska Anchorage

Last spring, I found out that a course I was scheduled to teach the following fall had been misprinted in the schedule. Instead of the new seminar I was planning on Positive Psychology, I was listed as teaching a course on the Nature and Nurture of Gender. I love the Gender course and have taught it many times, but I was also ready for something new. As I was trying to decide whether to post fliers about the change of title or just do the gender course again, I learned something great. The Books of the Year picks were out, and one of them was *The Handmaid's Tale* by Margaret Atwood. In a split second I made the decision to stick with my gender class—it was an opportunity to include a book that had made a huge impression on my own life twenty years earlier. What luck.

I discovered *The Handmaid's Tale* following my first year of graduate school in social psychology. It was a bit of beach reading (back when we still baked our bodies). Around the same time, I read John Irving's *The Cider House Rules*, and I think both books played a role in my budding interest in the psychology of gender and sexuality—the very things I teach and research today. Atwood's book fascinated me and scared me, and I thought of it often during the coming years as I struggled with infertility. As a psychologist, I am fascinated by how absolutely critical fertility (or lack of it), pregnancy, and motherhood (or the choice to remain child free) are to a woman's self-concept and the things people believe about her based on the choices she makes. Fertility is something women take for granted in our youth, spend years trying to suppress, long for when we can't conceive on cue, and at some point have to say goodbye to.

The Handmaid's Tale shows us that a woman's fertility does not ever really belong to just her—that this miraculous piece of nature is not just about an individual woman's decision or fate to mother or not. It is always, always a cultural, political, religious, and physical event that signals the health of a woman and the society in which she lives. When we see a pregnant woman, our reactions to her are quite different depending on her age, race, social class, and marital status. Complete strangers came up and touched my pregnant belly, but I was a middle-class white woman wearing a wedding ring. How many express the same type of public joy for a pregnant teen pushing a baby stroller?

My class on gender is an interdisciplinary social science course, heavy on the science. The field of gender is changing very rapidly, and texts on the psychology of gender now contain chapters on the biology and evolution of gender-based traits and behaviors. My students read about research on PET scans, MRIs, and the sexual behaviors of rodents and primates. We spend weeks discussing sex differences in the brain, hormones, and innate cognitive and social abilities and traits. Although I

gave my students pretty standard assignments to go along with their reading of a novel, the reading of a novel is definitely not a standard assignment in a class like this one. It will be from now on.

I gave the class four weeks to read the book, postponing any discussion until everyone had finished it. The first assignment, about a month into the course, was to identify five gender-related themes in the book, provide an example (with a quote and page number) that illustrates each theme, and discuss parallels in modern American culture and society.

Here's what one student wrote:

The book never cites one specific reason for the decline in births. "The reasons for this decline are not altogether clear to us. Some of the failure to reproduce can undoubtedly be traced back to the widespread availability of birth control of various kinds, including abortion, in the immediate pre-Gilead period." (Atwood, p. 304) The book takes aim that birth control and abortion are possible reasons for continuing low birth rates. Although no scientific explanation is given as to why birth control is thought to be to blame for dwindling birth rates, this blame assessment is one that is paralleled in current American culture. Past abortions leading to higher breast cancer risk and infertility is a topic that is being battled back and forth in the media. Pro-life groups assert a link between abortion and infertility. Pro-choice groups assert that abortion is safer than childbirth and that the pro-life claims are scare tactics (The Guttmacher Institute). The debate between family planning and increased fertility risk is one that is currently being fought in America.

The discussions were fantastic, and we were able to connect their reading to other things they'd been learning about in class.

In a second assignment, students watched the film version of *The Handmaid's Tale* and wrote a paper comparing the film and book. My goal was to have them speculate about why various changes were made and discuss whether or not gender played a role in the differences cited.

Here's what one student wrote:

In the book there is an emphasis on how modest the dresses of the handmaids were. We are left to imagine the garments as being heavy and formless. However, the garments in the movie are not as modest and cumbersome as those described in the book. There is also more of an emphasis on sexuality and nudity in the film. In one scene of the film, Offred is in the window naked and Nick sees her. The use of nudity reveals the need to have such scenes in a film to attract moviegoers. If the nudity of the female body is needed in order to attract members of our society to watch a film, it leads one to question if indeed our own society is that much different. Atwood portrays women of Gilead as solely being defined by their bodies. The use of the female physique in television and movies objectifies a woman's body, causing her to be defined by her body. The pressure from the media to be thin and beautiful surrounds the women of today and yet we believe we are free to be individuals.

As this is a seminar, students are expected to contribute to class discussion each week. The discussions were fantastic, and we were able to connect their reading to other things they'd been learning about in class. They spoke about how women in the novel were supposed to be asexual (or at least forced to act that way), while men's sexuality was powerful, dangerous, and in need of control. They connected this theme to our class discussions about the evolution of sex differences in mate preferences, the causes and consequences of sexual assault, and sex differences in promiscuity,

infidelity, and sexual double standards. Several found the novel to be prophetic, noticing that infertility has in fact increased, major environmental disasters are happening or on their way, religious fundamentalism has infiltrated politics and government, and attitudes about abortion divide the nation.

When I asked them if they liked the assignments, I received enthusiastic thumbs up. They especially liked looking for modern parallels. They connected dots between issues and theories in the class and themes in the novel. They saw how a work of fiction can do so much more than entertain us. In fact, I think my students got as much out of reading it as I did twenty years ago.

Do I think a novel belongs in a science class? Absolutely I do. Coloring outside the lines is good. Today I am a mother, a wife, a professor—all roles that I cherish. I thank Margaret Atwood for helping to point me in at least one of those directions. I even had fun writing this essay because it did not need to be scientific. Yes, I consider this a very successful experiment.

Oh, and I've put my new course on hold for another year. I also know the scientific value of replication.

An online discussion of *The Handmaid's Tale* nearly took a dangerous turn when a student forcibly resisted the Five Minute Rule and its injunction to consider for even five minutes the "left-wing horseshit" in an assignment from a "biased" instructor. This essay explores the assignment, the instructor's response, and the links between faculty development and the ability to turn startling or even frightening moments into teaching moments.

Responding to a Class Crisis

Joy C. Mapaye
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University of Alaska Anchorage

We all brace ourselves for that moment when a student says something so offensive or shocking that the class goes silent. It is a moment we dread in our minds—as we are stunned and unable to find the words or actions to deal with the situation. I expected that moment to happen in one of my large lecture classes. Instead, it happened in my online course.

I assigned *The Handmaid's Tale* in my freshman-level Media and Society class and created an assignment based on the Five Minute Rule. The goal was to help students think critically about diverse perspectives. *The Handmaid's Tale* was a great vehicle for this discussion in that it illustrated the danger of imposing a dominant worldview on others, while using fear to enforce formal rules of conduct. To facilitate discussion, I created a PDF of five pages from the book. Through this introduction, I hoped students would read the entire book later on.

I posted the assignment on the group discussion board area, explained the rules, and posed a few prompting questions:

> *Please read pp. 173-177. For this discussion we will use something called the Five Minute Rule. It begins with imagining life the way the author describes it in the book. For five minutes, imagine the world the author describes. Suspend disbelief. You are living life in this world.*
>
> *Now answer one or more of the following questions in your group.*
> - *In what sense or under what conditions might this be true?*
> - *What would be different if you believed this view and accepted it as true?*
> - *What is interesting, helpful, or intriguing about this view?*

The first three groups generated some of the most thoughtful discussions I've ever had in my online course. I was excited that both techniques together had resulted in such dialogue. The following examples are excerpts of student comments:

- "*When I first read the excerpt, I assumed that it was yet another creepy post-9/11 tale like the popular 2005 film* V For Vendetta*. As I reflected and did a little research, I was surprised to discover that Margaret Atwood wrote her feminist critique way back in the mid-1980s. Her prescient theme of an over-reaching government bent on dismantling civil liberties really resonated with me.*"

- "*Wow, I must say I shivered when I read those pages (and I wanted to keep reading and find out more).*"
- "Handmaid's *muzzled, then suppressed, press resonated for me with the strident verbal attacks by government officials against any media channel or prominent person that dared question the shaky rationales for the invasion of Iraq ("You're either with us or against us").*"
- "*It's intriguing to imagine this kind of world … these few pages seem to hold some truth, interestingly enough, in our own world …*"

My excitement quickly faded, however, when I read a post from the fourth group. The subject line read "Nothing more than Left-Wing Horseshit." The student called it "fantastical" to imagine living in this "left-wing propagandic concoction" for even five minutes. He claimed the very question reveals the teacher's "strong left-wing bias," and admitted to a "nasty tendency to get angry" when "left-wing bullshit" is shoved down his throat. There was much more along these lines, along with a fair amount of profanity.

My heart fell. I felt a huge lump in my throat. Prior to the intensive, I don't think I would have known what to do. As educators, we are rarely given training on how to handle such crises in the classroom. I would have felt paralyzed. Instead, I took a few minutes to collect my thoughts, and then I considered how to turn this posting into a teaching moment. I knew the other students had already read the post. I knew they were waiting for me to respond.

I asked the angry poster to refrain from using inappropriate language in the discussion board, reminded him about our class code of conduct, and encouraged him to present his point of view in accordance with those guidelines.

In my reply, I told the student I appreciated his thoughts and respected his point of view. I focused on his assumption that journalism professors and others in the media are so-called "left-wing," and told the class we would consider that as our "question of the week" topic the next week. As a reporter myself, I told a story about the deadline pressures and technical glitches that can sometimes interfere with the presentation of the news. I used the example of President George W. Bush's visit to Anchorage a couple years ago. My station had scheduled coverage of the president's visit as the top story. However, right before the live shot, our satellite truck malfunctioned, and we could not broadcast the story. The producers were forced to cut to the next story, which unfortunately was about protesters. The protester story was not supposed to be first, but because of technical difficulties it ended up as the top story of the newscast. The station received hundreds of emails and phone calls about our "bias."

I reminded the class of the reasons for the assignment. It was meant to encourage critical thinking and allow students to discuss difficult and often controversial topics in an atmosphere of respect. I asked the angry poster to refrain from using inappropriate language in the discussion board, reminded him about our class code of conduct, and encouraged him to present his point of view in accordance with those guidelines. Finally, I told him I valued his voice in the discussion and invited him to e-mail me if he had any further concerns.

After I posted my response, I realized this teaching moment was also a learning moment for me as well. I felt empowered by the technique. I learned to calmly and logically respond. I also felt lucky the situation happened in my online course, where I had some time to devise an answer. Later, the other students in the group thanked me for my reply. I had taken control of my class, re-established the rules, and provided a valuable teaching moment not found in the syllabus or book. The moment gave me courage to take on these types of challenges, both online and in traditional lecture classes.

As for the angry student, he did not reply directly to my posting. However, he did continue to participate in class discussions, including the next week's question on whether or not the media are biased. He also maintained respect for the class conduct rules for the remainder of the course. At the end of the semester, several students commented that overall they appreciated the conservative perspective he brought to the class. "He brought up some great points," said one. His contributions gave the class greater diversity of thought.

Responses from students

Student 1: Thank you for asking (student's name) to stop using profanity and other inappropriate language in his posts. You did it in an appropriate manner and, I thought, exercised remarkable restraint. I have taken telecourses as well as Web-based courses before, and I've never seen anything like this. I was pretty upset over his posts, and was ready to YELL at him about it, but then I said to myself "I'm not the professor, I'm a student. I cannot control him."

Student 2: After that posting, I didn't want anything to do with the discussion. I was actually thankful that it was online. I would have been very uncomfortable in the same room, especially after the Virginia Tech incident. A bit disconcerting to say the least, coming from an adult in an education environment. I admire the way it was handled in your discussion board response: direct yet respectful.

Cocktail Party

In our continuing effort to showcase as many different and potentially engaging techniques as possible, we decided to try out Brookfield and Preskill's Cocktail Party exercise as a vehicle for talking about religion. We also wanted to demonstrate the possibility of utilizing the performing/creative arts as a springboard for discussions on controversial topics. To save time, we combined the two approaches into a single exercise, with mixed results.

We began the exercise with a live performance of a song entitled "When Jesus Takes Me Dancing," which contains lyrics that can be interpreted in a multitude of ways, one of which involves a highly non-traditional view of the Christian Jesus. Kristin Helweg Hanson, who teaches courses on religion in UAA's Philosophy department, then introduced the cocktail party theme. She asked participants to pick up their desserts from lunch (which happened to be fruit cocktails), and mingle about the room in a simulation of an actual cocktail party.

Kristin opened the conversation by saying it was obvious "that the singer does not ascribe to traditional Christian beliefs." Then she asked participants to spend time in quick verbal exchanges with each other to find out how others responded to that statement. People were encouraged to exchange views rapidly, move on quickly, and keep in mind two questions to which they would be invited to respond at the close of the exercise:

- What did you hear from another person with a different viewpoint than your own which you found most persuasive?
- What did you hear from another person who shared your viewpoint that was most helpful to you in articulating your perspective on this question?

Cocktail Party

A discussion format that encourages participants to interact with each other as if in a salon or other social setting. Try this in the morning by creating a coffee shop setting if you prefer.

Treat it as a party.
Arrange the room as you would for a party. Create lots of open spaces and place chairs in conversational groupings of three to four students. Set up one or two tables with an array of nonalcoholic drinks, finger foods, or hors d'oevres, and appropriate napkins, plates, and glasses.

Expect your guests to talk about serious things.
Instruct your guests to talk about the topics or issues you want them to explore. Encourage them to mingle often and to engage with more than one group. Move through the room as host or hostess, modeling the very conversations you are encouraging and introducing new topics or questions wherever appropriate.

This technique was adapted from *Brookfield and Preskill, Discussion as a Way of Teaching*

As it happened, our participants did not find this exercise very interesting. They didn't disagree about the opening statement, nor did they mingle with each other as instructed, but instead engaged in extended conversations on unrelated topics. Later, we realized that we had underestimated their need to simply take a break from the intensity of the week's activities. They used the relaxed cocktail party atmosphere as an opportunity to chat about other topics rather than stick to the proposed agenda.

Although we didn't repeat this exercise in the following intensives, several of our participants were later able to use it quite effectively with students.

I used this technique in my ethics class as a way for my students to talk to each other about the topics of their term papers. On the day of the party, I moved all the tables aside, arranged the chairs in small groupings of three or four throughout the room, and set up a table on the side with a tablecloth, punch bowl, platter of hors d'oeuvres, and glasses and plates. As students arrived, they filled out a name sticker that included the topic of their paper. Then they filled their plates, poured themselves a glass of punch, and began to visit with each other. They were instructed to stick to the topics of their papers and to move to different people and topics every ten minutes or so. I invited faculty from other disciplines as well, and they came to visit with the students and ask questions about their topics.

The discussions were intense and interesting. Students asked each other good questions and were in turn held accountable for their own positions. The cocktail party setting provided a realistic social structure for discussing thought-provoking ethical issues, and the students were seriously engaged. At the close of the class period, they didn't want to leave.

Christine Gehrett
Education

STAYING IN THE CONVERSATION

People sometimes use their religious beliefs as the rationale for refusing to participate in important conversations, stressing the importance of faith over other ways of knowing. This essay explores some of the theological resources available within the Western monotheistic tradition that emphasize the fallibility of human knowledge and the value of free intellectual inquiry and respectful dialogue —values shared by the modern university. This theology may help professors engage their students in productive conversation without buying into an unnecessary dualism.

Theological Arguments for Staying In the Conversation

G. W. Kimura, Ph.D. (Cantab.)
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This bumper sticker emblemizes what many professors fear most in students: an aggressive, anti-intellectual, even cynical attitude that opposes the inquisitive ethos of the modern university. For many professors, such an attitude presents a dilemma, cutting off reasoned discussion and critical inquiry, creating a dualism, but not a dialectic. There appears to be no room for the exploration—let alone synthesis—of ideas that is so basic to the classroom.

The temptation for the professor is to avoid potentially controversial topics altogether. As Dr. Claudia Lampman's UAA study shows (see page 18), this is unfortunately too often the case. But avoidance is no less harmful to the learning environment. It stifles the range of free classroom discourse that is the hallmark of a good university education. Avoidance, in effect, capitulates to the dualism.

On the other hand, few professors relish the idea of addressing a controversial topic like religion that they know will inflame their students or cause them to try to shut down the dialogue. This is philosopher Richard Rorty's image of religion as a "conversation-stopper." For many secular professors like Rorty, religion (or, at least, Western religion) is at odds with the modern/postmodern worldview. Their argument is that religion's truth-claims and rationality oppose democratic discourse from the outset and shut down the possibility of conversation. Many follow Rorty's advice, which is to exclude religion and the religious point of view from the classroom on these grounds.

There is, however, an alternative to the false dualism in which the religious worldview (specifically the monotheisms of Judaism, Christianity, and Islam) is set against the university in a continual battle over discourse methods and truth-claims. It is instructive to recall that the modern university is

a product of Western religion and that the world's greatest universities, from Oxbridge to the Ivy League, continue this deep historical association with their religious heritage at the same time as they produce Nobel laureates. For most of the history of university education there was no presumed conflict between religion and reason, and in many of the best places there still isn't. Nevertheless, the myth that religion and reason are in irreconcilable conflict is perpetuated on all sides, including those self-identified religious students. They may not be aware how the theology of their own tradition demands a free, critical, and engaging rationality that is not only in line with the ethos of the modern university but also constitutive of it.

There is, however, an alternative to the false dualism in which the religious worldview (specifically the monotheisms of Judaism, Christianity, and Islam) is set against the university in a continual battle over discourse methods and truth-claims.

The rest of this paper will seek to explain this theology in general terms in the hopes that professors not familiar with it may draw upon it in the classroom. If you understand the theology, you may be able to use it to refute the nonproductive dualism and to illustrate how faith, properly understood, demands free and critical discourse. My explanation will take the form of a deconstruction of the offending bumper sticker.

God said it.

A post-modern ironist might point out that this statement cannot be taken literally, as the God shared by Judaism, Christianity, and Islam does not actually have a mouth with which to speak those truths believers espouse. This observation, in fact, is nothing new. Augustine and Aquinas would agree, as would Maimonides and Avicenna, and also Karl Barth, the twentieth-century grandfather of today's evangelical thought. This is not a throwaway point. Even the fundamentalist with this bumper sticker, although he or she may not realize it, has already moved beyond literal truth to a figurative understanding of divinity and of how truth is communicated.

The assertion reveals another abstract theological notion that is basic to these religions' understanding: the absolute nature of God. According to this view, God is unique, absolute, and absolutely above and beyond all other observable or knowable things. God is so far above/beyond that human understanding cannot comprehend the vastness of the division. God is, to quote Anselm, "that than which nothing greater can be conceived." This means that a) God is wholly unlike anything else that exists; and b) God's understanding is absolutely beyond human understanding.

Stated another way, in the idiom of the bumper sticker, God is awesome. God's knowledge is perfect, while human understanding isn't. In this view, only God knows truth absolutely because, to borrow from Reza Aslan's best-selling book on Islam, only God is God. This is why in the monotheistic worldview God's truth always trumps human knowledge. This view of God leads to a peculiar view of what it means to be human as well: we are not only morally, but epistemologically, fallen, broken, and sinful.

I believe it.

In Greek mythology, if human beings aspire to or claim for themselves a power or knowledge that is properly that of the gods, they commit acts of hubris. This never ends well, as, for example, in the story of Icarus, whose wings melted when he flew too close to the sun. In Jerusalem-based monotheisms, when humans claim a power or knowledge that is properly God's, they commit a sin: the sin of idolatry. Idolatry is in fact the principal sin, highlighted in the First Commandment, of placing something that is not God, i.e. oneself, in God's place. Claiming that one knows the mind of God on any matter (cf. 'God is pro-life', another popular bumper sticker) violates this commandment.

The prohibition against idolatry is not optional; it is fundamental to Western monotheism. Those who take faith seriously believe they will be judged by their fidelity to it. In evangelical Christian parlance, it is a matter of salvation.

The way to avoid idolatry is humility. Believers must be cautious about what they claim to know, intellectually or morally, because overconfidence can lead to pride, which is an aspirational attitude that encroaches upon God. Pride leads directly to hubris and idolatry. In the internal logic of belief, if we are sinful, broken, and fallible, how can we be proud of what we know (or, rather, claim to know), since it is so little compared to what God knows? The antidote combines a continuous moral self-inventory with a constant practice of the virtue of humility. This involves a thoroughgoing critical and self-critical rationality on the part of the believer.

That settles it.

If only God has absolute knowledge, and if we are not God, then the proper attitude of the believer toward truth requires a thoroughgoing fallibility (the view that our understanding might be wrong) and corrigibility (the possibility for improvement or correction). Corrigible does not imply perfectible, however, because perfection is an attribute of God.

In the monotheistic worldview, the truth of human understanding can never be settled; it always remains open to revision and correction.

In the monotheistic worldview, the truth of human understanding can never be settled; it always remains open to revision and correction. The Christian fundamentalist can see this occurring in a process of updated revelation, from Old Testament to New, from prophet to messiah, leading up to a future end-time that operates like a vanishing horizon. Likewise, the Talmud, a record of authoritative rabbinical discussions, interprets and inflects Tanak (the Hebrew scriptures). Islamic law and sharia, along with their various interpretations, update and concretize how Muslims should put the Five Pillars into practice. In all of these cases, God's truth may be settled, but human understanding and practice remain open as critical, discursive, and evolutionary processes.

There is a type of religious epistemology operating here that is akin to pragmatism and the method of science, religion's often reputed enemies. Because only God understands truth absolutely, human understanding is constantly in a process of correction. The entire religious community, including authorities and fellow believers, is involved in this process. An example seen every day in

dorm rooms and cafeterias on campus is the testing of individual interpretations in a bible study. Nonbelievers can unwittingly participate and even trump believers in this context. There are plenty of biblical examples where a pharaoh or tax collector or prostitute recognizes a religious truth when the purported faithful do not.

The upshot is that if nothing is ever ultimately settled in human understanding, the believer exists in a world of noetic change and must hold an attitude of epistemological openness to that change.

Other Strategies

Faithful believers, even if they think otherwise, actually believe the opposite of the bumper sticker. "God said it" cannot be taken literally, because it uses figurative language. The assertion "I believe it" cannot claim to know the mind of God, because that would be to commit idolatry. And "that settles it" in fact settles nothing; the believer must remain open to changes in human understanding because of the twin monotheistic notions of the absoluteness of God and the fallibility of human knowledge.

The core theological values of the believer are not only in sync with the values of free inquiry espoused by the modern university, they are in fact the origin of those values.

These theological arguments deriving from the monotheistic notion of divinity can be used to refute the dualistic tendency when it arises in class. But there is yet another, more personal argument that one can make to the obstreperous believer. I will call this the existential argument. In the creation account shared by the Western religious traditions, God saw that His creation was good. This judgment implies that each individual is created holy, with a soul that is unique, eternal, or perhaps both. Because of this, each individual is, or ought to be, worthy of respect, care, and love. Yet too frequently the dualistic worldview expresses itself in an us-versus-them attitude that demonizes the other based on the notions they hold. This attitude is aggressively dehumanizing; it denies the personhood of the other that the God of this worldview has created and deemed good.

There is a powerful way to combat the tendency to marginalize and dehumanize those we don't agree with, and that is to appeal to the existential distinctiveness and infinite value of each person, exemplified by the Christian ethic to love your neighbour as yourself. If every person is worthy of love, they are certainly worthy of being treated with respect and dignity regardless of their position on any given issue that might come up in class.

Here again, the monotheistic tradition dictates an attitude of humility that goes beyond the neutrality of mere tolerance and all the way to active love. There is an existential openness to difference rooted in the core of what it means to be a believer. The attitude is not only intellectual. It flows from what philosopher and theologian Cornel West calls "the Christian tragic sense of life."

For the Christian believer, there is awareness that the notion of human fallibility extends beyond knowledge to include our moral interactions with other people. The upshot is that believers need to be conscientious about this capacity, intended and unintended, to harm others, including in the easy

demonizing that occurs in the us-versus-them dichotomy. The love ethic breaks down this division from the believer's side—not by aggressive and combative behavior, but by putting the other before self.

Religion and the modern university

The core theological values of the believer are not only in sync with the values of free inquiry espoused by the modern university, they are in fact the origin of those values. From the medieval university to the Ivy League, many of our most prestigious institutions were originally founded to cultivate a learned clergy and laity. While there has always been a necessary tension in the search for truth between religious authority and university learning, there is no necessary antinomy, in spite of a mythology that has developed recently. The fact is that the Western monotheisms and the university classroom can thrive on this tension and learn from each other.

University professors have nothing to fear from the religious student. Rather than feel pressed to move away from religiously charged issues or debates in class, they owe both religious and secular students the opportunity to learn from their distinctive viewpoints, wherever those viewpoints appropriately impinge upon the subject matter of the particular class. This paper has endeavored to argue why this should be the case, and to provide professors with arguments found within the Western monotheistic intellectual tradition that may help those self-identified religious students see how their own tradition demands reasoned, respectful discourse.

FRAMING THE CONVERSATION

Panel Discussion and Dialogue

A biologist, a physicist, and a medievalist walk into a classroom, and...

No, it's not the setup for a joke; it was the setup for a faculty panel discussion on religion in the classroom held by three of our colleagues in the spring. The event was attended by a chemist, a jurist, a journalist, and a theologian among other interested individuals. As we went around the room introducing ourselves and saying why we were there, it became clear that religion comes up almost everywhere we turn.

"I get people in my Justice classes arguing that our laws should be based on God's law, not research," said the jurist. "I had a fundamentalist Christian and an ardent atheist square off in my Honors' class on Stephen Hawking," said the physicist. "I just don't have a good handle on how to address these issues," admitted a third, and other heads nodded around the room. Few of us really did.

The panelists shared a few things that had worked for them. The biologist described the evolution of her teaching practice from an avoidance of discussing creationism and intelligent design to a new willingness to engage. The physicist focused on separating scientific knowledge from religious belief through the medium of scientific practice. The medievalist came in late (he was dealing with a different difficult dialogue at the time), but made up for it with an approach he calls "owning up to the discipline."

The essays that follow are based on these three presentations.

Panel Discussion and Dialogue

A technique for presenting multiple viewpoints of expert panelists before opening a conversation to a larger audience.

Logistics
Recruit panelists with different experiences and areas of expertise. Plan for alternates. Don't underestimate how much time it can take to organize.

Panel Discussion
Use panelists to frame the discussion. Limit the number of panelists to three or four, and keep the initial presentations short, about five to ten minutes.

Facilitated Dialogue
After the panelists have spoken, open the dialogue to others in the room.

Many of us dread the clash between scientific knowledge and religious belief. For most academics, these are entirely different points of reference, and so we avoid or disallow arguments in our classrooms where one way of making knowledge entangles with another way. But if we avoid these conversations, we teach the wrong lessons and miss the many teaching and learning moments lurking within. This essay describes one person's evolutionary journey from avoiding these conversations to welcoming them.

An Evolutionary Tale: Transforming an Attitude

Dr. Leslie Cornick
Associate Professor of Marine Biology and Statistics
Alaska Pacific University

Encountering Religion

I've encountered religion in virtually every science class I've ever taught, starting with the very first one. I was a senior undergraduate teaching assistant in my university's Ecology, Evolution, and Behavior program. It was my first experience as a teaching assistant, and the course was Organismal and Evolutionary Biology. I was leading about twenty first-year biology majors in an exercise about the Cambrian explosion and the development of animal body plans when a young man interrupted. "The fossil record was placed by Satan to tempt Man from God," he said, tossing a few small pamphlets around. The pamphlets touted the "truth:" divine creation of life in its modern form.

I was utterly blindsided and completely unprepared to respond, so I didn't. Instead I said, "Okaaay…" in a long uncomfortable tone and returned to the exercise. To my great relief, that was the end of it. That student challenged me no further, and the class returned to normal, at least on the surface. Not my finest teaching moment, perhaps, but hey: I was only three short years of training beyond this young man. I still had time to improve.

> "The topic of vertebrate biology," I told them, "rests soundly on the foundation of the single unifying theory of biology: evolution by natural selection. In order to master the course material in this class you'll need to also master this fundamental theory. You don't have to believe it, but you do have to understand it."

Fast-forward eleven years, as I am preparing the first day of my first faculty teaching experience as a Visiting Professor of Vertebrate Biology at a small, liberal arts college on the East Coast. The vivid memory of my undergraduate teaching experience (moment of horror) at the forefront of my mind, I decided the best approach was to head controversy off at the pass. Armed with a carefully worded paragraph from the syllabus, I confronted the class.

"The topic of vertebrate biology," I told them, "rests soundly on the foundation of the single unifying theory of biology: evolution by natural selection. In order to master the course material in this class you'll need to also master this fundamental theory. You don't have to believe it, but you do have to understand it. I understand that it might conflict with the religious views that some of you hold, and if you have conflicts of this nature, I encourage you to discuss them with your pastor or other religious mentor. I would be glad to talk about this further during office hours." (This was a lie: I was terrified that someone would actually show up.) "But I will NOT, under any circumstances, entertain the topic in class."

With that I firmly closed the door on controversy, feeling proud as a card-carrying member of the National Center for Science Education. I had done my job to keep God out of my science classroom. My own sacred space was protected from the infidel (religious metaphor very definitely intended).

Engaging Religion

Three years later, after a year of practicing new and innovative techniques for engaging controversy in the classroom, I am at the other end of my evolutionary arc. This year, as I again taught courses that rest on the foundations Darwin so eloquently laid, I have also been open to conversations about religious ideas and where they may be perceived to conflict with evolutionary theory. In fact, I've actually come to encourage these conversations.

Last year, for example, I taught a first-year seminar course called Science as a Way of Knowing. I gave brief lectures on the criteria for scientific theory[1] and the criteria for ideology,[2] followed by the fundamentals of evolution by natural selection and a brief summary of intelligent design.[3] Then I asked the students to work in small groups to determine into which model both evolution and intelligent design might fall. The exercise explicitly invited students to consider evolution as an ideology if they wished to.

Why this new courage (stupidity, some might say)?

First, I've learned that there are teaching moments for all students in discussing the conflicts between religious views and the theory of evolution. The conversation provides an opening for explaining the nature of the scientific method as a process, rather than a collection of facts. I can show evolution as an elegant example of that process in its development from hypothesis to theory to paradigm (which, I would argue, is its real status today, given its overwhelming support both from evidence and also from the global community of scientists). I also find the comparison of ideas about the origin of life (divine creation vs. evolution) to be an excellent model for students to learn the difference between inductive reasoning and the hypothetico-deductive reasoning primarily used in science. These types of discussions encourage students to go deeper, to think critically, and to find their own path to understanding, rather than to simply open their gullets to the regurgitated wisdom of the academy.

There have been teaching or learning moments for me as well. I've learned that in order for students to feel safe engaging in new ideas, especially those that conflict with the values or traditions learned throughout childhood, they need first to feel respected. By not responding to that first-year biology student all those years ago, I did respond. I informed him, in action if not in words, that his beliefs were not worthy of a thoughtful, intellectual response. By not engaging his comments, I

1 Popper, "Science: Conjectures and Refutations."
2 Neuman, *Social Research Methods*.
3 Discovery Institute, website.

dismissed his importance in the classroom, in the major, in science. I have no idea what that young man ended up doing in his life, but if it didn't include science, then I may have been at least partially to blame.

A student who feels that his or her opinions are taken seriously, even when they are in conflict with the course content, may be more likely to take the opinions of others (including the professor) seriously as well. If we model civil discourse and openness to all viewpoints (not just the ones that match learning objectives defined in the syllabus), then we may foster those same skills and habits in our students. If we believe that our lessons transcend the classroom (and we all secretly do, don't we?), might not our students then engage in civil discourse in the society? Might we not send off future generations of citizens who understand that coming from one's own position with strength and conviction does not require the demonizing of all other positions?

Finally, I've decided that it isn't my job to decide for my students whether to believe in evolution; it's my job to teach them about it. It is also not my job to divorce students from their religious beliefs, whether or not they are in conflict with evolution. I still tell them that although they don't have to believe in evolution to succeed in the class, they do have to understand it, particularly if they intend to become practicing scientists—you really can't have one without the other. The difference is that I no longer silence them if they disagree. Now I engage them in the conversation.

So how did that first-year seminar exercise turn out? The students unanimously concluded that evolution is a theory and intelligent design is an ideology. Even the self-declared young earth creationist concurred. I don't know if he changed his mind and became a card-carrying evolutionist (somehow, I doubt it). Nor do I know if he had a crisis of faith. But what's important is that he was able to discuss his ideas and the ideas of others, many of which contradicted his own, in a safe intellectual space. There were no raised voices, no disparaging remarks: there was only civil discourse about important ideas in the teaching of science and the understanding of the nature of the universe.

I believe I have come full circle. And I know I have done my job.

Dr. Cornick's first-year students developed the following criteria for understanding the differences between scientific theories and ideologies.

Criteria for Scientific Theory

- Makes predictions about future/unknown events
- Forbids certain things to happen (in other words, it considers a specific set of conditions)
- Is testable
- Is refutable by contrary evidence
- Is falsifiable
- Is modified based on new evidence
- Contains no moral/value judgments

Criteria for Ideology

- Offers absolute certainty
- Has all the answers
- Fixed, closed, finished (i.e., unchangeable)
- Blind to opposing evidence
- Locked into specific moral beliefs
- Highly partial
- Has contradictions, inconsistencies
- Rooted in specific position

If science sometimes seems more like a religion than a discipline that produces knowledge, perhaps that is because science is often taught in a way similar to religious catechism, with rote memorization of previously established facts. This essay describes a more active practice-centered approach to teaching science, using introductory-level research projects that get students to use the scientific method for themselves. In science, one starts with a question or an idea about why something is happening and then looks for evidence that supports or refutes that idea. If the idea is correct, that's great. But if it's wrong, that's also important. Either way, you now know more about the object or phenomenon you are studying. If students understand the practice of science, they may also experience the fun of it, including the pleasure of discovering new knowledge and the importance of being able to change their minds based upon empirical evidence.

Laying the Groundwork for an Appreciation of Science

Dr. Travis Rector
Assistant Professor of Physics/Astronomy
University of Alaska Anchorage

There are no easy answers to the question of how to effectively address the conflict between scientific knowledge and religious beliefs in the classroom. There are too many variables, and too many different ways in which the issue can manifest. Although some conflict may be inevitable, much of the discussion on how to handle it focuses on flash points, where the conversation has already become uncomfortable and/or heated. I try to focus on preparation instead: on laying the groundwork carefully for useful discussion to follow.

Setting the Stage

A major problem students in a science class face is that they don't understand the process of science, or how scientific research is done. This is largely the result of how science is usually taught in our secondary schools. Students are typically presented with textbooks filled with facts and concepts and then tested on how well they have understood (or at least memorized) them. The facts and concepts are results of the scientific process, of course, but the process itself is not seen. For fear of presenting information that will later be found to be incorrect or incomplete, textbooks tend to focus on what is very well known, further obscuring the role and process of research. Very few science teachers at the secondary level have experience with scientific research themselves; they may not understand how it is done either. The situation is somewhat like learning the rules of baseball from someone who has read quite a bit about it, but has never played the sport. Something is missing.

Students, therefore, usually come into a collegiate science classroom with well-reinforced misconceptions about the nature of science. From what they have seen, science is simply information in a textbook. They don't understand where it came from. In many ways, being told to learn (or memorize) the material is little different than being catechized in a religious setting. It's no wonder that some of them resist it, especially if the concepts or facts being presented conflict with their own deeply held beliefs.

Practice

To understand the process of science, students need to have the opportunity to practice it themselves. I give them that opportunity by assigning in-class research projects (different from traditional lab exercises) that put students to work answering an authentic question and trying to discover something that is not yet known. In the process, students learn something about the nature of scientific research, the importance of perspective, and the difference between what we want to be true and what is actually true. The entire exercise demonstrates that science is something far beyond facts to be memorized. It is the process by which we learn.

A project I often assign has students study traffic flow around campus. Traffic is a common experience that can be viewed from a number of perspectives, yet it is not as emotionally loaded as other questions may be. Students take measurements with video cameras, radar guns, and sound meters to determine how traffic moves at different times of the day. The information is used to determine objectively what factors lead to safety violations and traffic problems such as congestion. Students can then make informed recommendations on ways to improve traffic flow and safety.

At the start of the project, students complete a values-based questionnaire that asks them to respond to statements such as "drivers should not exceed the posted speed limit" and "slower cars should move out of the left lane when faster traffic is approaching." Students answer each question yes or no, and indicate how strongly they feel (from "slightly agree" to "strongly agree"). After completing the questionnaire, they are instructed to find another student who answered directly the opposite on one or more of the questions. Students then discuss why they feel differently and try to understand (if not necessarily agree with) the other's viewpoint.

Students usually come into a collegiate science classroom with well-reinforced misconceptions about the nature of science. From what they have seen, science is simply information in a textbook. They don't understand where it came from.

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Travis's values-based questionnaire was adapted from the Questions and Categories exercise presented by Dr. Kerri Morris in Chapter 2.

This understanding is important, because science attempts to study and measure parameters that are independent of perspective or of personal desires. For this project, the goal is to understand how traffic actually moves through an intersection, not to verify the student's preconceived notion of how it moves or ought to move. The scientist's goal is to understand the phenomenon, not to be right or wrong. Having a hypothesis is important, but it is just as important to reject the hypothesis should your measurements not support it.

As a result of participating in this research project, students should have a better understanding of two key concepts about scientific research. First, science is the process by which we generate knowledge. Second, through the process of scientific research, we often discover that our preconceived notions are incorrect. But that's all right. It is more important to understand a phenomenon correctly than to be right or wrong.

Understanding the difference between knowledge and belief

In another assignment, students are asked to reflect on the difference between what we believe and what we know. The distinction is important but also easily confused. In simple terms, the difference between knowledge and belief is whether or not there is evidence to support it. This is actually more subtle than it sounds, as the evidence must preferentially support one hypothesis over others. For example, finding a twenty-dollar bill on the street might be interpreted as evidence of good luck. But it is actually inconclusive, because it is also consistent with random chance. If you interpret finding the money as a sign you should head for the nearest casino, you're doing so based upon the belief that you will be lucky at the slot machines. This is not the same thing as knowing it will be so.

For the assignment, I have students read excerpts from a survey done by edge.org, a Web site devoted to science, in which scientists and thinkers from a variety of fields are asked to describe something they believe is true, but that they do not know is true. Several of the responses address religious issues, but most do not. I ask students to compare two responses that seem to be in conflict, and to discuss what would need to be learned to determine which is correct. I also ask students to reflect on something (non-religious) that they believe is true, but do not know to be true. The goal is to become aware of the boundary between what we know and what we do not. This is where science works, on the boundary between the two.

Class Research Project

A technique for getting students involved in the practice of science so that they will understand it as a process of discovering knowledge.

- Select a question that is open to measurement, but not tremendously loaded with emotion or identity.
- Develop a values questionnaire to help students discover their own preconceived notions and values about the topic.
- Ask students to compare their responses with classmates who disagree, and determine what they'd need to find out to resolve the differences.
- Have students go out in the field and take actual measurements, analyze and present their findings, and make recommendations.

This assignment was developed by Travis Rector.

Most scientists are actually cautious and conservative about using the word "knowledge," reserving it for only the most well-established theories. Even then, many consider it to be bordering dangerously on arrogance. More typically, we use mathematics and statistics to quantify our level of confidence. We don't usually say that we know something to be true; instead we say that there's a high probability or we have a high degree of confidence that it is true. We tend to use the word "belief" to describe an idea that we think might be true, but for which the evidence is insufficient or inconclusive. For example, in the edge.com survey, physicist Kenneth Ford describes chemical evidence on Earth that leads him to believe microbial life exists elsewhere in our galaxy. Since direct evidence of microbial life outside of the Earth has not yet been obtained, he chooses to describe it as a belief.

Unfortunately, we're not always consistent. In another survey example, psychologist David Buss states, "I know true love exists. I just can't prove it." If he means to say that it is impossible to find evidence that demonstrates true love does exist, then it will remain a belief. And in this sense he should not state that he knows it to be true, no matter how strong his desire for it to be so.

Hopefully, as a result of participating in these activities, students will be better prepared to understand conflicts between religiously held beliefs and knowledge obtained through the scientific process.

Religion in the Science Classroom

Hopefully, as a result of participating in these activities, students will be better prepared to understand conflicts between religiously held beliefs and knowledge obtained through the scientific process. The origin of the conflict is straightforward: the scientific process can generate evidence that challenges the veracity of many beliefs, some of which are deeply held. The conflict also extends to how knowledge itself is valued. Religious traditions tend to be valued for their age and history, whereas science is eager to embrace new findings. In large part, a resistance to scientific discovery is a fear of the loss of the voice of authority. To be wrong on one issue may invite criticism on others.

It is important to note that religions do adapt. What once might have been interpreted as threatening to a religion's beliefs is often later accepted. The flat Earth and Earth-centered universe concepts are obvious examples of models once considered to be essential to many religions, including Christianity, that are no longer (widely) accepted. Many religions have also become more accepting of recent scientific models, such as the origin and age of the universe and, to a lesser degree, evolution. What is important for students to understand is that many religious beliefs originated at a time when little or no knowledge about these topics existed. For example, the shape of the Earth is obvious to us now because of pictures we've seen from space. But it still isn't obvious from daily experience. Our ancestors could not have known then what we know now. And they are not to be faulted for this. What we can be faulted for is an unwillingness to change our minds when presented with compelling evidence.

Students who are vehemently opposed to science are unlikely to change their minds. Even if they were so inclined, many of them would face severe repercussions for disagreeing with their religion's values and decrees, up to and possibly including expulsion from their social group or even their family. My goal instead is to help those students who are genuinely confused by the conflict and interested in improving their understanding. If students can begin to understand the process of science and the distinction between knowledge and belief, they will better understand the motivations for rejecting or accepting scientific knowledge. Hopefully it will become clear why some disagree with a scientific theory. It is not because they disagree with the evidence that supports that theory, but because they don't want the theory to be correct. Understanding their own motivations in the research projects they do will hopefully clarify this distinction.

Students who are vehemently opposed to science are unlikely to change their minds. Even if they were so inclined, many of them would face severe repercussions for disagreeing with their religion's values and decrees, up to and possibly including expulsion from their social group or even their family.

Naturally, student attitudes will be largely influenced by their opinion of science in general. Do they see science as a positive factor in their lives? It may help to discuss what life was like fifty or one hundred years ago. How have our lives changed by what we've learned through the scientific process? And their attitudes are also, of course, largely influenced by their opinion of you, and of their experiences in past science courses. If you are able to create a classroom setting in which students enjoy the process of science, with interesting and challenging research projects, they are more likely to be enthusiastic about science and what we can learn from it.

You can chart people's openness to religion and evolution on a classic bell curve. There are a few people at one end in the "if evolution, no God" camp. There are a few at the other end in the "if God, no evolution" camp. But the vast majority are somewhere in between, believing in at least some version of God, accepting at least some of the evidence for evolution, or straddling the fence in some way between the two. These are the ones we can teach.

Leslie Cornick
Marine Biology and Statistics

Disagreement is an essential part of dialogue; instead of fearing it, we need to harness it as a pedagogical tool. This essay lays the groundwork for productive disagreement by placing it in historical and theoretical contexts and uses the technique of reframing to lower the stakes, allowing students to hold their own views however tightly they want or need to, but at the same time asking them to consider the broader social and political implications of those views in the world around them.

Owning Up to (the) Discipline: An Approach to Dealing with Religion and Politics in the Literature Classroom

Dr. Daniel T. Kline
Associate Professor of English
University of Alaska Anchorage

A cornerstone of my pedagogical and professional practice is what Gerald Graff and others have called "teaching the conflict." In my specialty area, literary and cultural studies, this generally means a couple of different things. First, to detail the conscientious process by which a scholarly idea was formed rather than simply relating the current consensus. And second, to move deliberately to the questions or underlying issues that class members might otherwise ignore or avoid. The first approach highlights the historical necessity of debate and even passionate dissension in the creation of knowledge. The second requires tact and courage, perhaps most importantly the courage to risk looking silly, foolish, or downright dunderheaded. The ultimate aim is to reframe the purpose of the discussion from claims of opinion and truth to an awareness of effects: what social realties do different interpretations facilitate or constrain?

Conflict, debate, and dissension are vital to academic studies in the humanities; they fuel the engine that drives innovation. To bring this point home, I often spend the first couple of class periods talking about what it is that literary scholars, critics, and theorists actually do when they work, comparing them to professional mathematicians and scientists with their own arcane symbols and complicated equations. The humanities, like

THEORETICAL CONTEXT
Teaching the Conflict

Recognizing that disciplinary, theoretical, and social conflicts are the engine that drives innovation in literary studies, Gerald Graff, a University of Chicago literary critic, advocates that we "teach the conflict." This means that rather than simply reporting the results of professional investigation and pedagogical practice—as if they were verifiable, agreed-upon facts in a scientific sense—academics in the humanities should make transparent and interpretable the conditions under which knowledge is created. In other words, a conflict-aware pedagogy engages not only in the "what" of a text (what we know about it historically and textually) but also the "why" (how we got to know what we think we know). That means involving students in the different academic arguments that have led to specific conclusions.

the sciences, have a long history of discussion and a highly specialized vocabulary for dealing with the complexities of their discipline, and students need to become aware of those complexities and that specialized vocabulary. I try to disabuse them of the commonly held assumption that reading can ever be a simple, uncomplicated, or self-evident process by detailing the ebb and flow of the history of discussion around a given text. I often have to work very hard to convince students that literary criticism is not simply an ivory tower exercise, unrelated to the everyday world of work and relationships. But because I treat the history of the discussion on nearly equal footing with the current scholarly consensus, I am often able to go directly to the controversial aspects of a text and address them for student consideration. I also try to articulate for them real situations were people's lives are affected by how texts are read and interpreted.

Here's an example that I deal with every time I teach my version of English 201, Masterpieces of World Literature I. In covering the literature of the ancient period, we read and discuss the *Epic of Gilgamesh* in its entirety, and there encounter the Babylonian flood story whose hero is Utnapishtim. Many scholars argue that the Babylonian story is older than the biblical story of Noah and the flood, but those arguments don't hold much water (ahem!) with the many biblical fundamentalists in class whose faith stance basically requires them to address perceived attacks on the literal interpretation of the Bible. So, first of all, I know that I may have some difficult dialogue during that class period and thus, second, I'm prepared for it when it arrives.

When students express a literal interpretation of Genesis, I'll let the discussion range freely for a few minutes, until it gets heated, peters out, or just gets uncomfortably silent. Then I'll say something like "Let's see. Scholars and critics have been fussing about this for, oh, at least 300 years or so. Are we going to get to the bottom of it today?" That usually leads to nervous laughter and a palpable sense of relief.

When students express a literal interpretation of Genesis and argue for the preeminence of the biblical account over the Babylonian, I'll often let the discussion range freely for a few minutes: until it gets heated (when two opposing sides are mutually intractable), peters out (when one side seems to have dominated and the other sits fuming or embarrassed or both), or just gets uncomfortably silent. I'll intervene if it gets near to being nasty in any way (I'll call for a "Rewind!" or "Do over!" or say, "Excuse me?" or "Could you please rephrase that?"); otherwise, I'll often just let the silence grow until it's on the edge of being, well, goofy. Then I'll say something like "Okay, how are we going to resolve this?" or "Let's see. Scholars and critics have been fussing about this for, oh, at least 300 years or so. Are we going to get to the bottom of it today?" There's usually both nervous laughter and palpable relief at that moment. Folks are relieved that the discussion didn't escalate into something hurtful. The important thing at this point is that I did not prematurely intervene to stop strong positions or deep feelings from being expressed.

Discourse and Reframing the Debate

Then I take it a step further, using the old therapeutic technique of reframing, adapted here to an academic context. (This will be a long detour before I return to *Gilgamesh* and Genesis, so bear with me.)

The reframing technique I have developed comes out of the work of Michel Foucault and related theorists, who developed an academic practice called genealogy. Simply put, to do genealogy is to consider both 1) the history of the development of the idea; and 2) the institutional contexts in which it developed. That is, ideas (like texts) don't develop in a vacuum but are historically, culturally, and politically situated. The shorthand I use in my classroom is to talk about academic *disciplines* that become invested in and expressed through specific discourses. (This is my version of the common strategy that says, "Okay, you might personally believe in a literal interpretation of Genesis, and that's fine, but because this is a biology class, you need to know what natural selection is and how it works to pass the class.")

Ideas (like texts) don't develop in a vacuum, but are historically, culturally, and politically situated.

I often assign a couple of theoretically informed readings at the beginning of the term to lay the groundwork for these discussions. Among my current favorites are Stephen Greenblat's "Culture" and Paul Bové's "Discourse."[1] To bring these seemingly difficult concepts to life in the classroom, I use the very practical example of being in college. I use some version of this lecture/discussion in nearly every class. My blurb often goes something like this (interspersed with the rhetorical questions that allow for the class to interject, and sometimes moving to the board to jot down key words and map the relationship between ideas):

> *Although many of you may have entered college knowing what you wanted to major in, it's not uncommon for students to change majors two or three times before settling on something they like. I know I did* (and maybe I tell them how I was a physics major for two years).
>
> *The decision you make, and how you make it, is very much a part of who you are, what your personal needs and ambitions are, and what you want to do when you grow up, right? So, what does that mean when you come into college? It means that a lot of you come in "undecided" and then you choose a major.*
>
> *And then what do you do? You choose a subject and take courses, and then you graduate as a psychology major, a marketing major, a nurse, or a history major. (Any English majors? Please?)*
>
> *So, what do colleges do? And what is my job as an English professor? It's to educate you, right? We know we've done our jobs here at UAA if, by the time you leave school, you as a nurse think differently about something than you would as a psych major, or if you're a history major you consider current events differently than would an anthropology major.*
>
> *When you come into college undecided and you leave with a major and degree, you've chosen a subject and been educated into a discipline, a specific course of study, whose purpose is to allow you to think differently than you did before. That's one way we know, and you can know, if you learned anything beyond the accumulation of new facts: It's that you now think differently from before.*

1 in *Critical Terms for Literary Studies*

I'm really working the board now. Some folks see right where I'm going; others take some time.

Let's think about these words: subject, education, *and* discipline.

Subject: *from the Latin, subicere (lit. sub + jacere, to throw under)*
What subjects are you taught in school, in college?
What does it mean to be subject to something or someone, like subject to a king?
To whom or to what are you subjected in college? In this classroom?
What does that mean, practically speaking?

Education: *from the Latin, educare (to rear or to raise up), from educere (to lead forth).*
How is it that you are being led in your education?
What are you being led toward or away from, and by whom?
In what ways are you being raised up?
What does that mean in real life?

Discipline: *from the Latin, disciplina (teaching, learning), in turn derived from discipulus (pupil). Jesus and the _____ ?*

Someone always says, "Disciples."

Who were the Disciples?

"They were followers," is usually a response.

Here, I ask students how they were disciplined as children, and this often elicits funny personal stories. I sometimes also tell a little anecdote about how I was spanked a few times as a child—never more than three whacks—and how I wished that my dad would just beat me with the belt and let me go, but noooooooooo, he had to lecture me, interminably, about being nice to my brother or cleaning up my room or doing what my mom told me to do. "Please, Dad," I implore in a kid's voice. "Just beat me and let me go. Please. Please, just stop talking!" This will often elicit other anecdotes from students about how they have been disciplined over the years.

I pause here and say: "*You know, you're being disciplined right now, right in this classroom.*"

Then I ask, pausing for discussion after each question: "In what ways are you or have you been disciplined in college? How do faculty members and higher education discipline you into a discipline? What are other ways faculty members like me encourage or discourage your work in class or demonstrate to you how I approve or disapprove of your work and behavior, or other aspects of your being in this class?"

By this time, the class usually sees where this is going, and the discussion often turns to things like grades and other obvious indicators. Then I also begin to point out the less obvious things, like gestures, attention, facial expressions, and other forms of reward or censure—or what Greenblatt calls mechanisms of mobility and constraint. With the cat let out of the bag—that we are all involved in a disciplinary process, with me as the disciplinarian and students as the disciplined—the class is usually really thinking and talking about the different ideas I've introduced and the different way of thinking about their experiences in school and elsewhere. If someone is really on the ball, she or he may mention that students have different mechanisms available to discipline me,

like student evaluations, complaint procedures, word of mouth to other students, rumor, gossip, slander, and so on.

I then introduce a diagram on the board, drawn from my reading of Bové, and go into a discussion about the poststructuralist notion of discourse. This is what I'm talking about when I talk about discourse, and this is the sense in which I will use the term throughout the class. Discourse is a way of talking about the relationship of texts and language, even fictional texts, to the real world.

Even more precisely, when I use the term discourse, I'm talking about four always-interrelated things:

- The formation of subject-individuals (like students);
- The relationship of subject-individuals to systems of power (like university faculty and administration);
- The function of different texts (like a university catalog or major checklist) in the mediation of the relationship between students and systems of power; and
- The potential of texts and systems of power to facilitate, mediate, or restrict a subject-individual's ability to negotiate different social structures (like job markets, class standing, and so on).

The diagram doesn't really have any single starting point, so you could begin with social structures or systems of power and then move your way around and through the four axes. My point here, as with the students, is that nearly all texts (fictional, nonfictional, or something in between) in some way mediate these different relationships.

Reframing and Cultural Work

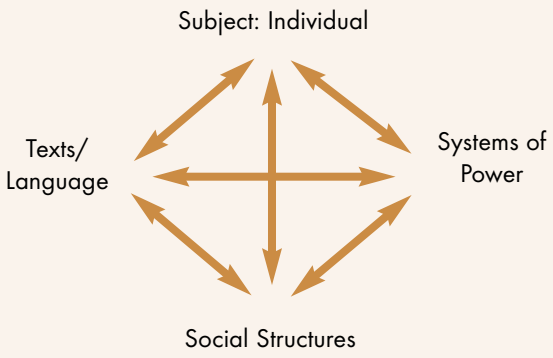
Okay, that's the end of the detour, but it's worth it, because then I can bring the students' attention back to the different perspectives that brought tension into the classroom. At this point I might redirect the question to the biblical fundamentalist or the class in general:

THEORETICAL CONTEXT
Post-structuralist Notions of Discourse

Discourse "helped to constitute and organize an entire field of knowledge about language; it helped discipline the judgment, and thereby the response, of students and teachers; and, in doing so, it revealed its links to forms of power, such as teaching, that can have effects upon the actions of others...[Discourse describes] the surface linkages between power, knowledge, institutions, intellectuals, the control of populations, and the modern state as these intersect in the functions of systems of thought."

Paul Bové

Model of Discourse
(After Foucalt and Bové)



From what discourse or discourse community does the claim that the biblical flood is a literal event come? (A religious one.)

Within what social structures (or genealogies) does that discourse find its home currently? Historically? (In the church, but sometimes in other venues, like politics.)

How does that discourse relate to different structures of power that believers might find themselves in? (At church it's a truth, but in science class it's controversial.)

What does holding and voicing that opinion do to shape an individual and his or her different roles or relationships? (For believers, it demonstrates their faith and belief to the class and connects them to other believers. It can also make politically or religiously conservative students feel out of step or even persecuted in some classroom settings.)

I can then do the same thing with other perspectives (anthropological, linguistic, archaeological, gender studies, etc.) and texts (*Gilgamesh*, Genesis, or virtually any text), using whatever the class gives me to work with. You can do a similar thing with Republicans and Democrats, Marxists and monarchists, atheists and fundamentalists, and so on. In other words, the perspectives articulated in class are part of broader discourses in which students operate, and they naturally mobilize these different perspectives at different times for different purposes. The purpose of this discussion is to begin to make students aware of what they might have been blind to before, to bring into awareness what they thought was natural and self-evident.

Reframing the Discussion

This technique uses the notion of reframing to uncover hidden historical, social, and political dimensions and to articulate the discursive effect of a position.

Step one: Identify the discourses informing the particular text.

What discourse or discourse community does this view come from?
In what social or political structures is this view most at home?
How does this discourse relate to different power structures that believers might find themselves in?
What does holding and voicing this opinion do to shape individuals and their different roles or relationships?

Step two: Identify the cultural work it is trying to accomplish.

What kind of cultural work is this view doing or attempting to do? Is it getting someone to believe in something, act in a specific way, or change his or her mind about something?
Who loses? Who gains? Which groups benefit and which are penalized?
What ideas gain traction because of this perspective, and which ideas are minimized?
What perspectives are mobilized if this view becomes accepted, and which are constrained, limited, or eliminated?

This technique was developed by Dr. Kline out of the theoretical work of Michel Foucault, Stephen Greenblatt, Paul Bové, and Gerald Graff.

This is the first step in reframing the discussion, to have students identify what discourse (or discourses) their perspectives articulate. I do this as part of class discussion, small-group work, or brief (sometimes anonymous) micro themes, and this allows students to become both aware of, and responsible for, their perspectives. The point I make in class is this: All perspectives are legitimate (notice I did not say valid), in that every person in class may have a different personal perspective or interpretation about the issue at hand. However, not all perspectives are equally well-argued, logically sound, or equally supported by textual evidence. How cogently one presents an argument in favor of a particular perspective does a great deal to establish its legitimacy and validity.

Rather than fear, offense, or scandal, I often hear students say, "I'd never thought of it that way before." To me, that's a mark of success.

But no matter the perspective, all discourses (and all texts) do cultural work; they attempt to get something done: describe, explain, convince, entertain, persuade, move to action, and so on. The second step in reframing, then, is to ask, "What kind of cultural work is this text trying to do, and what kind of cultural work is a specific interpretation of that text trying to do?" Without fail, what this does is shift the focus of attention from "Who's right and who's wrong?" to "What are the different implications and varied consequences each interpretation attempts to create?"

Thus, I can ask the biblical literalist or hard-core atheist or radical feminist or conservative Republican (or any other student with any other perspective) without prejudice about the discourse or genealogy of their claim (step one of reframing), and call upon them not to establish the truth of that position but rather to analyze its discursive effects (step two of reframing) in specific cultural or historical circumstances. Rather than fear, offense, or scandal, I often hear students say, "I'd never thought of it that way before." To me, that's a mark of success.

Assignments

To facilitate this approach in my literature classes, I ask each student to be a Discussion Starter twice during the term, once as a Primary Respondent to the day's reading and once as a Secondary Respondent. The assignment gives students some ownership over the content of the course and the direction of discussion.

I also use a short one-minute feedback or micro-theme exercise periodically to give otherwise reticent students a chance to offer their thoughts or reservations. I set aside the last couple of minutes of class time for students to give me feedback on what's going on in class. Usually I ask them to identify two things: the most important thing they learned and/or one thing they still have a question or concern about. I'll use these to give the class feedback at the beginning of the next class period.

There are a number of benefits to this discursive approach, especially in a text-based class. First, it gets the class out of either/or thinking and allows them to examine a number of seemingly familiar (even clichéd) perspectives in a different light. Second, it allows students to cleave to their own personal perspectives as closely as necessary while still requiring them to consider the broader practical consequences of fostering such an opinion. Third, because the reframing lowers the stakes in a confrontation between potentially incompatible worldviews, students can hold their own views without fear of being shamed or undermined. In other words, no single worldview (whatever its

perspective or claims) is completely free from the mechanisms of discipline, so students of all stripes are brought face to face with the practical (that is, social and political) implications of their worldviews. The second point is more theoretical (whatever students believe is their own business), but the third point is more practical (students are required to assess the positive and negative effects of their, or any other, position). Finally, since I use this approach in literature and composition classes, the reframing activity makes the process of the course its content as well—and that is literary interpretation.

This discursive approach creates the opportunity (though not the necessity) for students to shift their perspectives. It also allows students to begin to accept responsibility for the practical outcomes of their beliefs. At the same time, students become aware of the possible discursive effects of any particular position or worldview. Because the analytical emphasis is less on the absolute truth of a position and more about its discursive effects, students have told me they feel free to try on different perspectives throughout the term without having to commit to any of them. What students have told me is that this approach impacts the way they view all sorts of communication inside and outside of class, particularly as they look at varieties of mass media and advertising.

Moreover, I know I've turned a corner in the class and done good work when students begin to question my perspectives and interrogate the cultural work that I'm doing in class. When students begin challenging the mechanisms by which they are being disciplined, especially the faculty who exemplify those disciplines, then, I believe, students move from mere learning to true liberal education.

SAMPLE ASSIGNMENT

Discussion Starter

As part of your classroom work, you will serve as Primary Respondent for one class period and Secondary Respondent for another.

***As the Primary Respondent,** you will be responsible for a two- to three-typed page write-up (20 minutes max.) which:*

- *Presents relevant historical, cultural, or textual information on the day's text;*
- *Summarizes the day's selection;*
- *Offers two to three questions, concerns, or statements to initiate discussion; and*
- *Points to two to three specific passages for the class to examine.*

You will, in essence, present a close reading of your text with background commentary. You will need to reproduce copies for the entire class.

***As the Secondary Respondent,** you are responsible for a one-page summary (one to two paragraphs, typed) of key questions and issues for the text under discussion; and a brief analysis of the "cultural work" this text is attempting to do (based upon your reading of Bové and Greenblatt).*

Dan Kline

DIFFICULT DIALOGUE
NATIVE WAYS OF KNOWING

We held the panel discussion on religion again, in our third faculty intensive, just a few weeks later. Leslie and Travis presented much the same material as in the earlier discussion, but this time they were joined by Regina Boisclair, APU Professor of Religious Studies. Dan was not able to attend.

Following the panel presentations, we opened up the discussion to the rest of the room. Almost immediately, one of the faculty members at the table brought up a common critique of evolution. "Evolution is just a theory," he said. "There are plenty of holes in it. Why does science hate to admit that?" And suddenly there we were, among our colleagues and peers, having a difficult dialogue that has become increasingly common in the culture around us. Were we ready for it? We would soon find out.

"To say it's 'just' a theory," explained Travis and Leslie, "completely misunderstands what we mean by a theory." Nonscientists may use the term as if it were basically the same as a guess or an opinion, but to a scientist, they are very different. A guess becomes a hypothesis, which is then used as a framework for designing an experiment or otherwise conducting research to answer the question. Is there evidence to support this guess? Will it hold up under scrutiny? A theory, however, is an explanation that has been already been supported by evidence, over and over again, until virtually everyone who has examined that evidence has come to accept it as the best explanation we have to date of real phenomena. That's what we mean by the theory of evolution. Most scientists would go even further and place evolution in the category of a law, like gravity. "Some things just are," said Travis, "whether you believe them or not. Gravity is one of those things, evolution is another. Science is the best way we have of coming to understand such things and seeing them for the way they are."

"Okay then," said someone else. "But what about different ways of knowing, what about the Native taxonomies we learned about yesterday, for example? There is evidence to support that system too. It may be gathered differently, filtered differently, presented differently, but why do we think our science is valid and these ways are not?"

Leslie tried to lift the discussion out of a confrontational either/or mode into a more tolerant both/and mode. "I would answer that these two different epistemologies are two completely legitimate ways of knowing. They are like two languages, one of which you would use if you're whaling up in Barrow and the other you need to use here, in the college classroom, and if you want to get a job in the Department of Fish and Game. For these purposes, in this classroom, I'm going to teach this one."

Both of these are perfectly reasonable responses—and compassionate ones too. Our scientists were not trying to usurp the territory of religion or deny anyone their traditional way of knowing. They were honoring the traditions of the academy and teaching the cumulative established knowledge of Western science, the stuff that describes ecology, cures diseases, and explores the stars.

But there was still one more challenge to address. "It's not as simple as that," said Paul Ongtooguk, the one Alaska Native professor among us that day. It was a tribute to the respect and trust in the room that Paul felt comfortable enough to speak up. Paul is Inupiat, and this was not an abstract discussion to him. "Basically," he said, "you're advocating for Native students to be split personalities."

All week long, Paul had been teaching the other members of the intensive to see the world through his eyes, at least a little. He had shared his taxonomy. He had shared his critiques. He had shared personal experiences with racism. Now he would tell us a story.

It was about an Alaska Native student, a good student, who was doing well in most of her classes. Part way through the semester, however, she began faltering seriously in Biology class, to the point where both her parents and the professor expressed concern. Upon investigation, they discovered that the problem began when the class was required to dissect a frog. The professor thought it might be a religious objection, which he had encountered before. But it turned out to be bigger and more complicated than that.

In the taxonomy of the Tlingit nation (one of three major indigenous nations from the rainforests of Southeastern Alaska) the frog holds a unique position of power, being one of the only animals that can mediate between three different elements: water, land, and air. Because of this attribute, touching frogs is forbidden in Tlingit culture. Furthermore, the Tlingit kinship structures are organized in clans consisting of extended families, and are further divided into two large groups, called moieties (Raven-Frog or Wolf-Eagle). This student was Frog-affiliated. Essentially, what she was being asked to do was to dissect a member of her family.

As Paul completed his story, around the room you could see people start to take in this new information. We'd moved from a difficult dialogue (essentially between two competing Western viewpoints) into a trialogue, with a whole other way of knowing coming into focus. Enough of the other participants had come far enough that, just for a moment, they could see a bit through Native eyes and glimpse a profoundly different perspective from their own.

The conversation went on from there for a while, heating up, cooling off, and in the end, reaching no real consensus or conclusion. We didn't solve the problem; we ran out of time. The sandwiches arrived, and we broke for lunch. But something palpable had happened during that conversation. Some of us had summoned the courage to challenge our colleagues on issues of fundamental personal importance. Some of us had gained valuable practice in defending our well-reasoned turf. And some of us had realized for the first time that no matter how flexible we thought we were, it was all happening within a particular worldview, and there were other—legitimate—worldviews beyond.

In short, most of us had learned something. For Libby, our facilitator through three faculty intensives, this was a moment when she heaved a sigh and thought, "Wow. For the first time I think we are ready to start the conversation on Native ways of knowing."

I told this story in hopes of taking our conversation about science into some fresh territory. Taxonomies that are based on action and function are not merely interesting folklore or quaint cultural artifacts of the Tlingit, Yupik, or Inupiat nations; they are much more interesting than that. A fresh taxonomy creates a new platform from which to view the world, encouraging us to develop new questions and leading to the discovery and creation of new knowledge. Alaska Native taxonomies offer genuine insights about the world. I'm not romantic about this; I realize the insights may be of uneven value. But unevenness is an attribute of all taxonomies and cultures.

Paul Ongtooguk
Education

Native cultures honor the validity and usefulness of the scientific method and, indeed, employ similar processes of intense observation, evidence gathering, experimentation, peer review, and others. The difference is that they view and interpret that evidence as part of a larger, interconnected system of relationships between the human and natural communities. Native cultural perspectives are deeply ecological and ultimately inclusive, viewing humans as profoundly interdependent with all other life forms and processes rather than somehow outside of that which they are studying. Their example might serve as a reminder to look up from our individual disciplinary silos and view new information as part of a vast, extremely complex, never fully predictable, ever-changing system.

Libby Roderick
Center for Advancing Faculty Excellence

As we move into the third year of our project, we are indeed starting the conversation on Native ways of knowing that began in our intensives and have designated "Alaska's Native Peoples: A Call to Understanding" as the theme for our 2008-09 Books of the Year. See pages 241-245.

START TALKING

Questions for Discussion:

Are there topics you try to avoid in your classrooms? What are the implications of avoiding them versus addressing them?

When you find yourself getting defensive, what do you do that's positive? What do you do that's negative?

How do you address the language of knowledge and belief in your discipline? How can these strategies be applied to difficult dialogues about science, religion, and other ways of knowing?

What is at stake for you personally when your worldview or way of knowing is challenged?