God, Darwin, and English 102
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But Yahweh God called to the man and said to him, “Where are you?” And he answered, “I heard the sound of you in the garden and I was afraid because I was naked, so I hid.” And he said, “Who told you that you were naked? Have you eaten from the tree I commanded you not to eat from?”

– Genesis 3:9–11

Lucy,
blessed among women,
three million years ago,
when there were no legends,
just the loving search
for dandruff in fur.

– Miroslav Holub

Writing Through Literature (English 102) is a course that I have taught many times over the years. But in Spring 2006, spurred by the anti-scientific mood of our country, I altered my ordinary approach to the course’s canon-based selection of readings. My ambition was to incorporate biological science and the theory of evolution into the syllabus in the hope of creating a true interdisciplinary knowledge base for my students.

As LaGuardia composition faculty are aware, English 102 students produce four essays plus a longer research paper over the course of a semester. Unlike English 101, this successor class stresses literary analysis as the basis for student writing. Typically, students read and write about two or more literary genres, one of which must be poetry. Within these parameters, LaGuardia’s English Department accords its faculty wide latitude in the choice of texts as well as teaching styles. In other words, I was free to develop a curriculum that would best present the theory of evolution to a group of mainly non-science majors.

Guiding my course preparation was the assumption that most students came to class with a belief in a religious agency responsible for creating life on earth, a view amply supported by polls conducted over the last twenty years. In 1982, for example, forty-five percent of the Americans polled by the National Science Board agreed with the statement, “God created man pretty much in his present form at one time within the last 10,000 years.” As reported by Steven D. Verhey of Central Washington University, in 2004, twenty-two years after the NSB poll and despite a nearly twenty-five percent increase in college-educated respondents, fifty-five percent agreed with the CBS/New York Times polling statement, “God created human beings in their present form” (Verhey). Given the rise in creationist belief, it is not surprising that a 1997 Gallup poll concluded that over two-thirds of Americans thought “creationism should be taught along with evolution in public schools” (Moore).

With these results in mind, my teaching goal was to prepare my students to address a complex and emotionally charged set of beliefs from a critical perspective strengthened by a variety of readings, films, and writing assignments. Creation stories appealed to me for reasons both practical and philosophical. First, they fulfilled the genre requirement for the short story. Second, creation stories offer evidence that all cultures desire explanations for the origin of the universe and of living things. Finally, a variety of unique stories would prompt writing students to question the predominance of one creation story over another.

During the course of the Spring semester, students were required to read the Greek myths of Prometheus and Pandora, Genesis, the Inuit story “Sedna,” an Apache and a Pueblo origin story, several African myths, and ten poems related to evolution. Together these imaginative pieces formed a prelude to a series of readings with a scientific orientation toward creation: the final chapter of Charles Darwin’s The Origin of Species, and two essays by Stephen Jay Gould, the late Harvard biologist. Students also
read Lawrence and Lee’s play *Inherit the Wind,* the lightly fictionalized account of the 1925 Scopes Monkey Trial in Dayton, Tennessee, and viewed the PBS Nova program, “Darwin’s Dangerous Idea.”

Because I also wanted to know more about my students’ attitudes toward evolution and their commitment to religious beliefs, I conducted a pre- and post-survey, the idea for which grew out of my participation in Dr. John Chaffee’s Critical Thinking Across the Curriculum seminar. Using a scale ranging from one to four, students responded to the following statements:

- I have a strong religious belief.
- My belief comes from what I have read.
- I consider religion a better guide than science to my understanding of the world.
- I do not believe I will change my mind significantly about my religious beliefs.
- The basis of life on earth is biblical, not biological.
- Evolution as theory is not a valid means to understand life on earth.

A quick analysis of the responses revealed that my students’ beliefs were not unlike those surveyed by CBS/New York Times and Gallup. Most considered themselves religious; most read and believed religious texts; most did not consider changing deeply held religious beliefs; and most did not believe in evolution.

These results were not surprising; over the course of two decades of teaching, I had become acutely aware that our student population tended to have strong religious affiliations. Only recently, however, have I begun to subject anecdotal observations to systematic pedagogical inquiry. The difficulty of persuading college students to question tightly held anti-evolution positions, especially those formed before entering college, has been studied extensively. “Unless students are engaged at the level of their initial understanding and helped to come to terms with the new information,” writes Verhey, “they often simply memorize the new information for the duration of the class.”

Verhey’s emphasis on active engagement of prior learning is echoed in Matthews’ 2001 survey of mixed majors in a general biology course at a New York community college. Testing her thesis that “consideration of students’ existing ideas is important for conceptual change to occur” (404), Matthews conducted a statistical study in which students were asked their views before and after a four-week section on evolution. After exposure to a variety of creation myths and scientific texts, her post-surveys showed a slight increase in the acceptance of evolution as a valid explanation for life on earth. Matthews concludes:

*These results support a conceptual-change approach to evolution education. While the teacher is ultimately the agent of scientific enculturation, students should be allowed and encouraged to consider their own existing ideas. … the exclusion of discussion of students’ existing views about the origin of life from the science classroom has contributed to the failure of traditional evolution education, perhaps even giving students the sense that “a cover-up” exists.*

*Discussion of contrasting creation stories may allow students to critically examine the reasonableness of this explanation, which is based on a belief system and lacks scientific evidence, with the scientific explanation of the origin of life (408).*

Rather than contrasting creation stories as Matthews did in her class, I chose to emphasize thematic similarities, primarily the consistent human desire to explain origins. A central learning objective was that, so guided, my students would perceive these stories as the science of their times, the forerunners of later empirical discoveries. Therefore, prior to our first comparative analysis, students identified likenesses among the geographically disparate creation myths, exploring the universal need for the human race to discover its beginnings. In response to the question, “What do these
origin stories have in common?” several students noted that in both the Greek and Old Testament stories men were unwilling to assume personal responsibility for their actions, blaming everything upon women who lacked “importance and significance.” Another student, not “one for religion” herself, perceived that “back then” she would have nonetheless believed these stories, too, as she would have had little choice to do otherwise. “That is all I would have been exposed to,” she remarked, “...back then, people believed in what they were told. They believed in religion.”

The results of this exercise displayed a compelling thoughtfulness and honest evaluation. Students were learning that these stories had been created and told by human beings for the purpose of demystifying and explaining their environment. While I knew that students would still see their own culture’s story as possessing greater validity, the systematic process of comparative analysis challenged them to view those stories from a more critical perspective.

For some students, Darwin’s scientifically detailed language was difficult to absorb. Nevertheless, the final chapter of The Origin of Species, for example, presents a neat summation of Darwin’s findings, and as a primary source, met course requirements. But beyond the science, there was another complexity in Darwin’s thinking that I wanted to share with my students. Anticipating public resistance to his revolutionary idea, Darwin sought to reconcile the theory of evolution with the belief in a Divine Creator:

I see no good reason why the views given in this volume should shock the religious feelings of any one... A celebrated author and divine has written to me that he has “gradually learnt to see that it is just as noble a conception of the Deity to believe that He created a few original forms capable of self-development into other and needful forms, as to believe that he required a fresh act of creation to supply the voids caused by the action of His laws” (421–422).

Intensely dramatized in the assigned viewing of the PBS video Darwin’s Dangerous Idea, Darwin’s struggle between his scientific findings and his religious beliefs presented a moving human conflict with which my students could identify. Indeed, Darwin’s anguish delayed the publication of his master work, and in his ambivalence my students saw a believer who deeply regretted that his fossil discoveries might overturn religious conventions of the nineteenth-century.

Our discussions of the content of creation stories taught me about the depths of my students’ religious beliefs. Most significant, I was learning in greater detail about the ways selected literary works influenced their belief systems. One theory guiding my selection of class readings was that their degrees of difficulty or familiarity, together with their qualities of tone and other literary attributes, would bear significantly upon my students’ acceptance or rejection of implied meaning.

Clearly, detections of these differences in tone and audience are necessary to the appreciation of the ways writers create emotional effects and essential to my teaching goal to explore with my students the relations between a text and personal belief. Distinctions in literary style, if not theory, are nowhere more evident than in a comparison of Charles Darwin and Stephen Jay Gould, whose two essays “The Evolution of Life on Earth” and “Evolution as Fact and Theory” followed our reading of Darwin. In an impassioned manner altogether different from Darwin, Gould makes no bones of his disdain for creation science, eviscerating its arguments without regard to his readers’ sensibilities. For these reasons among others, most students found Gould’s essays more immediate than Darwin’s. “The Evolution of Life on Earth” became our science text, as it recounts the creation of all matter from the Big Bang to bacteria, to the finale of the dinosaurs during the Cretaceous period, and the rise of mammals.

The second essay, “Evolution as Fact and Theory” (analyzed by students in groups as described below), easily dispenses with the defense that evolution is “only a theory,” a position held by creationists (now advocates of
“Intelligent Design”). To summarize briefly, the beauty of Gould’s essay is that he builds upon Darwin’s theory of gradual change by introducing a theory of “punctuated equilibrium” which holds that mass extinctions have occasionally occurred in the half-billion years since multicellular life appeared on earth. In contrast to Darwin’s theory of gradualism, species can undergo evolutionary changes in much shorter time periods following these cataclysmic events. Unlike faith-based epistemologies, evolutionary theory presented by Darwin and Gould is testable science based upon factual evidence—and it is a theory because it is yet being expounded upon.

Once more the assignment for this unit was an essay in comparative analysis. Students compared and contrasted two writings, this time choosing among three options: comparing Darwin’s writings to Gould’s; comparing the two scientists’ writings to Genesis; or simply making a case for any one of the writings perceived to be more convincing. Analyzing the power Genesis holds for the believer, one of my students, Kwesi, writes:

For a firm believer in Christ, the idea of a superior creature is not improbable at all. They feel Genesis is the only explainable foundation for creation. Many feel that someone or something of a greater power has to be held accountable for something as complex as the human body and the creation of the world. I think that many people can’t fathom the complexity of the human existence or the creation of things past our knowledge such as the solar system. People cannot accept the fact that our existence might just be a series of accidents by nature. That is why I think that many people opposed Charles Darwin.

Another student, Bertrand, focuses his analysis on the emotional effects of words upon our understanding of the issues:

Word choices and terminology used to explain the earth’s origin and creation process are salient differences between creation and scientific narratives. In Genesis, “In the Beginning,” the words used are simple to read and easy to understand because they illustrate and give descriptive examples of the subject and show how each is connected with the subject of God and its supernatural forces used to create earth... In contrast, Darwin’s and Gould’s articles are far more difficult to read because the level of scientific terminology used is more technical and often refers to the subset fields of biology.

In the second half of the semester, we studied the concept of evolution by way of poetry—shorter readings, considerably lighter tone, and vivid imagery. An example of “evolution poetry” is Helen Ehrlich’s “Two Sonnets,” which suggests that humans have not yet reached a perfected stage of being. Instead, Ehrlich’s sonnets, “Love Song to Lucy” and “Lucy Answers,” place evolution on a continuum that reveals modern humans as but another species in the long line of hominids:

Your turn will come – time upon time your bones
Will also sweep the sun, and from the clay
Strange creatures, on a far and stranger day,
With eye and hand the primal mind disowns,
Will find you there among the silvered stones–

The verses of Ehrlich and other poets provoked no controversy; instead, my students enjoyed the alternative to prose. The poetic devices of allusion, mood, and image formed yet another literary approach to evolution’s premise that we are only the latest genetic descendants of ungainly-looking ancestors.

But the apotheosis of our literary exploration of evolution was reached when we read the play Inherit the Wind, which was the focus of both the final essay and the research paper. Condensing themes about human origins that had surfaced in a variety of forms throughout
the semester, the central characters, Henry Drummond and Matthew Brady, represent the two sides of the evolution-creationism debate. I had designed this as an analysis of the conflicting views of creationism and evolution, and in these final assignments I would learn whether my students, particularly those holding strong religious convictions, had been encouraged to critically examine both positions. Had they maintained their pre-existing religious beliefs, or had they opened their perspectives to include other ideas?

As I returned papers and handed out grades on the last day of class, students responded to the post-survey questions about the semester. In the pre-survey, the statement "Evolution as a theory is not a valid means to understand life on earth," was supported by nearly sixty percent of the class. The post-survey showed a change in this view; now about seventy percent of the class disagreed with the claim. Perhaps this reversal in attitudes is best represented by Diana, a Pentecostal Christian, who wrote in one of her final assignments:

I was against the theory of evolution before I took this class. This made me very skeptical and I even considered dropping the class. I came from a very Christian background where they teach that men and animals were created by God, so every time I heard anything to do with evolution I would completely shut down. God still created us, but we have been evolving, something I would never have thought before, because I assumed we were created in the image of God.

Like many others in our class, Diana had tested the limits of her belief. If, through literature, students who would not have previously admitted evolution into their worldview prior to my course now found merging both religion and science into one philosophy acceptable, or allowed the two competing ideas to co-exist in their outlook, then my semester was more successful than I could have hoped.

WORKS CITED


