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Biology, Theology, and Academic Freedom: The Challenges of Interdisciplinary Teaching at a Catholic University

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Emerging genetic technologies resulting from the Human Genome Project continue to have ethical, legal, and social implications (ELSI). This essay will address the challenges of teaching this topic in an interdisciplinary course at a religiously affiliated school, specifically a Catholic university. The article will examine the concept of academic freedom; explore the concept of Catholic identity in higher education; demonstrate how academic freedom and respect for a religious tradition can be achieved through specific pedagogical techniques; and finally, offer some general suggestions for teaching genetics in a religiously affiliated institution.

Introduction

Emerging genetic technologies raise many serious ethical concerns for society in general, for medicine in particular, and certainly for our students, who are likely to be more affected by these developments than we may be. These technologies also raise questions about the

intersection of religion and science, especially for teaching. What is, or should be, the relationship between religion and science, biology and theology? At what point do we cross the line into “playing God” versus “using the brains God gave us?” How can we balance scientific research with the ethical dilemmas that may be created by them? And, most important, how might we address these questions in the classroom? Thus began the development of our course, “God, Science, and Designer Genes.”¹

This course was an outcome of our participation in Dartmouth’s faculty summer institute 2004: “Teaching the Ethical, Legal, and Social Implications (ELSI) of Human Genome Research.” We both work as professors at Alvernia University, a Catholic institution located in Pennsylvania, Donna in the field of theology and Spencer in the fields of biology and education. One of the most important questions that we had to address was how to teach such a course within the boundaries of a Catholic institution. We had to give serious consideration as to how we could respect the tradition of our institution while also allowing our students and ourselves the freedom of dialogue necessary to plumb the depths of these complex issues. Therefore, in our essay, we will focus on how we navigated, in the teaching of our interdisciplinary course “God, Science, and Designer Genes,” the tension between upholding academic freedom while simultaneously respecting the Catholic identity, tradition, and mission of our institution, with regard specifically to teaching genetics. First, we will explore the concept of academic freedom. Second, we will explore the concept of Catholic identity in higher education. Third, we will demonstrate how we presented the balance between these two concepts in our class practically with the specific pedagogical techniques that we utilized. Finally, we will offer some suggestions in general for teaching genetics in a religiously affiliated institution, and offer some concluding comments.

Academic Freedom in Higher Education

In teaching complex ethical issues in genetics, it seems crucial to have an atmosphere in which academic freedom is respected for student and teacher alike. This is true even and perhaps

especially for a religiously affiliated institution. The concept of academic freedom is meant to foster open intellectual inquiry. We were interested in whether intellectual inquiry can be balanced with Catholic teaching at a Catholic institution. We maintain that there is an inevitable tension in exploring ethical issues on which the Church has provided specific moral directives. Thus we should expect that academic freedom could be compromised in light of the Catholic tradition. In this section, we will analyze the definition of academic freedom, the relationship between academic freedom and the common good, and the truth-seeking function of higher education.

First, we need a definition of academic freedom. The AAUP regularly publishes the *Redbook* containing the 1940 *Statement of Principles on Academic Freedom and Tenure*. The statement was developed in cooperation with the Association of American Colleges (currently the Association of American Colleges and Universities [AACU]) and now includes “Interpretive Comments” developed in 1970. The AAUP and AACU hope to promote public understanding of academic freedom and to establish guidelines for colleges and universities. Academic freedom is a concept that can be described in terms of rights and associated responsibilities. Donald Kennedy, in *Academic Duty* (1997, 22, 2), reminds us that “by nature, universities are controversial places” and that “academic freedom has a counterpart, academic duty.” Our academic duty requires us to continue our teaching, scholarship, and service even when seeking answers to difficult questions becomes contentious. The AAUP/AACU statement speaks to (1) the right to full freedom in research and publication with a responsibility to also perform adequately in other academic duties, (2) the right to openly discuss one’s subject in the classroom with a responsibility to avoid controversial topics of no relation to one’s subject, and (3) the right as citizens to freedom from institutional censorship and discipline with a responsibility to be accurate, exercise appropriate restraint, and clarify whether one is speaking as an individual, as a member of the profession, for the institution, or all of the above (AAUP 2006, 3–6). The academic arena should afford responsible scholars the right to seek truth for the common good, according to the AAUP: “Institutions of higher education are conducted for the

common good and not to further the interests of either the individual teacher [investigator] or the institution as a whole. The common good depends upon the free search for truth and its free exposition" (ibid., 3).

This statement has been "on the books" for many years, and interpretations vary. The pursuit of "truth" is generally considered to be in the interest of society, and it is believed that academic freedom is necessary to seek "truth" for the "common good." For the sake of this brief discussion, we consider seeking the "common good" to be the task of working to benefit all members of society with a respectful balance of individual rights and utilitarian ideals. But since we are considering a Catholic university, it is important to understand the Church's definition. The *Catechism of the Catholic Church* (1994) defines the "common good" as "the sum total of social conditions which allow people, either as groups or as individuals, to reach their fulfillment more fully and more easily. The common good concerns the life of all" (#1906). The common good contains three essential elements: respect for the person as such, the social well-being and development of the group itself, and peace ("stability and security of a just order") (#s 1907–09). This respectful balance of individual and group needs, while influenced by the Church, is subject to political organization. Recognizing the public-sectarian dynamic, the *Catechism* makes this recommendation: "Each human community possesses a common good which permits it to be recognized as such; it is in the political community that its most complete realization is found. It is the role of the state to defend and promote the common good of civil society, its citizens, and intermediate bodies" (#1910).

In American colleges and universities, the US Constitution attempts to strike this balance, with states and accrediting bodies taking responsibility for education. The governance structures of public institutions vary, but in general they share responsibility for the "common good" with the state. Governing boards of independent institutions vary in their sources of authority, but in the case of Catholic institutions, the Church has significant influence in promoting the "common good" through its many colleges and universities. The AAUP is also independent of the state, and its policies are generally considered to be good practice by the

vast majority of institutions. Thus it is clear that Catholic institutions and the AAUP share a concern for the “common good”; however, an even bigger challenge arises when we consider the concept of “truth.” Whether “truth” is absolute (with a capital “T”) or relative (with a small “t”) causes controversy.

In an ideal world, academic freedom affords faculty and students the protection necessary to seek truth. Is this freedom at risk? To explore this question, it is necessary to first consider the epistemological differences between biology and theology. According to Thomas L. Haskell (1996), academic freedom can be viewed as “defending the authority” (or competence) of the traditional academic disciplines. He suggests that academic freedom may be at risk because the epistemological assumptions of traditional academic disciplines are eroding. In our disciplines (theology and biology), professional standards and epistemological assumptions set parameters as to how biologists work to explain the natural world, and how theologians work to understand both the natural and spiritual worlds. It is generally agreed that theology seeks a reasoned understanding of the natural world and a spiritual reality (Truth), and that biology as a science seeks what it believes to be an objective reality (Truth). Interdisciplinary work such as ours (e.g., attempting to make reasoned decisions with students in the classroom regarding the ethical, legal, and social implications of emerging genetic technologies) might by its methods and content generate knowledge that is relational (truth) and not absolute (Truth). To conflate these different understandings of T/truth could be viewed by some to be an epistemological erosion of our traditional disciplines. In addition, any weakening of a capital “T” truth could conflict with Catholic Church teaching. Thus, it is necessary to briefly consider academic freedom both in terms of an institution’s religious affiliation (authority) and academic standards within a discipline (profession).

First, there has been a tradition of tolerating “community of faith” restrictions, but the AAUP has made an effort to strike a balance. The 1940 statement on academic freedom indicates that teachers should be careful not to introduce controversial material that is of no relevance to their subject, but if the introduced material is controversial and relevant to their

subject, then religious or other institutional limitations may apply if they were clearly stated in writing at the time of the faculty member's appointment (AAUP 2006, 3, item 2). The 1970 interpretive comments on this portion of 1940 statement are important for this discussion: "Most church-related institutions no longer need or desire the departure from the principle of academic freedom implied in the 1940 *Statement*, and we do not now endorse such a departure" (ibid., 5, comment 3). Thus, it is expected that all institutions of higher education today, regardless of their religious affiliation, support the principles of academic freedom. Second, there is a potential for academic standards within a discipline to limit academic freedom. More specifically, if academic freedom as defined earlier by Haskell is "defending the authority" of traditional disciplines, then the source of competence for these disciplines and how they relate to the institution and the larger academic communities should be considered. For example, both theologians and biologists are judged according to professional competence standards for their respective professions, and these standards transcend their university. But their academic freedom may be limited in different ways at an institution sponsored by the Catholic Church. For example, a biologist might not receive institutional review board approval for research with the potential to destroy human embryos, and the theologian must present authentic Catholic teaching.² Thus, the concept of academic freedom is much more complex in Catholic universities than in their secular counterparts, especially for those that are considered pontifical institutions.³ The Catholic Church has a long history of sponsoring fine institutions of higher education, and surely these challenges of balancing academic freedom and an institution's religious identity are not limited to Catholic institutions. But we need to look in particular at how the concept of academic freedom, in this case with regard to teaching genetics, can be balanced with religious identity. Thus, an exploration of the unique teaching mission of Catholic institutions of higher education is required.

Catholic Identity in Higher Education

As of 2002, there were 238 Catholic colleges and universities in the United States, with 724,000 students (Steinfelds 2003, 30), constituting about 5 percent of the nation's college and university enrollment (ibid., 131).⁴ Alvernia University was begun by a religious order in 1958, and its flavor always has been "Catholic." The student body is pretty evenly divided between Catholic and Protestant students, with just a smattering of non-Christians. But it is not the demographics alone that define an institution as Catholic; rather, it is the infusion of Catholicism throughout campus life—spiritually, intellectually, and morally. It is the intellectual and moral climate of Catholic institutions, though, that make it challenging to teach courses such as ours, which raise troubling ethical issues with which the Church has serious moral concerns, and on which the Church often has definite and narrowly proscribed positions. In order to understand better the complexities of teaching our course, we will provide some background on the Catholic Church and higher education.

The role of the *Magisterium*, the concept of Catholic identity, the relationship between faith and reason, what is meant by "T/truth," and the specific place of theological truth and the theologian's role, are important concepts requiring exploration. The *Magisterium*, sometimes referred to as the "hierarchical *Magisterium*," is the arm of the Church hierarchy that has oversight for all Catholic institutions, and which also has the right, responsibility, and authority to interpret God's Word for the Church and, to a certain extent, for the world.⁵ The Church historically developed institutions in health care, social work, and education at all levels and has always been concerned that these institutions maintain their "Catholic" identity. In fact, Catholic institutions of higher education can only be established by or with the permission of the Church hierarchy. With regard to Catholic universities, the Church *Magisterium* has attempted to provide guidelines to safeguard their Catholic identity through the issuing of a number of ecclesial documents.⁶ Two of the earlier ones include *Gravissimum Educationis* (1965) and *Sapientia Christiana* (1979). The *Code of Canon Law* (updated, 1998) has some sections devoted to Catholic higher education. However, the most recent and significant documents are *Ex Corde Ecclesiae* (1990, written to address guidelines for Catholic universities in general, and

the role of the theologian in particular), the *Application of Ex Corde Ecclesiae for the United States* (2000), *Guidelines Concerning the Academic Mandatum in Catholic Universities* (2001), and *Instruction on the Ecclesial Vocation of the Theologian* (1990). All of these documents address how Catholic identity can be retained and encouraged within Catholic educational institutions, and some materials have been drawn from them below to illustrate some of our points.

The concept of religious identity has been a pressing concern in the Catholic Church since the Second Vatican Council. Before then, there was general agreement as to what constituted a Catholic institution. Now there are many disparate voices clamoring for a different interpretation or simply trying to carve out a religious identity for an institution rooted more and more in a secular society.⁷ The reasons for the struggle with Catholic identity are more sociological and pragmatic rather than theological, and they have been identified by various writers. A main reason is the transition in Catholic leadership at many Catholic universities, having moved to primarily lay leadership post-Vatican II as opposed to religious leadership and a strong religious presence on many campuses pre-Vatican II. Another are the students and faculty members of these universities, many of whom are not Catholic themselves. Finally, funding is now often a mix of public and private sources, which puts certain pressures on Catholic institutions (Steinfels 2003, 111). In spite of these problems, though, part 1 of *Ex Corde Ecclesiae*, on identity and mission, spells out what the nature of a Catholic university is and should be: "Every Catholic University, as a university, is an academic community which, in a rigorous and critical fashion, assists in the protection and advancement of human dignity and of cultural heritage through research, teaching, and various services offered to the local, national, and international communities" (#12). There are four essential characteristics of a Catholic university:

1. a Christian inspiration not only of individuals but of the university community as such;
2. a continuing reflection on the light of the Catholic faith upon the growing treasury of human knowledge, to which it seeks to contribute its own research;

3. fidelity to the Christian message as it comes to us through the Church; and
4. an institutional commitment to the service of the people of God and of the human family in their pilgrimage to the transcendent goal which gives meaning to life.

(#13)

The overall mission of every Catholic institution, including institutions of higher education, is the work of evangelization (*Ex Corde Ecclesiae*, #s 48, 49). It is thus crucial for Catholic universities to have a mission statement or other public document that attests to their Catholic identity (*Ex Corde Ecclesiae*, "General Norms," Article 2, #3).

The relationship between faith and reason is an important concept in Catholicism. The Catholic Church has always recognized the importance of drawing on both faith and reason in one's search for truth, and this is particularly true at Catholic universities. Faith and reason should complement each other, and one of the famous early definitions of theology by Anselm was "faith seeking understanding." First, the Church acknowledges that reason is a capacity given to us by God and is something that should be both sought and utilized. But, given human free will, the Church also acknowledges that humans do not always make the right choice (hence, the theological concept of "sin"). Second, individuals must draw on all sources of knowledge in order to arrive at truth, especially with regard to the sciences: "This task requires persons particularly well versed in the individual disciplines and who are at the same time adequately prepared theologically, and who are capable of confronting epistemological questions at the level of the relationship between faith and reason" (*Ex Corde Ecclesiae*, #46). Third, this search for truth via reason necessitates having scholars well trained in their respective disciplines but who also know how to engage in dialogue with other disciplines: "Each individual discipline is studied in a systematic manner; moreover, the various disciplines are brought into dialogue for their mutual enhancement" (*Ex Corde Ecclesiae*, introduction, #15). Fourth, interdisciplinary studies are especially encouraged, as they can contribute to a more complete understanding of reality: "While each discipline is taught systematically and according to its own methodology, interdisciplinary studies, assisted by a careful and thorough

study of philosophy and theology, enable students to attain an organic vision of reality and to develop a continuing desire for intellectual progress" (*Ex Corde Ecclesiae*, "Nature and Identity," #20). Finally, the Church recognizes that new issues and technologies will present themselves in society requiring some answers which, for the Catholic university, will necessitate a religious approach: "A specific priority is the need to examine and evaluate the predominant values and norms of modern society and culture in a Christian perspective, and the responsibility to try to communicate to society those ethical and religious principles which give full meaning to human life" (*Ex Corde Ecclesiae*, "Service to Church and Society," #33). It may even require that the Church at times "have the courage to speak uncomfortable truths which do not please public opinion, but which are necessary to safeguard the authentic good of society" (*ibid.*, #32). With regard to our course, we are on very safe ground in exploring issues deeply, aided by reason, from the perspective of our disciplines of biology and theology. The Catholic understanding of truth, however, can ostensibly challenge this process.

The Catholic Church is very committed to the concept of and search for truth. For the Church, it is essential that this "Truth" have a capital "T." It maintains that there is an ultimate "Truth" which can be discerned by human minds and through revelation, but which is also uniquely understood within the Catholic tradition. These truths fall into the areas of both doctrine and ethics. These ethical norms make it tricky to navigate courses that deal with the ethical issues in genetics. While these capital "T" truths are especially binding on Catholics, the Church also believes that this truth is, in essence, the truth for everyone. A Catholic university, then, must continually be on a quest for truth: "It is the honor and responsibility of a Catholic University to consecrate itself without reserve to the cause of truth. . . . By means of a kind of universal humanism a Catholic University is completely dedicated to the research of all aspects of truth in their essential connection with the supreme Truth, which is God" (*Ex Corde Ecclesiae*, introduction). Thus, truth is a seamless garment with many interwoven strands, all ultimately pointing to God, the grounding of all Truth. However, this understanding of truth should not interfere with freedom of inquiry or research, since it "means an openness to accepting the truth

that emerges at the end of an investigation in which no element has intruded that is foreign to the methodology corresponding to the object under study" (*Instruction on the Ecclesial Vocation of the Theologian*, #12). In essence, this means that academic freedom must be an essential component of a Catholic university, that this freedom should be provided for professors by their institutions, and that it should be respected by bishops (*Application of Ex Corde Ecclesiae*, "Particular Norms," art. 2, #s 2–3). This academic freedom extends to both students and faculty.

But the place of the discipline of theology, and the role of theologian, is a bit more complex. While theology is acknowledged as a discipline alongside all of the others, including with regard to freedom of inquiry, this freedom is subject in a special way to the Catholic hierarchy, since theologians must "respect the authority of the Bishops, and assent to Catholic doctrine according to the degree of authority with which it is taught" (*Ex Corde Ecclesiae*, "The Catholic University in the Church, Identity and Mission," #3). While the Church would like all Catholic universities to hire mostly Catholic professors in all disciplines, professors who would be aware of and committed to the Catholic nature of their institutions (*Application of Ex Corde Ecclesiae*, "Faculty," #s a and b), it also realizes that this is not realistic, and that not all teachers of Catholic theology are indeed Catholic, though it is likely that most of them are.

An important distinction is thus made between non-Catholic and Catholic theologians. The key phrase, and perhaps one of the most controversial in the *Application of Ex Corde Ecclesiae in the United States*, is this: "Both the university and the bishops, aware of the contributions made by theologians to the Church and academy, have a right to expect them to present *authentic Catholic teaching*" ("Faculty," #d; our emphasis). This is usually interpreted to mean that all theologians must attempt to fairly and correctly present the Catholic Church's teaching on the subjects at hand, but it does not necessarily require that they assent to it. In addition, however, Catholic theologians are strongly encouraged to seek the *mandatum*, granted by the Church hierarchy, by which they do assent to the Church's authority. (Since non-Catholic theologians are not per se under the religious authority of the Church, they cannot be required to a *mandatum*. The *mandatum* "is fundamentally an acknowledgement by Church authority that a

Catholic professor of a theological discipline is a teacher within the full communion of the Church" (ibid., #e, #i). Its purpose is as follows: "The *mandatum* recognizes the professor's commitment and responsibility to teach authentic Catholic doctrine and to refrain from putting forth as Catholic teaching anything contrary to the Church's *Magisterium*" (ibid., #iii).⁸ The Church recognizes that even Catholic theologians may not always agree with the Church's teaching, and there is even acknowledgement that the *Magisterium* might need to explore an issue further in light of issues raised by theologians, but the primary attitude of the theologian should be one of submission. The guideline for tensions that may arise between Catholic theologians and the Church hierarchy is "unity of charity" for those differences that do not jeopardize the communion of faith, and "unity of truth" for those that might (*Instruction on the Ecclesial Vocation of the Theologian*, #26). The *Magisterium* certainly has the authority to intervene with regard to errors. But the Church distinguishes between those differences of opinion that a theologian may arrive at from the more troublesome issue of dissent. The latter can be divided into two kinds: (1) dissent that aims to change the Church and (2) dissent which declares that theologians do not need to adhere to any *Magisterial* teaching unless it is declared to be infallible (*Instruction on the Ecclesial Vocation of the Theologian*, #33). In certain cases, the *Magisterium* can intervene and even revoke a theologian's canonical mission to teach (ibid., #37). However, Parker Palmer (1987, 25) reminds us that "knowing and learning are communal acts that require a continual cycle of discussion." Students, faculty, and staff must feel free to share their own values. We will now address how we dealt with the tensions that we experienced between academic freedom and teaching at a Catholic institution by focusing on pedagogical techniques.

Pedagogical Considerations

Pedagogy, and in particular the classroom, is where theory meets practice. It should be noted that our classroom strategies have evolved significantly since the initial course offering, which was an outcome of our participation in a series of workshops sponsored by the Ethics Institute at Dartmouth College, through an NIH-ELSI grant. A subsequent cycle of teaching and

scholarship concerning bioethical issues resulted in our writing *God, Science, and Designer Genes: An Exploration of Emerging Genetic Technologies* (2009). This book includes an up-to-date account of the current state of genetic technologies, covering issues such as the relationship between science and religion, “designing” our children, stem cell research, cloning, genetics and behavior, genetics and privacy, and social justice implications. Planning for and teaching these issues required us to address the following questions: How can teachers and students search for “T/truth” in an academic classroom that allows for both Catholic identity and academic freedom? How can one teach the ethical, legal, and social implications of emerging genetic technologies in a religiously affiliated institution? How can one find the right balance between academic freedom and institutional mission? The remainder of this essay will focus on how we attempted to address these questions in our teaching.

This interdisciplinary course in theology and biology was designed to fulfill one of the following requirements: a theology elective, an ethics requirement, a graduate program requirement, or a general education biology requirement (without a lab); it also counted as an honors class for honors students. The syllabus course description is as follows:

Modern genetic science is at the state where we can now control our genetic destinies. This course will address both the science behind this phenomenon, as well as some of the ethical and theological concerns, such as: Are we playing God? What is the relationship between religion and science? Issues such as cloning, stem cell research, gender selection, genetic discrimination, as well as other emerging technologies, will be explored through a variety of teaching methods, including videos, case studies, group activities, readings, and discussions.

We brought several important pedagogical considerations and practices to bear on our course, given its unique subject matter, its interdisciplinary nature, and our milieu as a Catholic institution of higher education. We consider *modeling* appropriate professional behavior and the *mentoring* of students in this regard to be the most effective pedagogical tools for this setting.

The first question to address is how classroom teachers and their students can search for “T/truth” in a way that allows for both Catholic identity and academic freedom. We believe that the most effective way to facilitate this search is for us as professors to *model* behaviors appropriate for our academic disciplines. We consider it to be absolutely essential for both of us to teach the class together, both in the classroom at the same time, each contributing to the day’s discussion. This allowed us to demonstrate to our students how two professors with very different views could respectfully disagree and dialogue regarding complex issues. This does take practice, but we found one tool to be very effective—the “hats of our disciplines.” We had the front of two baseball caps embroidered—one with the word “Biology” and the other with word “Theology”—for use in the classroom whenever it was necessary to emphasize that we were speaking from the position of our discipline. This enabled us to take positions on issues that we personally may not have agreed with; this technique modeled our efforts to “step back” and look at things from a different point of view, and it allowed us to demonstrate to students the value of considering multiple points of view simultaneously. This enabled the theologian to address specifically the Church’s teaching on particular issues. For example, when we were studying human cloning, the biologist would illustrate the scientific techniques with mention of risks and benefits (all while wearing the biologist’s cap), and the theologian would consider consequent moral dilemmas with theological implications, such as when we cross the line and begin “playing God” (all while wearing the theologian’s cap). The biologist could then take off the cap and state an opinion, but the theologian, in contrast, wore the “hat of the Christian faith.” Although the theologian could and did take off her hat literally during class, given the nature of a theologian which includes a faith commitment, a theologian can really never not think like a theologian. The theologian would do this by presenting the Catholic Church teaching on a particular issue and then comparing and contrasting it with other religious views. This “wearing of the hat” approach enabled us to model how important it is that we recognize what we are authorized (qualified) to speak about, and that we acknowledge when we are stating a personal opinion. In addition to allowing us a creative way of presenting the Church’s

teaching, we considered this interdisciplinary approach to fit very well with the Catholic emphasis on the pursuit of truth and with engaging in intellectual inquiry by drawing on all sources of knowledge.⁹

Two questions remain. How can one teach the ethical, legal, and social implications of emerging genetic technologies in a religiously affiliated institution? How can one find the right balance between academic freedom and institutional mission? The Catholic Church in various documents has emphasized that controversial topics should not be introduced just for the sake of controversy, yet given the nature of our course, we thought it essential to include topics such as stem cell research, sex selection, selective abortion, choosing for and against disabilities, genetic modification of both humans and animals, cloning, evolution, genetic discrimination, and privacy issues. We believe that addressing these issues in a straightforward manner resonates with the Catholic Church's challenge for the discipline of theology and humans in general to engage in dialogue not only with culture but with new developments in science and technology. This was a more challenging task for the theologian than for the biologist, but as we mentioned earlier, all faculty at a Catholic institution must be respectful of the Church, its hierarchy, and especially its stance on particular issues. But the theologian, whether a Catholic or non-Catholic, must make every effort to present "authentic Catholic teaching" fairly and with respect. In the context of issues in genetics, therefore, the theologian had to make an effort to present the Catholic Church's positions on particular issues when it had them. For example, when dealing with embryonic stem cell research, it was incumbent on the theologian to explain the Church's position on when life begins, what the status of the embryo is, and why the technology currently available is not acceptable from the Church's moral perspective. Our constant tension was to balance academic freedom for ourselves and for our students, with the requirements for teaching theology at a Catholic university. *Modeling* professional behavior is one tool in this situation, but we believe it is just as important to *mentor* students in this regard. Three teaching methods proved useful: a *dialogic journal*, *role-play* by student teams, and a more specific type of role-play, the *mock trial*. In order to create an atmosphere in which students as

individuals, and the class as a whole, were free to express and consider various points of view, we early in the semester discussed the *Joint Statement on Rights and Freedoms of Students* (posted on the AAUP's website),¹⁰ and we distributed a handout titled *The Ten Commandments of Small Group Discussion*, among them "Thou shalt not engage in ad hominem attacks" and "Thou shalt consider other points of view." We thought it important to set the right tone for all of the pedagogical methods discussed below.

Students were required to keep a dialogic journal written in conversational form about issues covered in the class readings.¹¹ Journals were posted to our instructor's folder on Blackboard, and we then strategically asked students to read sections from their journals as a way to "seed" discussion in class. This "contrived talking" was a way for students to share reactions, construct meanings, engage in collaborative interactions about perceptions and issues, and make connections between our scientific understanding, technological applications, and some consequent ethical, legal, and social issues. This became an opportunity for us to *mentor* individual students—and when appropriate—the class as a whole, regarding the same kinds of professional behaviors we were attempting to *model*. We emphasized that it was important that all voices be heard, and be heard respectfully, because we believe that this emphasis on students' freedom of expression was necessary for critical thinking to take place. It also fits well with the Church's emphasis on the importance of a search for truth, as well as for academic freedom, even for students. We would select students to read their journals aloud, choosing entries that would lend themselves to considering various points of view, including religious points of view.

Role-play is a common teaching technique, and we found it to be a particularly effective way for students to express their views on an issue in a contrived and safe setting. We emphasized that role-play was an opportunity to model behaviors that we, the class, could then use to explore moral decision making. Students selected one of the following hypothetical cases from our textbook: a couple going to a genetic counselor to discussing modifying their child's genes for tallness; a couple who wanted to use their embryos to create their own stem cells for

future medical use; a boy who was created as a “backup” clone for his brother; and a young woman debating with herself whether to be honest on a job application regarding a genetic disorder she had that might disqualify her (see Stober and Yarri 2009). The teams were given thirty minutes, creativity was encouraged, and following the activity, the entire class was given an opportunity to ask questions and discuss the role-play. Thus, for example, within the discussion on the possible modification of one’s offspring, we explained the Church’s distinction with regard to therapeutic and enhancement technologies. We found that some students in that role-play did present the Church’s teaching on it, without necessarily even knowing it was their position. But, of course, we also encouraged other voices to be heard.

A mock trial is another form of role-play. Issues associated with emerging technologies often arise faster than ethicists can reach agreement on the appropriateness of our actions with those technologies. Thus, we developed a mock trial activity to illustrate that sometimes it is necessary to consider all of the available information and make a decision at this moment in time; such is the case in a trial setting. Students were asked to read a hypothetical case, “My Genes Made Me Do It,” in *God, Science, and Designer Genes* (Stober and Yarri 2009), where Coach Jeff’s attorney argues in Jeff’s defense that he has a genetic predisposition for violent and impulsive behaviors. Students then assumed various roles, including Coach Jeff, the judge, jury, prosecution and defense teams, and expert and other witnesses. A trial was held during one class session with a verdict rendered the next session. This activity set the stage for students to learn the latest information on the role of genes in behavior, to critically consider alternative views on how we should act in light of this information, and to experience the difficulty in making reasoned decisions regarding these issues—all in a contrived and safe learning environment. It also presented an opportunity for us to ensure, especially with regard to the prosecutor of Coach Jeff, that theological concepts such as free will, original sin, and moral choice are recognized as important.

Traditional teaching methods such as lecture and discussion have not been considered here, but it is important to note that we always took time after class to reflect on our teaching, with

particular emphasis on several guiding principles. We made a concerted effort to infuse the classroom with a true openness for discussion and respect for the opinions of others, both in large-group and small-group situations, including the position of the Catholic Church, which was always included. We tried to create a spirit of openness by the way we conducted ourselves and related to each other in our role as teachers in the classroom. We made an explicit effort to model open dialogue by how we related to each other in front of our students. We tried to fairly represent our disciplines in the interdisciplinary dynamic through regular dialogue with each other, frequently challenging each other's assumptions. It has been our experience that reflecting on our teaching and scholarship is the best way to be of service to our students. The following comments by students are testimony to the effectiveness of our efforts.

Student 1: The genetic aspects and ethical discussions involved critical thinking and made me further interested in genetics[;], it gives me the mindset to look at science through an ethicist's eyes. . .

Student 2: [The] instructors are not afraid to disagree with one another, which makes [the] class atmosphere more welcoming. . .

Student 3: ... I love to debate and they encouraged it. . . .

Student 4: The class had a very balanced discussion.

(Anonymous comments, COL 360-01DY student evaluations, spring 2010)

Conclusion

Negotiating touchy ethical issues, such as arise in genetics, can be very tricky in communities of faith, and yet teaching within a community of faith affords many benefits as well. With regard to the Catholic nature of our institution, we were able to draw on resources deeply rooted in the Catholic tradition that supported our exploration of these issues. In addition, being rooted in a Catholic community of faith at times allowed us to explore issues from a uniquely Catholic perspective, a perspective of which many of our students are unaware. Balancing academic freedom and commitment to our institutional mission provided a challenging yet extremely

satisfying experience. It forced us to be creative in our pedagogy and encouraged us to challenge students to consider an alternative religious approach to ethical issues in genetics. However, as we pointed out earlier, religious identity and even academic freedom are not issues relevant only to Catholic institutions; they have implications for all religious institutions, and for all who teach within these communities of faith.

For others interested in trying to balance academic freedom within the bounds of a religious institution, we have several suggestions. First, it is extremely important that one be intimately acquainted with the ethos not only of one's institution but of the larger denomination with which it is affiliated. Second, with regard to genetics in particular, one should understand how one's community of faith views the relationship between religion and science, and how it views emerging genetic technologies. Third, one should know the limits for discussion and engage in it in a way that one respects one's institution while simultaneously upholding academic freedom, at least for students, so that they feel that they can engage in open discussion. Fourth, when teaching interdisciplinary courses, it may at times be easier for the nontheologian than the theologian to raise some of the more troubling questions and to present the arguments or reasons for the more controversial side of issues, especially if these positions are contrary to Church teaching. Fifth, it is important that one teach students to think, and not simply provide them with "the answer," for example, as to whether or not we should clone humans. Rather, it is crucial that students can appreciate the complexity of the issue and learn strategies for addressing dilemmas that will be created by future genetic technologies. Thus, in addressing ethical issues in genetics, a continually developing field, it is important that students learn to think critically so they can apply established modes of reasoning to new issues.

In *Consilience: The Unity of Knowledge* (1998), the famous biologist E. O. Wilson calls for academic disciplines to seek strategies for better understanding each other's ways of knowing in order to deal with the many challenges facing humans today. There is certainly no doubt that emerging genetic technologies will raise many unique challenges. In *The Creation* (2006), Wilson

extends an olive branch to religious leaders in an appeal to save life on Earth. Wilson's words are certainly relevant to teaching ethical issues in genetics within a community of faith:

I already know much of the religious argument on behalf of the Creation, and would like to learn more. I will now lay before you and others who may wish to hear the scientific argument. You will not agree with all that I say about the origins of life—science and religion do not easily mix in such matters—but I like to think that in this one life-and-death issue we have a common purpose. (8)

Our common purpose in seeking truth should help us navigate the tough situations in which our technologies often put us. To venture beyond what we know via the traditional epistemology of our respective disciplines may be unsettling, but whether we are biologists or theologians, reasoned reflection on these emerging issues is an essential interdisciplinary venture that can respect the religious ethos of our institutions without sacrificing academic freedom or academic integrity.

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Notes

1. This article is an expansion of our presentation at the conference "Challenging Assumptions: Religious Faith, Genetic Science, Human Dignity," held in Portland, Oregon, October 13, 2007, and sponsored by the Pacific Institute of Ethics and Social Policy and the National Institutes of Health.
2. For a detailed account, read Charles E. Curran's "Personal Involvement," in his *Catholic Higher Education, Theology, and Academic Freedom* (1990), and Curran, *Loyal Dissent* (2006). Curran's "liberal interpretations" of Catholic theology got him in trouble, and the Catholic University of America (CUA) did not renew his contract, but he was not alone. Curran had the support of the theology department at CUA in the form of a resolution stating that the board's action jeopardized academic freedom. The university faculty met and voted 400 to 16 in support of the theology department's resolution, and more than two thousand faculty and students rallied outside the rector's quarters in his support.
3. The Catholic document *Sapientia Christiana* (1979) lays down guidelines specifically for these types of institutions.
4. This text provides an excellent overview of the crisis in the Church, particularly with regard to Catholic institutions, as well as the hierarchy (Steinfels 2003).
5. "In particular, Catholic theologians, aware that they fulfill a mandate received from the Church, are to be faithful to the *Magisterium* of the Church as the authentic interpreter of Sacred Scripture and Sacred Tradition" (*Ex Corde Ecclesiae* [1990], art. 4, #3; our emphasis).

6. In these documents, the term *university* is used to refer to both colleges and universities.
7. There is no shortage of books on the subject of Catholic identity. In *Catholic Higher Education: A Culture in Crisis* (2006), Melanie M. Morehy and John J. Piderit report on their studies of numerous Catholic universities and very nicely conceptualize paradigms for the sake of comparison. Another excellent book, *The Challenge and Pursuit of a Catholic University* (1994), containing a number of essays by professors mostly associated with Notre Dame, was edited by Theodore M. Hesburgh.
8. An entire document was developed to provide procedural guidelines for the *mandatum* (*Guidelines Concerning the Academic Mandatum in Catholic Universities*, 2001).
9. We used two books for our initial course offerings: one devoted to genetic science (Ricki Lewis's *Human Genetics: Concepts and Applications* [2007]) and a second devoted to a theological approach (Ted Peters's *Playing God?* [2003]). We then adopted our book *God, Science, and Designer Genes* [2009] for the third course offering. We also utilized a collection of readings addressing primarily the ethical questions of certain technologies.
10. See the *Joint Statement on Rights and Freedoms of Students* at <http://www.aaup.org/AAUP/pubsres/policydocs/contents/stud-rights.htm>, accessed January 29, 2011.
11. This technique was modified from a method used by one of our former colleagues at Alvernia University, Nan Hamberger.

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