Evolution and Catholicism: A Few Modest Proposals

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ABSTRACT

During 2006, two events, one involving mainly Protestants and the other Catholics, triggered widespread debate on evolution and Christianity. The Dover, Pennsylvania case focused on whether intelligent design (ID) should be taught alongside evolution in public high school science classes; a *New York Times* Op-Ed by Cardinal Schönborn of Austria argued that Catholics should reject neo-Darwinianism. Once again, these debates raise the important issue of the relationship of science and religion, and more specifically, science and Catholicism, and call for further reflection on how Catholic theology should conceive of its role in an age still dominated by science.

Introduction

In September of 2005, Dover, Pennsylvania, a community of 22,000 some 20 miles south of Harrisburg, became the center of national attention. A suit had been filed by eleven parents against the Dover school board which a year earlier had voted to require high school biology classes to present "alternatives" to evolution, including the theory known as intelligent design (ID). Part of the resolution passed by the board stated:

> Because Darwin's Theory is a theory, it continues to be tested as new evidence is discovered. The Theory is not a fact. Gaps in the Theory exist for which there is no evidence. . . . Intelligent Design is an explanation of the origin of life that differs from Darwin's view. The reference book *Of Pandas and People* is available for students who

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> might be interested in gaining an understanding of what Intelligent Design actually involves.[1]

The resolution required the high school biology teachers to read this disclaimer to their students. The book recommended as a reference book, *Of Pandas and People*, presents the argument that there are "irreducible complexities" in nature that point to a designer.

The American Civil Liberties Union (ACLU) and Americans United for the Separation of Church and State defended the pro-evolution position, while the Thomas More Law Center, a nonprofit Christian law firm that recently fought cases on school prayer and the Ten Commandments, defended Intelligent Design. Thomas Monaghan, the founder of Domino's Pizza and more recently founder of Ave Maria Law School (Ann Arbor, Michigan) and then of Ave Maria University (Naples, Florida), also founded the Thomas More Law Center. The intelligent design side argued its case on the basis of "freedom of speech," that is, that an alternate theory should be available to students. Some journalists described the trial as "Scopes II," the original Scopes trial being held in Dayton, Tennessee, eighty years before.[2]

Three expert witnesses at the trial were practicing Catholics: Michael Behe, a biochemist for the defense; Kenneth Miller, a biologist, and John Haught, a theologian, for the plaintiffs. Behe published a book[3] in 1996 in which he argued that biochemistry textbooks rarely give any attention to how complex systems (e.g., the flagella of bacteria) allegedly evolved by natural selection. He concluded that molecular systems appear designed because they really are designed. Miller, who published in 1999 a book[4] on how religion and science might find common ground, presented evidence that Behe's claims for irreducible complexity had already been solved by biologists, and that "intelligent design" is not just flawed science but not science at all. John Haught explained that ID is not a new argument, but rather a version of a traditional argument for the existence of God—hence it is actually a variation of philosophical and theological arguments for God's existence.[5]

[1]See opinion of Judge John E. Jones III, US District Court for the Middle District of Pennsylvania, Tammy Kitzmiller v. Dover Area School District, 400 F. Supp. 2d 707 (M.D. Pa. 2005), p. 7 (accessible through westlaw@westlaw.com).

[2]For an excellent history of the Scopes Trial and its aftermath, see Edward J. Larson, *Summer for the Gods: The Scopes Trial and America's Continuing Debate over Science and Religion* (Cambridge, MA: Harvard University Press, 1997).

[3]Michael J. Behe, *Darwin's Black Box* (New York: The Free Press, 1996).

[4]Kenneth R. Miller, *Finding Darwin's God: A Scientist's Search for Common Ground Between God and Evolution* (New York: Harper Perennial, 2002).

[5]John F. Haught has written a number of books on science and religion. See in

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The Judge, John E. Jones III of the U.S. District Court in Harrisburg, Pennsylvania, issued an opinion filled with passionate language (the "breathtaking inanity of the school board"; their "striking ignorance" of science; the "ludicrous" character of their assertion that ID had a secular purpose[6]) that flatly rejected the arguments of the defense and concluded that ID is not science, but an illegitimate attempt to promote religion. Miller had pointed out in his testimony that the strategy behind the promotion of ID was to substitute for the "creationism-vs.-evolution" opposition the opposition of the existence of God vs. the non-existence of God. Jones too opposed this strategy which, he wrote, was based on an "utterly false" "bedrock assumption":

> Their presupposition is that evolutionary theory is antithetical to a belief in the existence of a supreme being and to religion in general. Repeatedly in this trial, Plaintiffs' scientific experts testified that the theory of evolution represents good science, and that it in no way conflicts with, nor does it deny, the existence of a divine creator.

Two months before the Dover trial began, Christoph Cardinal Schönborn of Vienna published an op-ed piece in the *New York Times* newspaper that sparked a major controversy. The cardinal made a very different judgment: any claim that the Catholic Church accepts the neo-Darwinian theory of evolution, that is, evolution understood as "an unguided, unplanned process of random variation and natural selection," is simply false.[7] As if the alarm caused by the cardinal's condemnation of neo-Darwinism were not enough, two days later another article appeared, again in the *New York Times*, that reported that the Cardinal's op-ed piece had been submitted to the *New York Times* by a Virginia public relations firm, Creative Response Concepts, the same firm that had worked closely with the Discovery Institute in Seattle, which promotes intelligent design.[8] Since the fall of 2005, a series of articles on the cardinal's position have appeared in the Catholic journal on religion and public life *First Things*, edited by Richard John Neuhaus, priest-convert from Lutheranism to Roman Catholicism. Neuhaus and other Catholic authors who often appear in the pages of his jour-

particular his *God After Darwin: A Theology of Evolution* (Boulder City, CO: Westview Press, 2000).

[6] Jones' "Opinion": for "breathtaking inanities," see p. 82; for "striking ignorance," p. 72; for "ludicrous," p. 78, and for "bedrock assumption" and the quotation that begins "Their presupposition . . ." pp. 81–82.

[7] See Christoph Schönborn, "Finding Design in Nature," *New York Times,* July 7, 2005, http://www.nytimes.com/2005/07/05/Opinion/0schonborn.html (accessed 24 September 2008).

[8] Cornelia Dean and Laurie Goodstein, "Leading Cardinal Redefines Church's View on Evolution," *New York Times,* July 9, 2005.

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nal—Michael Novak, George Weigel, Robert George and Cardinal Avery Dulles—have for years been leading an effort to bring Catholics and evangelical Protestants into closer collaboration.

These two events, the Dover trial and the Cardinal's op-ed piece, once again placed the science and religion debate on center stage. Together, they raised the question of whether not only evangelical and fundamentalist Christians, but also now the Catholic Church, oppose the theory of evolution. Enough time has passed since these two events ignited an old debate anew to gain some perspective on just what was and should be promoted and opposed concerning evolution and intelligent design, especially by Catholics.

First, in a debate as complex as that of evolution and Catholic theology, it will be helpful to make a few clarifications about the words most frequently employed in the debate. Second, a brief review of the distinct but complementary roles that science, philosophy and theology should play in Catholicism will disentangle some of the misunderstandings in this recent debate. And finally, in the light of these clarifications, some modest proposals will be offered on the role that theology and philosophy might more profitably play in an age still dominated by science and its way of thinking. Before making these clarifications and proposals, a brief look at the history of the science and religion debate, especially in the late nineteenth century, will set the stage for analyzing this most recent flare-up.

I. "Warfare" in the Nineteenth Century

Throughout the history of the Church, the majority of major thinkers saw no necessary conflict between what could be learned from nature and what could be learned from revelation. After all, both nature and revelation came from God. But this dynamic traditional vision of the whole began to receive its first challenges, especially with the beginnings of the scientific revolution at the time of the Reformation. Dramatic improvements (e.g., the telescope) in measurement and observation challenged certain views of the universe embedded in traditional interpretations of the Bible. As a consequence, Catholic philosophy and theology faced new challenges. At first, a number of thinkers in the Church dug in their heels and opposed those scientific claims that disputed interpretations of the Bible that up until then had been undisturbed.[9] Before long, the impressive progress in scientific knowl-

[9]I say only "a number of thinkers," since within the Church there were also scholars who promoted scientific research, particularly astronomical studies (often supported financially by the papacy) even after the Church had condemned the theory of Galileo. See J. L. Heilbron, *The Sun in the Church: Cathedrals as Solar Observatories* (Cambridge, MA: Harvard University Press, 1999).

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edge translated itself into optimism, and sometimes even hubris, about the achievements of reason and the autonomy of the thinking person. For example, not long after the French Revolution, the Marquis de Condorcet, a great enthusiast for progress—an idea that had taken deep root during the Enlightenment—wrote:

> Contempt of human sciences was one of the first features of Christianity. It had to avenge itself for the outrages of philosophy; it feared that spirit of investigation and doubt, that confidence of man in his own reason, the pest alike of all religious creeds.[10]

With the thinking of people like Condorcet, a more aggressive set of claims began to be made for what science could prove. By the middle of the nineteenth century, Darwin's famous English bulldog Thomas H. Huxley did not hesitate to adopt the metaphor of "warfare" to describe his fight to free the theory of evolution from the control of timid churchmen, some members of the Church of England, but mostly evangelicals who saw the theory as a threat to the authority of the Bible and the dignity of the human person. "Who shall number," Huxley once asked, "the patient and earnest seekers after truth from the days of Galileo until now, whose lives have been embittered and their good name blasted by the mistaken zeal of the Bibliolaters?"[11]

The idea of a war between science and religion was created and deployed with the greatest success not in France or England, but in the United States. There, two nineteenth-century academics succeeded in fixing in the popular mind the metaphor of a war between science and religion. Andrew Dickson White (1832–1918), a historian trained in Europe, became the first president of Cornell University, a university explicitly opposed in ethos and structure to Protestantism—the university ruled out the teaching of any theology. Up to the time of the Civil War, Protestants controlled much of higher education in the United States; Cornell had chosen a different direction, an explicitly secular one.

The other proponent of the war metaphor was John W. Draper, a chemist from New York University, who in 1874 published *The History of the Conflict Between Religion and Science*. White had introduced the metaphor of war in a talk he gave in 1869 entitled "The Battlefields of Science," and by 1876 published an expanded version under the title of

[10]Cited by Michael Ruse, *The Evolution-Creation Struggle* (Cambridge, MA: Harvard University Press, 2005), 24.

[11]William L. Portier, "Genealogy of Metaphor," unpublished paper, p. 8, citing James R. Moore, *The Post Darwinian Controversies: A Study of the Protestant Struggle to Come to Terms with Darwin in Great Britain and America, 1870–1900* (Cambridge: Cambridge University Press, 1979), 56–60, who quotes Huxley's memoirs.

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"The Warfare of Science." Draper's book simplified—but in fact actually distorted—the history of science by describing it mainly as "a narrative of the conflict of two contending powers, the expansive force of the human intellect on one side, and the compression arising from traditionary [sic] faith and human interests on the other." Concerning Catholicism, he wrote: "Roman Christianity and Science are recognized by their respective adherents as being absolutely incompatible; they cannot exist together; one must yield to the other; mankind must make its choice—it cannot have both."[12]

Draper lumped Catholicism together with conservative Protestantism. His book went through fifty reprints in the United States, twenty-one in Britain, and was translated into nine European languages and Japanese. Second only to the famous 1925 Scopes trial in Dayton, Tennessee, the Draper book has probably done more than any other book to solidify in the popular imagination that Christianity and science are opposed, a position also shared, as we shall see, by some of the ID advocates. Whatever happened to the mostly positive relationship between science and the Catholic Church that traditionally characterized early and medieval western history?

Actually, the real battle between religion and science was not fought by Catholics, but rather by conservative Protestants who opposed evolutionary theory. Draper's history, therefore, was not really a history of the Catholic understanding of that relationship. Of course, Catholicism was leery of various secular theories of progress that argued that the surest road to the improvement of society was the elimination of religion and faith in God. Pius IX's 1864 condemnation of various contemporary movements brought the Church much ridicule among the secular elite. The last of the condemned propositions, number 80, read: "the Roman Pontiff can and ought to reconcile and adjust himself with progress, liberalism and modern civilization."[13] Who, papal critics asked then, could be against progress and modern civilization? Of course it would have helped if the papal letter had been clearer that what it actually rejected was the idea of progress that excluded God, as well as a form of modern civilization that excluded religion. And on the other side, it would have been helpful if those who said that they believed in progress had left open the possibility that religion could play an important role in defending the dignity of every person and promoting the common good. But it seems this was hardly possible, at least in nineteenth century Europe. Official Catholicism drew

[12]Portier, "Metaphor," 12.

[13]*Syllabus of Errors*, #80, http://www.papalencyclicals.net/Pius09/p9syll.htm (accessed 24 September 2008). The *Syllabus* was published as an appendix to Pius IX's encyclical *Quanta Cura*.

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up the bridge and set itself against the aggressive secular movements spreading across Europe.

Yet there were at least some Catholics who took a much less defensive posture. Consider the comment that John Henry Newman (1801–1890), later made a cardinal, jotted down in his notebook in 1863, four years after the publication of Darwin's *On the Origin of Species by Means of Natural Selection*. He wrote that "it is strange that monkeys should be so like man with no historical connection between them . . . I will either go the whole hog with Darwin or, dispensing with time and history altogether, hold not only the theory of distinct species but also of the creation of fossil-bearing rocks."[14] Newman was open, after all, to the development of doctrine, the central theme of his major 1845 study that created the intellectual framework that allowed him to convert from the Church of England to the Roman Catholic Church. Nor did he find the theory of evolution itself necessarily an attack on the creation stories in the book of Genesis. In an 1864 letter he wrote: "The Fathers are not unanimous in their interpretation of the first chapter of Genesis. A commentator then does not impute untruth or error to Scripture, though he denies the fact of creation or formation of the world in six days, or in six periods. He has the right to say that the chapter is a symbolical representation, for so St. Augustine seems to consider."[15]

The overall Catholic position, not obligated to interpret the Bible literally like so many conservative Protestants, was described again in the 1907 version of the *Catholic Encyclopedia*—a great achievement of the mostly immigrant Catholic community in the United States. There it states the animals and plants of today can be understood as the result of a long evolutionary process, and that such ideas are "in perfect agreement with the Christian conception of the universe." More cautious about the origin of the human race, the author stated that the evolution of the human body "is not *per se* improbable," and added that a version of that view had "been propounded by St. Augustine." The most important point was that the human soul could not be the result of soley material evolution.[16]

In the first official Vatican discussion of evolution, the 1950 encyclical *Humani generis,* Pope Pius XII stated that the human soul was not the product of evolution, though the human body could be, and that

[14]Newman's comment may be found in a notebook dated 1865 which was cited by James. M. Cameron, "Newman and the Empiricist Tradition," in *Symposium*, 90.

[15]Michael Ruse, *The Evolution-Creation Struggle,* 142.

[16]*Catholic Encyclopedia* (1907), "Catholics and Evolution," http://www.newadvent.org/cathen/05654a.htm; also cited by Steven Barr, "The Design of Evolution," in *First Things*, October 2005: 9.

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the evolutionary process could be appropriately studied by science.[17] Thus Pius XII distanced himself from the position, often held previously by Catholic theologians, that the human body *and* soul were created immediately by God, as described in Genesis. Nearly fifty years later, Pope John Paul II noted in 1996 in a letter to the Pontifical Academy of Science that evolution is "more than a hypothesis."[18] At the same time, he reiterated the position of Pius XII that "if the human body takes its origin from pre-existent living matter, the spiritual soul is immediately created by God."[19] Two popes in the twentieth century have therefore affirmed that the human body could have evolved from the lower primates, but also that at some point God directly creates the human soul. Such positions, echoing the early Church writers who spoke of God's revelation through nature, suggest that Christians should welcome whatever science can tell them about nature.

II. Evolution and Cardinal Schönborn

This brief history shows that, despite some misunderstandings, Catholicism affirmed in principle at least a qualified compatibility between Catholic doctrine and science, and more recently, the scientific theory of evolution. However, if once again the Dover trial raised questions about the compatibility between conservative Protestantism and evolution, Cardinal Schönborn's *New York Times* editorial did a similar thing within Catholic circles. In that editorial, the Cardinal dismissed John Paul II's 1996 statement as "rather vague and unimportant," and argued that Catholics should oppose Neo-Darwinism. The Cardinal explained that Neo-Darwinism "denies or seeks to explain away the overwhelming evidence for design in biology." Neo-Darwinism, he claimed, is not science, but rather ideology.

Cardinal Schönborn's editorial provoked a number of Catholic scholars to object. As early as August 2005, John Haught, who the following month testified for the plaintiffs in the Dover case, described the Cardinal's approach to the issues of science and theology as "fearful

[17]*Humani generis,* # 36, http://www.vatican.va/holy_father/pius_xii/encyclicals/documents/hf_p-xii_enc_12081950.

[18]"Message to the Pontifical Academy of Sciences: On Evolution," #4. The text of the address is available at http://www.ewtn.com/library/PAPALDOC/JP961022.htm. This link places an asterisk immediately after the above quotation, noting that *L'Osservatore Romano,* English Edition amended the text to read ". . . more than one hypothesis within the theory of evolution." The ETWN link states that the reason for this change was the translation of the other language editions. The International Theological Commission (ITC), however, cited in its "Communion and Stewardship: Human Persons Created in the Image of God" the text from the Pope's address as it appears in the first text. See *Origins*, September 23, 2004, 34/15, Par. 64 (future references to this document will appear as ITC 2004 with the specific paragraph indicated).

[19]*Humani generis*, #36.

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and defensive." He contrasted the Cardinal's fear to John Paul II's confident call to the "intellectual and theological worlds" to pursue and embrace scientific truth "without fear." Haught accused the cardinal of capitulating "to the current confusion on evolution" by "failing to distinguish neo-Darwinian biology from the materialist spin that many scientists and philosophers place on evolutionary discoveries."[20]

Another critic of the cardinal, Stephen Barr, a theoretical particle physicist at the Bartol Research Institute of the University of Delaware and author of *Modern Physics and Ancient Faith*, explained that when scientists speak of "randomness," they do not mean a process that is unguided or unplanned. In fact, scientists doing their proper work shouldn't use such words as "unguided" or "planned." Rather, Barr stated, "random" is a technical term that means uncorrelated. Scientists can calculate probability from random activity. Such words need not in any way exclude, Barr stated, a sense of divine providence.[21]

A few weeks after the publication of his editorial, Cardinal Schönborn clarified in his own archdiocesan newspaper that the intention behind his editorial was to encourage a better discussion between scientists and Catholics. He stated that evolutionary theory is not incompatible with belief in a God who creates "provided that the scientific side does not overstep its mark and that the role of chance is not expanded to such an extent that everything—from the Big Bang to Beethoven's Ninth Symphony, so to speak—is principally, exclusively and irrevocably seen as a product of chance." He also expressed a worry that some forms of Neo-Darwinism have linked up with some forms of neo-conservative economics and theories of education that promote theories of the "dominance of the strongest" or of the "most adaptable" or the most "useful."[22]

In a full length article published in the January 2006 issue of *First Things,* the Cardinal replied to Barr's criticisms, and in the process further clarified his own position. In words more carefully chosen than before, the Cardinal wrote that, "For now, I happily concede that a metaphysically modest version of neo-Darwinism could potentially be compatible with the philosophical truth (and thus Catholic teaching) about nature."[23] The cardinal also made clear that in opposing materialistic forms of neo-Darwinism, he was not making a theological but rather a philosophical argument, philosophy being understood as the "careful examination of the evidence of everyday experience." He explained that he framed his argument in terms of "natural theology," a

[20]John F. Haught, "Darwin and the Cardinal," in *Commonweal*, August 12, 2005, 39.
[21]Steven Barr, "The Design of Evolution," in *First Things,* October 5, 2005: 9.
[22]"Schönborn Urges Creation Debate," in *The Tablet*, September 3, 2005: 31.
[23]Christoph Schönborn, "The Designs of Science," in *First Things*, January 2006: 35.

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form of philosophical thinking that he recognizes is now widely discarded and discredited. In making his case for philosophy (and, in particular, metaphysics), the cardinal wanted to avoid two trends he saw as all too evident among contemporary Catholic thinkers: first, a "fideism" that skips over the important contribution reason makes to the believer; and second, a "positivism" that reduces the role of reason to what can be proved through scientific methods. With a properly expanded role for reason, the Cardinal wrote, design in nature can be discerned "without the aid of faith."[24] In arguing in this manner, the Cardinal makes use of a traditional form of natural theology.

Are the Cardinal's worries about godless Neo-Darwinism warranted? Should he not simply be satisfied with the statement that evolution and the Catholic faith are not in conflict? Again, it depends, it would seem, on how widespread materialistic forms of neo-Darwinianism actually are. John Polkinghorne, a physicist and Anglican priest, began a recent article with a clear warning about those evolutionists who go beyond what science can claim:

> The attempt to force classical Darwinian thinking into the role of an explanatory principle of almost universal scope has proved singularly unconvincing. It seeks to inflate an assembly of half-truths into a theory of everything. Sober evaluation of the adequacy of the insights being proffered soon pricks this explanatory bubble.[25]

In another *First Things* article published in December 2005, Michael Behe stated that today it is the materialists who overwhelmingly tell Christians the story of nature. He cited a 1999 survey of the self-selected members of the elite National Academy of Science that 90% of the members were materialists (that is, atheists), with the number increasing to 95% for biologists. Behe warned that the problem is not explicit materialism, but rather "socially contagious materialism, spread more by social pressure than by rational argument."[26] In an

[24]Ibid.: 37.

[25]John Polkinghorne, "Beyond Darwin: the Human Difference," in *Christian Century*, November 15, 2005, 25.

[26]Michael Behe, "Scientific Orthodoxies," in *First Things*, December 2005: 19. Gregory W. Graffin and William B. Provine conducted another survey that drew upon the views of "one hundred and forty-nine eminent evolutionary scientists." They reviewed the surveys done by sociologist James H. Leuba in 1914 and again in 1933 among "greater" scientists; Leuba found an increasing decline in belief in a "personal God," that is, a "God to whom one may pray in the expectation of receiving an answer." In 1998, Edward J. Larson and Larry Witham used the same definition of God as had Leuba and found that only 10% of NAS scientists believed in God, and only 5% of biologists. Many scientists who had been surveyed complained that the concept of God was limited to a "personal God." In view of this criticism, Graffin and Provine designed their study so that it distinguished between theism (a "personal God") and deism (a God who "created the

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article in the *New York Times* that appeared two days after his op-ed contribution, Cardinal Schönborn was quoted as saying that he had been "angry" for years with Catholics who claimed that Catholicism was fine with evolution thought of as a random process (which the Cardinal later clarified as only a materialist process).[27] Months later, the Cardinal reinforced Behe's comment by noting that Neo-Darwinism unfortunately seems in practice "almost always to transform itself into Darwinism as pseudo-philosophy, the fact that led to my attack on an overreaching Darwinism in my *New York Times* essay."[28] Even the non-believer Michael Ruse thinks that creationists and intelligent design proponents have a good point: "Science, or at least its leading spokespeople, tends to be strongly antireligious. No subgroup of scientists is more vocal than the biologists, including the evolutionists." As examples of such strongly anti-religious persons, Ruse mentioned and quotes Francis Crick, co-discoverer of the double helix, Richard Dawkins, best-selling author of *The Selfish Gene,* and Stephen Jay Gould, the late and widely-read Harvard biologist.[29] And another widely-read Harvard professor, the biologist Edward O. Wilson, leading proponent of sociobiology, recently wrote in an op-ed piece of his own that "intelligent design is better taught as religion or science fiction."[30]

III. The Intelligent Design Alternative

Given that both Behe and the Cardinal express the same concern about the sweeping dismissal of religion by most prominent scientists today, it may also be asked whether they agree on the value of the

universe, all forces and matter, but does not intervene in daily events"). In their survey, only 4.7% of biologists described themselves as theists and nearly 80% said they did not believe in God; nearly 90% did not believe in immortality. What the authors found surprising, however, were two findings: first, that over 70% thought religion was a "sociobiological feature of human culture," and therefore not in contradiction with evolution. I presume that they believe that religion is therefore actually a "product" of evolution. Second, nearly 80% believe "that people have free will despite being determined by heredity and environment." It seems as though these scientists picture God as a "Being" who disrupts the laws of nature. Also, their naturalist framework coupled with an affirmation of human freedom suggests that conversations with philosophers would be helpful for them. See the Graffin-Provine article, "Evolution, Religion and Free Will," *American Scientist* (July/August, 2007): 294–297.

[27]Cornelia Dean and Laurie Goldstein, "Leading Cardinal Redefines Church's View on Evolution," in *New York Times*, July 9, 2005.

[28]Christoph Schönborn, "Letters to the Editor," in *First Things*, April 2006: 6.

[29]Michael Ruse, "Science Under Siege," in *Christian Century*, November 15, 2005, 31.

[30]Edward O. Wilson, "Let's Accept the Fault Line between Faith and Science," in *USA Today*, January 16, 2006, 11A. For a thoughtful review of Wilson's recent book, *The Creation: A Meeting of Science and Religion* (New York: W.W. Norton, 2005), and a clear explanation of Wilson's reductionism, see Stephen Barr, *First Things,* October 2006: 60–63.

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intelligent design argument. Cardinal Schönborn mentioned design several times in his op-ed piece, but not on the micro-biological scale; rather, he spoke about design on the more general scale accessible to reason and every day experience: "The Catholic Church, while leaving to science many details about the history of life on earth, proclaims that by the light of reason the human intellect can readily and clearly discern purpose and design in the natural world, including the world of living things." Months after the publication of his op-ed piece, he made clear that his argument for design is based neither on theology nor on any "intelligent design theory." According to its appropriate methods, science rightly excludes, according to the Cardinal, "formal and final causes in nature,"[31] causes appropriately studied by philosophy.

It should be noted here that some issues in this debate might be clearer if a distinction were to be made between "order" and "design." "Order" is something that most scientists do find in nature. The origins of that order can be explored both by science and by philosophy, but only the latter can properly seek through reason the ultimate origin or source of that order—the final cause. The word "design," however, suggests something beyond order; it suggests detailed planning and construction of something for a definite purpose. If such a distinction is not made between these two words, there is danger, of confusing what most scientists will claim—that there is order in nature—with the claim that it can be shown on the micro level how God designs nature, a claim that most scientists reject.

But this is just what Behe, the leading proponent of intelligent design, tries to do. On the basis of "irreducible complexities" found through micro-biology, he argues for, or at least wants people to be open to, the possible existence of an intelligent designer. Expert witness at the Dover trial, Kenneth Miller, demonstrated that intelligent design, and more specifically, the "irreducible complexities" arguments of Behe, are, on demonstrable micro-biological grounds, false. Hence, Miller's conclusion is that intelligent design does not in itself point to a designer, for two reasons: first, because it is bad science; and second, because it assumes an inappropriate role for science.[32]

[31]Schönborn, "The Designs of Science," 34.

[32]After the Dover trial, Behe published still another book, *The Edge of Evolution: The Search for the Limits of Darwinism* (Free Press; New York, 2007) in which he makes no reference to "irreducible complexities" on the microbiological level, and affirms the theory of "common descent," that is, that humans share a common ancestor with the chimpanzee. According to Miller who reviewed Behe's book (see *Commonweal*, October 12, 2007: 31–33), the long descent from lower forms of life Behe still attributes "their complex features to the mutational tinkering of the designer" (see Kenneth R. Miller, "Faulty Design," in *Commonweal*, October 12, 2007: 32). In a review of the same book by Behe, Joan Roughgarden, a professor of Biology at Stanford, reads Behe more sympathetically than Miller: "If Behe is not claiming either divine intervention or miracles, then the

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Moreover, while at least a number of the ID proponents assume that the stakes are either affirming God's existence through ID or denying it by affirming evolution, Catholics cannot embrace any such either-or position. Miller, however, does not address the issue raised by the Cardinal—whether through philosophy, that is, through reason alone and not theology, order in nature can be discerned. Still other critics of ID dismiss it as "creationism lite," since they believe that its real purpose has nothing to do with science, but with the effort to make the same arguments, but in a different way, for God's role in all creation.[33] This criticism of ID, however, is misplaced, since proponents of ID do not call for a literal interpretation of Genesis, nor do they defend a 10,000 year old earth. ID proponents rarely present themselves as creationists; rather, they claim to have created a new science, one with micro-level evidence that neo-Darwinism is a failed science, especially in the way it presents its theoretical account of the natural evolutionary process.

The Catholic position, as more recently expressed by the International Theological Commission (ITC), an international body of mainly Catholic theologians appointed by the Vatican, seems to leave to scientists themselves the resolution of the debate over the validity of the ID argument. A year before the Dover trial, this Commission, chaired by then Cardinal Joseph Ratzinger, issued an important document entitled *Communion and Stewardship*, one section of which touches directly on the ID project. The ITC document reads, in part:

> A growing body of scientific critics of neo-Darwinism points to evidence of design (e.g., biological structures that exhibit specified complexity) that, in their view, cannot be explained in terms of a purely contingent process and that neo-Darwinians have ignored or interpreted. The nub of this currently lively disagreement involves scientific observation and generalization concerning whether the available data support inferences of design or chance, and cannot be settled by theology.[34]

Or in the words of scientist Barr, scientific issues can't be settled theologically. Science and theology have different roles. Unfortunately, those distinct roles, as already suggested, are not always respected. Too many scientists, in Barr's opinion, cross the line in their inflated the-

dispute between ID and Darwinism comes down to arguing about genetic details of interest mainly to professional biologists." She wonders what all the fuss is about ("A Matter of Mutation," in *Christian Century*, October 30th, 2007: 26).

[33]Miller, however, favors the "anthropic principle"; see his *Finding Darwin's God*, (New York: Harper Collins, 1999), 228–232.

[34]ITC, 2004, par. 69.

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oretical interpretations of evolution. In a recent article, Barr exhorts scientists to more good will and intellectual humility:

> We would all be better off if more scientists simply admitted that there are things we don't understand about the hows and whys of evolution. What we have seen instead is an intolerance of any questioning on this subject that is totally inconsistent with a true scientific spirit.[35]

Barr states that "border violations" (a term also used by Cardinal Schönborn) committed by such authors include turning neo-Darwinism into a metaphysical explanation for everything, and misusing scientific data to argue against any purpose in evolution. Once again, the sweeping claims for evolution as a total explanation in the writings of Dawkins and E. O. Wilson, for example, immediately come to mind.

What, then, should Catholics think about intelligent design? First, insofar as ID affirms the created nature of the world, Catholics can be sympathetic. Or, to say this in another way, to the extent that ID affirms that science, within its limits, tells us truths about the created world, then Catholics can again agree. But when ID claims that it is a new science with microbiological evidence of a "Designer" at work, Catholics would be wise to reject ID. Or, much worse, to the extent that ID simply co-opts the trappings of science to maintain the political loyalty of poorly educated citizens, Catholics should steer completely clear of it.

Rejecting ID does not mean, however, that science and religion have nothing to do with each other. Stephen Jay Gould proposed that the worlds of science and religion should be thought of as two separate realms, or, as he named them, "non-overlapping *magisteria*."[36] Science takes care of empirical theories to explain the facts, and philosophy and theology offer interpretations of life and ethics. Religion, Gould continues, is not like scientific theory since the latter is falsifiable. This

[35]Barr, "The Miracle of Evolution," in *First Things*, February 2006: 30. Perhaps it would be more appropriate for Barr to have stated that the "hows" of evolution are what scientists, in all humility, should be free to debate, but not the ultimate "whys." A strikingly similar call for intellectual humility comes from Harvard biologist Lynn Margolis, the President of Sigma Xi, the Scientific Research Society. Margolis is the widow of the late Carl Sagan and famous for the theory concerning mitochondria origins. She explains that the controversy over evolution can be found "where evidence ends and dogma begins." The problem, according to her, is that "evolutionary biologists act certain that they know how new life forms originate and complexify. But they don't." She does not name any evolutionary biologists. See *American Scientist*, 94/3 May/June, 2006: 194.

[36] Stephen Jay Gould, *Rocks of Ages: Science and Religion in the Fullness of Life* (New York: Ballantine, 1999), 5.

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depiction of the roles of science and religion should pose a problem for Catholics. Christianity is a historical religion. Facts do matter for Christianity. If, for example, Jesus' bones were found tomorrow, or if it could be proven that Jesus was only a charismatic Jewish prophet with an overblown sense of himself ("Before Abraham came to be, I AM," John 8:58), Christianity would be in deep trouble. Christianity is based on certain events that are believed to have actually happened, that are, if you will, "factual"—not in the scientific sense that they can be proven empirically, but in the broader sense of real historical events that form the basis of faith. Christianity, in other words, is not a completely other-worldly religion; it has its roots in this world, and given the doctrines first of creation and then of redemption, history and science and philosophy and theology are all important, not unrelated to each other, even if not the same. For the Christian, the fact about matter is that matter is not just about matter understood scientifically. Matter matters. Christians do not erect an insurmountable wall between scientifically measurable matter and historical events. Both can be the bearers of truth. Any sharp division between science and religion, or matter and spirit, is a Christian heresy: dualism. Religious orthodoxy, for the Christian, roots spirituality in history and in a developing tradition, and is lived as truth in a community of bodily and spiritual practices. Therefore, while Gould's "non-overlapping *magisteria*" appears at first sight an attractive non-conflictual division of labor, Christians should find it unacceptable.

IV. Theology's Role in a Scientific World: Some Modest Proposals

At this point, I wish to offer some modest suggestions as to how Christians might think about themselves and their purpose in a world in which science still exercises a powerful hold on the imagination of most people. In proposing these suggestions, it might prove helpful to make some generalizations at the outset. First, something needs to be said in favor of both science and philosophy, that is, the use of reason, not just empirically, but also philosophically. Second, theologians should be careful not to abandon methods appropriate for theology by choosing to imitate instead scientific approaches to knowledge. Third and finally, theologians, and Christians in general, might understand a fruitful role for theology as one in dialogue with the science, respecting the fact that they approach reality differently, but for that very reason are capable of learning from each other.

First, the Catholic Church must continue to speak in favor of reason. Here it is important to distinguish, however, many forms of reason. There is Karl Popper's ideal of science that produces "knowledge with-

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out a knower," an ideal that requires the removal of all particulars that might detract from an abstract form of knowledge that is predictable, coherent, consistent and fertile—that is, it gives rise to further fruitful research. Insofar as this form of reason is employed carefully, humanity greatly benefits. This way of acquiring knowledge—the empirical method that ushered in the scientific revolution—has had profound ramifications. In fact, the entire scientific enterprise, it could be argued, is based on the assumption that the universe is intelligible. Some years ago, Hugo Meynell, a Canadian philosopher, expressed this thought in the form of a syllogism:

> If the universe were not intelligible, science would be impossible. But science is possible; therefore the universe is intelligible. If the universe is intelligible, there must be something like an intelligence at its base which accounts for this. But the universe is intelligible; therefore there is something like an intelligence at its base which accounts for this. And the something like intelligence which is at the base of the universe is what is called God.[37]

Meynell's argument is not a scientific one. It is a philosophical one in favor of intelligence and reason as an inherent part of creation. Even though it is a philosophical argument, it is made on behalf of the efforts of those who try to understand the natural world through science. However, philosophers and theologians, when they make their arguments in favor of reason, need to be careful that they do not promise to deliver more than they can. Cardinal Schönborn may have inflated expectations when he wrote in his op-ed piece that through reason we can "readily and clearly discern purpose and design in the natural world."[38] Over a century earlier, another Cardinal, again John Henry Newman, wrote in 1870 to a fellow convert to Catholicism about his hesitation to put much weight on the argument from design.

> I have not insisted on the argument from design, because I am writing for the nineteenth century, by which, as represented by its philosophers, design is not admitted as proved. And to tell the truth, though I should not wish to preach on the subject, for 40 years I have been

[37]Hugo Meynell, "Faith and Reason," *The Tablet*, March 11, 1989, 276.

[38]Concerning the Cardinal's editorial, Patrick H. Byrne writes that "Unfortunately the manner in which the cardinal advances his criticism of their (the new Darwinians) excess falls victim to an excess of its own, and thereby posed an unnecessary obstacle to fruitful exploration of the relationships between faith and natural science" ("*Quaestio Disputata:* Evolution, Randomness, and Divine Purpose: A Reply to Cardinal Schönborn," *Theological Studies* 67 [2006] 665).

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> unable to see the logical force of the argument myself. I believe in design because I believe in God; not in a God because I see design.[39]

Some people, of course, look at nature and see in it much violence and destruction. One does not have to be a fan of television's Nature Channel to know that many species, including our own, live by destroying other species, and even murdering their own—a picture of the world that is "red in tooth and claw."[40] When Newman refers to the philosophers, he is most likely speaking of the Neoscholastics who shaped Catholic thought in the nineteenth century, and sometimes misused Aquinas's argument as a "proof" for God's existence.[41] When such philosophical arguments were understood as proofs, they became an easy target for David Hume's philosophical wrecking ball. When philosophers keep in mind the doctrine of analogy, the argument they make is not proof or demonstration, but one of fittingness. St. Paul

[39]Charles Dessain and Thomas Gornall, eds., *The Letters and Diaries of John Henry Newman* vol. 25 (Oxford: Clarendon Press, 1973), 97, letter dated 13 April 1870, cited by Noel Keith Roberts, "Newman on the Argument from Design," in *New Blackfriars* (38/1013, Jan. 2007: 58.) See also Newman's *A Grammar of Assent* (Garden City, New York: Doubleday Image, 1955), originally published the same year, where he comments on Paley's proof by saying that "I do not want to be converted by a smart syllogism," and a little later, "I do not care to overcome their (those who promote the argument from design) reason without touching their hearts" (330).

[40]Cardinal Schönborn is not unaware of the historical, and more recently empirical, challenges to the argument of design. He asks, "We consider the world-picture drawn by modern science and ask why we have this laborious, complicated path of cosmic evolution. Why its countless trials and blind alleys, its billions of years of time and expansion of the universe? Why the gigantic explosions of supernovae, the cooking of the elements in the nuclear fusion of the stars, the excruciating grind of biological evolution with its endless start-ups and extinctions, its catastrophes and barbarians, right up to the unfathomable brutalities of life and survival to the present day? Does it not make more sense here to see the whole as a blind play of coincidences in an unplanned nature? Is this not more honest than the attempts at a theodicy of a Leibniz? Is it not more plausible simply to say, 'Yes, the world is just that cruel?'" ("Reasonable Science, Reasonable Faith," in *First Things*, April 2007: 25–26. In response to his own questions, he states that like Job, "we do not know the answer to suffering and chaos," and then speaks theologically of the Logos, the Christ and his cross. Nevertheless, in another recent article published in an edited book (*Chance or Purpose? Creation, Evolution, and a Rational Faith*, ed. Hubert Philip Weber, trans. Henry Taylor [Ft. Collins, CO: Ignatius Press, 2007]), he seems much more confident in our ability to affirm a providential God: "What prevents us from recognizing the creator? . . . Today, two thousand years later, such a conclusion actually ought to be much easier to draw, since we know so incomparably much more than then" (29).

[41]Aquinas' "design" argument, the last of the five arguments he offered for the existence of the first cause, was an *a posteriori* argument, that is, an argument that was built upon certain experiences that people had already had of the world they lived in, not upon only logical arguments. Thus Aquinas' five ways help support belief in the existence of a Creator already arrived at through other means—such as the experiences of the beauties of the world (Romans 1:20), the experiences of forgiveness within a believing community, and the experience of love, about which the current academy seems to have little to say.

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reminds believers that they see through a glass darkly (1 Cor. 13:12)—even when some believers are very bright philosophers.

Nevertheless, reason plays important roles for the believer. While married people cannot prove to a third party that they have married the "right" person, their love nevertheless is not blind. Neither is faith. The use of reason ought to pave the way to the act of faith. Augustine once wrote that, "no one believes anything unless one first thought it to be believable. . . . Everything which is believed should be believed after thought has preceded. . . . Not everyone who thinks believes, since many think in order not to believe; but everyone who believes thinks. . . ."[42] And while faith seeks reason, it is also true that reason helps believers enter more deeply into the truths of the faith—an activity expressed by altering slightly the famous Latin phrase, *fides quaerens intellectum*, so that it can also read *intellectus quaerens fidem*. Christians are encouraged in the first letter of Peter (3:15) to be prepared to give reasons (not proofs) for the hope that is theirs. And so, both in science and in the Christian life, reason has an important though limited role to play.

At still other times, reason plays the role of defending the faith. Austin Farrer, an Anglican philosopher, explained the value of arguments for the faith even though they are unable to prove the truth of the faith:

> It is commonly said that if rational argument is so seldom the cause of conviction, philosophical apologists must largely be wasting their shot. The premise is true, but the conclusion does not follow. For though argument does not create conviction, the lack of it destroys belief. What seems to be proved may not be embraced; but what no one shows the ability to defend is quickly abandoned. Rational argument does not create belief, but it maintains a climate in which belief may flourish. So the apologist who does nothing but defend may play a useful, though preparatory, part.[43]

Perhaps then it is better to speak of evidence and reasons, not proof, for believing. And perhaps Cardinal Schönborn expects philosophy to provide a degree of clarity few people, even believers, experience today. Just as the Cardinal qualified his assertion about neo-

[42]See the presidential address of Robert Wilken to the American Academy of Religion, "Who Will Speak *For* the Religious Traditions?" published in *Remembering the Christian Past* (Grand Rapids, MI: Eerdmans, 1995), 20, citing Augustine's "On the Predestination of the Saints," in *Nicene and Post Nicene Fathers*, ed. By Philip Scharff, First Series, Vol. 5 (Grand Rapids, MI: Eerdmans, 1956), 493–520.

[43]Austin Farrer, "The Christian Apologist," in *Light on C. S. Lewis,* ed. Jocelyn Gibb, ed. (New York: Harcourt, Brace and World, 1966), 26.

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Darwinians as necessarily opposed to the Catholic faith, perhaps he would also qualify his confident claim about the clarity with which human reason, unaided by faith, can perceive order in nature.

Secondly, despite this call for more epistemological humility, Catholic theologians and philosophers should not lose confidence in their disciplines, and the methods and object proper to them. The Enlightenment offers one of the best examples of a lack in confidence in the proper methods of these two disciplines. Many Catholic theologians and philosophers tried to meet Enlightenment thinkers by constructing arguments that they believed could *prove* the existence of God, just as the leading Enlightenment thinkers thought they could *disprove* God's existence. These theologians and philosophers went about constructing a type of "natural theology" that forgot Aquinas' carefully circumscribed use of the arguments for God's existence, and ended up not only overstating what they thought they could deliver—a proof for God's existence—but also paved the way for future atheists who easily shot holes in their arguments.[44] In a similar way today, arguments made by the proponents of intelligent design rest their case on something that they claim cannot be explained by science—what they call an irreducible complexity. But now their key examples of "irreducible complexity" have already been shown to be, in fact, reducible. To ground faith on scientific arguments is, as pointed out earlier, to build a house on sand. In an age still dominated by science, scientific arguments that seem to be supporting faith can be very seductive.

To add just one more example, some Christian believers, highly persuaded by scientific arguments in favor of faith, find in the Shroud of Turin "proof" of the resurrection. There now seems to be, on the basis of carbon testing, good evidence that the Shroud is a thirteenth- or fourteenth-century hoax.[45] At that time, the Shroud was understood as a certain kind of devotional object for which we have no category, given our understanding of historicity and scientific proof. All the same, Christianity, as has been pointed out earlier, is a religion with its roots deeply sunk in history. Claims of historicity may be one of the reasons why some Christians are so fascinated with the Shroud. Christians are not wrong to look for evidence—but not for proofs—in history for their beliefs. But even if the Shroud could be proven to be authentic, one is still faced with the question of belief not in the authenticity of the Shroud, but in what the Shroud points to, namely, the resurrection of

[44]See Michael Buckley, *At the Origins of Modern Atheism* (New Haven: Yale University Press, 1987), especially the final chapter, "The Dialectical Origins of Atheism."

[45] See, e.g., the news item by M. Mitchell Waldrop, "Shroud of Turin is Medieval," Science, 21 October 1988, 378.

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Jesus and all that that historical-theological reality means. When Thomas witnessed the wounds of the risen Christ, he exclaimed, "My Lord and my God" (John 20:17). Presumably, Thomas saw Lazarus restored to life, but was not moved to adore him. Evidence assists in making an act of faith, though ultimately faith is a gift.

Third and finally, there is an important role for reason for both the scientist and the believer. Catholics are not fideists, that is, people who believe even though there are no reasons at all for believing. If Christians should have more confidence in the role and importance of theology and philosophy, what shape then ought these disciplines take in a world—mostly now I speak of the Western world—dominated by science? It is an essential part of the scientific approach to focus not on the individual but on the general. Even more accurately, science looks at individual phenomena only in order to see if it is possible to discover general patterns and formulate universally valid theories. The approach allows scientists to make reliable generalizations. They seek to formulate laws that can explain phenomena; they do not study unique forms of reality, some of which have profound consequences for human beings. With some exceptions, philosophy focuses on the general and the "human" rather than on specific persons. Originally, however, as Pierre Hadot explains, philosophy was not so much a rigorous form of thinking about the nature of things and people as it was a way of life, a set of practices and disciplines taken up by people who wanted to think more clearly and live more virtuously.[46] How people live and relate influences what they see as wise and true. Praxis is therefore very important; and personal praxis forms one of the key foundations for philosophy understood in this way. In this light, Christian theologians and philosophers should reflect an historical sensitivity and their writings should have an existential ring. In this perspective, Christian philosophers and theologians write about what it means to be a human being and what purpose there is in life, in the light of who Jesus is and what he taught. But this form of philosophy and theology must also think about our relationship with the world and the cosmos, lest believers think only about their practices, themselves, their personal relationships.

Though Christians cannot and should not try in a scientific sense to prove God's existence, their belief in God is not irrational. Reason includes more than that which is provable. Modern science employs a precise method in a powerful but narrow way. What is needed then is a more capacious understanding of reason, an understanding that recognizes that legitimate forms of knowledge can be arrived at through

[46]Pierre Hadot, *Philosophy as a Way of Life* (New York: Blackwell, 1995).

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more than the use of the scientific method alone. If many of the achievements of modern science have depended upon specialization, these very same achievements need not be presented as though they are the most important knowledge or the only form of reliable knowledge.

To the extent that the academy is devoted mainly to a scientific model of truth, a type of truth that is measurable and predictable, other important forms and ways of knowing become marginalized if not completely discounted. Scientists who exclude, consciously or unconsciously, other valid forms of knowing are not the only ones at fault. Philosopher Patrick Byrne writes of certain forms of blindness and prejudice in many of the practices that characterize different academic disciplines:

> Neo-scholasticism had a blindness to the challenges of thinking in evolutionary terms and historical terms. Positivism is prejudiced against concepts and arguments that do not involve a direct appeal to sense data—and especially against religious meanings. The Enlightenment concepts of reason and truth themselves are now being exposed for bias toward domination and control. There is a reductionism of human motivations in Freudian thought to base mechanisms. Certain schools of economists hold marketplace efficiency as the supreme value, while their socialist and social justice critics seem blind to even the limited legitimacy of market efficiency. And so on.[47]

Theologians too can have their blind spots when they misread the Scriptures by insisting that in fact the earth was created in six days or when they forget that our capacity to penetrate the mystery of God is inescapably limited. For a very long time, and troubling in retrospect, the official teaching of the Church accepted slavery and found some justification of it in the Scriptures. One can ask if the current theological emphasis on human rights arose first within Church circles, or whether it was the case that the defense of individual freedom and freedom of conscience first arose most explicitly from Enlightenment thinkers who were quite critical of the Catholic Church. Examples can be multiplied—but the point is simple: theology itself needs criticism and the Church can and does learn through an on-going thoughtful dialogue with the rest of the world.

What forms of rationality undergird the act of faith? The actual process by which a person comes to believe is subtle and complex. Most people finally believe, in the religious sense of "belief," not be-

[47]Patrick Byrne, "Discernment and the Vocations of Science and Scholarship at a Catholic University," unpublished paper, p. 17.

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cause of a compelling argument, but because of love. The philosopher Josef Pieper put it this way: "We can believe only if we want to. The determining factor is not the truth of the content, but the sense that it is good to believe."[48] Truth is important, but in its logical or scientific forms it is not the vehicle that moves most people to religious faith. Christian philosophers would say that logical and scientific truth is a necessary but not sufficient basis for the act of faith. Cardinal Newman always stressed, in one way or another, that belief is not the result of only, or even primarily, a logical process. That does not make the act of religious faith irrational, but makes reasoning a part of the process that ultimately is completed in the will—that is, the realization that it is good to believe. Proof in its proper realm is valuable, but is of very limited value in relationships, in love and in whatever it is to which we ought to devote our lives.

V. Concluding Remarks

Several points have been made in this article. First, that it is important to be clear about what is meant by words like neo-Darwinism, randomness, reason, proof, and intelligent design. Words need to be used carefully. "Evolution," like "creation" or "creationism," can, as we have seen, mean quite different things. When evolutionary theory sticks to describing empirically processes of change among plants, animals and humans, there ought not to be any conflict between it and Catholic teaching. Catholicism can and should recognize not only science's validity when it operates within its own methodological limits, but also praise and thank scientists for their many extraordinary achievements, especially over the last century. If a particular theory of evolution, however, were to claim on the basis of scientific evidence that there is no God or that religion has nothing to say of importance about creation and humanity, or that the evolutionary biological process actually determines religious beliefs, then Cardinal Schönborn is correct—that theory of evolution ceases to be science and becomes instead ideology, what might be called "scientism."

In a similar way, the word "creation" describes an important truth of Christianity. It can mean that God freely created the universe, out of nothing and because of love, and created human beings in God's own image and likeness. On the other hand, creationism, meaning that God created the world in six days, is for Catholics an indefensible interpretation of Genesis. Similarly, "young-earth creationism," which claims that the earth is six to ten thousand years old, since the six days in

[48]Joseph Pieper, *Belief and Faith: A Philosophical Tract* (New York: Pantheon Books, 1963), 25ff.

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Genesis can be expanded to six periods of time, each a thousand to fifteen hundred years or so in length—is also a position Catholics need not defend. What then are Catholics to believe about creation? They should believe that God created all that is, and that it is good, and that the moral (as opposed to natural) evil in the world comes from the misuse of human freedom.

Second, science, philosophy and theology have different but not completely unrelated tasks. In this article, I have only touched upon some of the many complex questions that arise when we ask about the relationship of reason and faith, philosophy and theology. Few Catholic thinkers today remain committed to the scholastic synthesis of faith and reason. While much can be learned from the history of philosophy, and while there may well be good reasons to renew scholastic philosophy and theology, new ways of thinking about the relationship between the disciplines need also to be explored.

Thirdly, Christian theologians and philosophers should avoid imitating scientific methods of argumentation. They need to recognize that they deal with matters of ultimate significance—the meaning and purpose of life—not detached from this world, but in it and for its improvement, all the while with an eye on the next world.

What then ought we to conclude about the Dover case, to which I referred at the beginning of this article? It is fair to say, I believe, that the controversy at the heart of the Dover case seems to be primarily a battle for what should be taught in public schools. Unfortunately, in public schools, religious perspectives as religious perspectives are now rarely taught. Scripture scholar Luke Timothy Johnson, in a review of a textbook that contains a Bible curriculum for public schools, affirms the need to teach the humanities in a way that includes the serious exploration of religion. But after complimenting the authors of the textbook for their "mild, informative and balanced" treatment, he criticizes them for presenting religion in a bloodless way, one that gives "little sense of the passions out of which this literature emerged, or the passions it can still engender."[49] He also thought that it would be very difficult to find teachers who would be able to teach Biblical texts well to high school students.

Others have suggested that instead of trying to teach about religion in public schools, philosophy should be taught. Robert Miller, a Villanova University law professor, recommends that high school seniors should be offered a philosophy course which includes metaphysics, texts by Aquinas on the existence of God, as well as texts by Hume and

[49]Luke Timothy Johnson, "Textbook Case," in *Christian Century*, February 21, 2006, 36 (review of *The Bible and Its Influence*, eds. Cullen Schippe and Chuck Stetson (New York: BLP Publications, 2006).

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Kant that challenge metaphysical arguments.[50] But again it might be asked just how many high school teachers are prepared to teach such a course? And how many high school seniors are predisposed to such philosophical thinking? Cardinal Schönborn noted that the philosophical approach that he wishes to promote—natural philosophy—has long been discredited and discarded. We in the United States live in a culture whose philosophical tendencies include pragmatism and process philosophy, hardly friends of metaphysics. How to approach these questions in the public schools in the United States presents considerable difficulties. One thing for sure: intelligent design as it now is presented should not be a part of a biology class.

Nor are the very issues raised by Cardinal Schönborn easily resolved. It is encouraging to learn, however, that since the appearance of his July 2005 editorial, he has consistently called for and participated in public debate on evolution and Catholicism. For years, Joseph Ratzinger has set aside a weekend in the summer to meet with some of his former doctoral students, his *Schülerkreis*, to renew acquaintances and to continue to pursue academic interests. In fact, the group normally includes not only former students, but also, depending on the topic, other scholars. Cardinal Schönborn, who spent a year as Ratzinger's student at Regenburg, has always been considered a member of the group. As pope, Ratzinger has continued this practice. The group's 2006 summer meeting, which took place September 1–3, discussed "creation and evolution." For this meeting they invited, among others, Professor Peter Schuster, a molecular biologist who wrote this in response to Schönborn's op-ed piece:

> Darwinian evolution . . . is an empirical scientific fact, a fact in the same class with the Copernican solar system, Newtonian mechanics, Einstein's universe or the world of quantum mechanics, and is neither one hypothesis among others, nor an ideology. The interpretation of observations in biology, as we understand it today, does not need a plan, nor does it provide obvious hints for an active designer.[51]

It should be a source of encouragement that at the highest levels of ecclesiastical circles, open and informed discussions continue to take place. Such discussions are precisely what Benedict's predecessor,

[50]Robert T. Miller, "Opinion: Darwin in Dover, PA," in *First Things*, (April 2006), 11.

[51]See John Allen, "*All Things Catholic*, August 11, 2006, "Evolution and Science," 4. A book entitled *Schöpfung und Evolution* contains four papers presented at that *Schülerkreis*, but is presently available only in German. For a summary of Pope Benedict's contribution to the volume, see Keith Ward, "Order out of Chaos," *The Tablet*, April 21, 2007, 8–9.

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Pope John Paul II, called for in a letter to Fr. George Coyne, SJ. In this letter, published on the three hundreth anniversary of the publication of Isaac Newton's *Principia*, John Paul II expressed this fervent wish:

> The dialogue (between science and faith) should continue and grow in depth and scope. In the process we must overcome every regressive tendency to a unilateral reductionism, to fear, and to self-imposed isolation. What is critically important is that each discipline should continue to enrich, nourish and challenge the other to be more fully what it can be and to contribute to our vision of who we are and who we are becoming.[52]

[52]John Paul II, "Message to the Reverend George V. Coyne, SJ, Director of the Vatican Observatory, June 1, 1998," in R. Russell, W. Stoeger, G. Coyne, eds., *Physics, Philosophy and Theology, A Common Quest for Understanding* (Notre Dame, IN: Notre Dame Press, 1988), M7 and M8, cited by Josef M. Zycinski, "Evolution and Christian Thought in Dialog according to the Teaching of John Paul II," in *Logos*, Winter, 2006: 25.

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