

Catholic Faith and Evolution

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Recent Pew research has examined why so many young people have been abandoning the faith (this is not restricted to Catholicism) and among the varied reasons given by individuals surveyed one stands out—a perceived disjunction between the faith and science, and in particular with regard to the topic of evolution.¹ A related issue is the interpretation of Genesis 1-3, the biblical account of creation and the fall. This is less of a problem for Catholic faith than for a fundamentalist Christianity, which insists on the verbal inerrancy of Scripture, but is still an issue given the phenomenon of Catholic fundamentalism and the fact that until the last century the Church had generally proposed a fairly literal reading of the Genesis text.² It will not do simply to argue that the Church's position has shifted in its reading of Genesis; one will need to show the consistency of the Church's interpretation as well or faith will be undermined. A third area where there can be problems lies in the confusion between the distinct methodology of science on the one hand and that of Catholic faith and theology on the other.

¹Michael Lipka, "Why America's 'nones' left religion behind," <https://www.pewresearch.org/fact-tank/2016/08/24/why-americas-nones-left-religion-behind/>, accessed September 4, 2019.

²Ken Ham, a fundamentalist committed to creation science, sets the issue out clearly enough: "Well, our research revealed that, as early as even elementary and middle school, young people have doubts and questions about the Bible that are going unanswered. Research shows that many of these questions are related to Genesis and scientific issues such as evolution, long ages (millions of years), dinosaurs, and Noah's Ark. These young people are not getting solid answers from church leaders and parents but, sadly, are often told they can believe in the big bang, millions of years, and evolution; they're then admonished to reinterpret or ignore Genesis while being told to "trust in Jesus!" These young people recognize the inconsistency of reinterpreting the first book of the Bible and yet being expected to trust the other books that talk about Christ. If we can doubt and reinterpret Genesis, where do we stop doubting and reinterpreting?" Ken Ham and Avery Foley, "Pew Research: Why Young People Are Leaving Christianity," <https://answersingenesis.org/christianity/church/pew-research-why-young-people-leaving-christianity/>," accessed September 4, 2019.

Catholic Teaching on Creation and Evolution
The Catechism of the Catholic Church

A useful starting point in setting out the Church's teaching on creation and evolution is to survey what is found in Part One, Section Two, Chapter One of the *Catechism of the Catholic Church*. The Prologue explains the purpose and structure of the *Catechism*; Part One, Section One provides the context for structuring the *Catechism* in line with the Creed (both Apostolic and Niceno-Constantinopolitan). Topics treated here are the human capacity for God, divine revelation in its origins and in its transmission, Sacred Scripture, and the human response in faith. The Creed is a codification of that faith. The doctrine of creation is covered in the treatment of the opening phrase of the Creed: "I believe in God the Father almighty, creator of heaven and earth."

Belief in God is fundamental; everything else depends on this (199); any claim of a revelation presumes this. God is one (200) and reveals himself as a living God, "I Am Who Am," the Holy One, a God merciful and gracious; Truth itself, Love itself (201–21). Belief in one God, the Father, involves the doctrine of the Trinity. "Father" implies an offspring; the "Son" reveals the "Father"; the "Spirit" reveals the "Father" and the "Son" (232–48). What becomes clear in this account is that the God of Catholic faith is not a remote transcendent entity that has nothing to do with the universe. The God of the Judeo-Christian tradition is one who is "in conversation" with humanity.

The *Catechism's* treatment of creation begins at this point with the affirmation of God's omnipotence which is universal, creating and ruling everything. It is loving and, when "made perfect in weakness," mysterious, discerned only in faith. Nothing is impossible to him but his power is in accord with his justice and wisdom. God can seem to be impotent in the face of evil and suffering but his power is "revealed...in the voluntary humiliation and Resurrection of his Son, by which he conquered evil" (268–74).

This Christological focus is at the center of the *Catechism's* understanding of creation—"from the beginning, God envisaged the glory of the new creation in Christ" (280). Our origins are inseparably tied to our end and "are decisive for the meaning and orientation of our life and actions" (282).

It notes the scientific studies on the origins of the world and of humanity "which have splendidly enriched our knowledge of the age and dimensions of the cosmos, the development of life-forms and the appearance of man" (283) but notes that more is involved than simply "knowing when and how the universe arose physically, or when man appeared, but rather of discovering the meaning of such an origin: is the universe governed by chance, blind fate, anonymous necessity, or

by a transcendent, intelligent and good Being called ‘God’” (284)? Alternate accounts have been given throughout history—Pantheism, Emanationism (as in Neoplatonism), Dualism, Manichaeism, Gnosticism, and the more modern Deism and Materialism. These either confuse God with the world, undermine God’s freedom in creating, affirm a principle of evil equal to God (which often denies the goodness of creation), argue for God’s aloofness from the world, or deny God’s existence altogether (285).

God’s existence “can be known...through his works, by the light of human reason” but this can be “obscured and disfigured by error” (286) but “faith comes to confirm and enlighten reason.” God, in fashioning a people, revealed, beyond what human reason is able to discover, the mystery of their origins and the unity of that creation with their destiny in covenant with God (287–88). Noting the diverse sources of the first three chapters of Genesis they were placed at the beginning of Scripture the *Catechism* to express “the truths of Creation—its origin and its end in God, its order and goodness, the vocation of man, and finally the drama of sin and the hope of salvation” (289).

The opening words, “in the beginning God created the heavens and the earth,” affirms three things—“the eternal God gave a beginning to all that exists outside of himself; he alone is Creator.... The totality of what exists...depends on the One who gives it being” (290). The opening of John’s Gospel, “In the beginning was the Word,” “reveals that God created everything by the eternal Word, his beloved Son.” The Spirit is the Creator Spirit (291). “Creation is the common work of the Holy Trinity” (292). “The world was made for the glory of God” which consists in the manifestation and communication of his love and goodness. Thus, as Irenaeus wrote, “the glory of God is man fully alive” (293–94).³

God created the world freely (and not under any necessity or blind fate or chance); he created it according to his wisdom (295). He created “out of nothing”; there was no pre-existent thing or any help in creation (296). This implies that the possibility of grace (spiritual life) for those who are spiritual dead, of resurrection to those who are bodily dead (298). His creation is ordered, it is oriented to humans “created in the ‘image of God’ and called to a personal relationship with God. ... Because creation proceeds from God’s goodness it shares in that goodness” even in its physicality (299). God transcends all his works but, “as the first cause of all that exists,” he is present to the inmost being of all creatures (300). He “gives them being and existence”, he “upholds and sustains them in being.” He also gives to his creatures “the dignity of acting on their own, of being

³*Dei Filius*, can. § 5: DS 3025; Irenaeus, *Adv. haeres* 4, 20, 7: PG 7/1, 1037.

causes and principles for each other” and in so doing “cooperating in the accomplishment of his plan” (306). He gives them responsibility, “enabling men to be intelligent and free causes in order to complete the work of creation.” They “can also enter deliberately into the divine plan by their actions, their prayers, and their sufferings” becoming “God’s fellow workers” (307). “God is the first cause who operates in and through secondary causes”; they can do nothing if cut off from God; they can only attain their ultimate end with the grace of God (308).

“God freely willed to create a world ‘in a state of journeying’ toward its ultimate perfection”; physically this entails the presence of destructive forces of nature as well as constructive ones (310). “Angels and men, as intelligent and free creatures” likewise journey, which means they can stray. God is not the source of moral evil but “permits it...because he respects the freedom of his creatures and, mysteriously, knows how to derive good from it. The cross of Christ is the greatest example of this (313). “God is the master of the world and of history”; the ways of providence are often obscure but God guides “his creation to that definitive sabbath rest for which he created heaven and earth (314).

The next section of the *Catechism* deals with the creation of angels. As with creation in general Christ stands at the center of the Church’s understanding (331). The Church’s faith in angels is important for Catholic faith with regards to evolution because it testifies to the conviction that there is a spiritual reality that cannot be reduced to material reality; this figures into the Church’s understanding of human creation.

With regard to the visible universe the *Catechism* makes a number of points: 1) “Nothing exists that does not owe its existence to God the Creator”; 2) “Each creature possesses its own particular goodness and perfection...with its own stability, truth, and excellence, its own order and laws”; 3) it is beautiful; 4) the order of the “six days” reflect the hierarchy of creatures “from the less perfect to the more perfect”; 5) humankind is the summit of creation; 6) all creatures are in solidarity with each other in their origin and their end in God’s glory; 7) “Creation was fashioned with a view to the sabbath and therefore for the worship and adoration of God”; 8) Creation “finds its meaning and its summit in the new creation in Christ” (337–49).

Created in the image of God humans alone are able to know and love God and share in God’s own life. This is the foundation of their personal dignity. They are persons, “capable of self-knowledge, of self-possession, and of freely giving himself and entering into communion with other persons” preeminently into personal communion with God. All else was created for humans who were “created to serve and love God and to offer all creation back to him.” “It is only in the mystery of the Word made flesh that the mystery of man truly becomes clear.”

The *Catechism* at this point cites the Adam-Christ imagery of I Cor. 15:20–22, 45–49.⁴ A key point is the affirmation of the unity of humankind because of its common origin from Adam. We are all brothers and sisters; likewise we are called to be brothers and sisters in Christ, the second Adam (356–61).

“The human person, created in the image of God, is a being at once corporeal and spiritual.” “Soul,” which can refer to human life or the entire person, can also signify the spiritual principle in the human individual. “The human body shares in the dignity of ‘the image of God’...precisely because it is animated by a spiritual soul.” “The whole human person...is intended to become, in the body of Christ, a temple of the Spirit.” The soul is the “form” of the body making the body to become “a living, human body.” This union of body and soul forms a single nature. “Every spiritual soul is created immediately by God”; it is not “produced” by the parents; it is immortal (362–66).

“‘Being man’ or ‘being woman’ is a reality which is good and willed by God.” They have the same dignity as created “in the image of God.” They were created “*together* and willed each *for* the other...to be a communion of persons,” equal and complementary. “By forming ‘one flesh,’ they can transmit human life...[and thus] cooperate in a unique way in the Creator’s work.” To them responsibility for the world has been entrusted (369–73).

The first humans were created good and in friendship with God and in harmony with creation. In this “original ‘state of holiness and justice’...all dimensions of man’s life were confirmed” and in harmony. “As long as he remained in the divine intimacy, man would not have to suffer or die” (374–79). That intimacy did not persist; our present experience is of suffering and of various natural and spiritual evils. Sin makes sense only in the context of our relationship to God—it is ultimately our “rejection of God and opposition to him.” Other explanations—developmental flaws, psychological weaknesses, mistakes, inadequate social structures—are inadequate; ultimately “sin is an abuse of the freedom that God gives to created persons” (385–87).

Original sin can only be understood in terms of the universal salvation offered through Christ. “We must know Christ as the source of grace in order to know Adam as the source of sin.” “Revelation gives us the certainty of faith that the whole of human history is marked by the original fault freely committed by our first parents” (388–90). The harmony of original justice was destroyed and tension and hostility entered into one’s relationship with oneself, with others, with creation itself. “Death makes its entrance into human history.” This disharmony, this sin, is universal in human history. This original sin has been transmitted to all

⁴More specifically it cites Peter Chrysologus, *Sermo* 117; PL 52, 520–21.

of the descendents of Adam. The *Catechism* again refers to the Adam-Christ imagery—“By this ‘unity of the human race’ all men are implicated in Adam’s sin, as all are implicated in Christ’s justice.” It notes the difficulty of understanding how this is transmitted but following the Council of Trent affirms that “it is a sin which will be transmitted by propagation to all mankind.” It is called sin analogically because it is “a state and not an act.” It is not a personal fault but a deprivation of original and justice. Human nature has been wounded but not completely corrupted (396–409).

We will return to this material later. At this point it is useful to point out two things. First, and most importantly, the focus of the *Catechism* in this material is on the covenantal relationship between God and humans—it is relentlessly relational. Indeed, it is distinctly Christocentric. The Pauline material on Christ as the New Adam is, if anything, more important than the text of Genesis in the *Catechism*’s treatment. The universal salvation found in Christ dictates the need to affirm the solidarity of humanity and grounds the need for humanity to be in solidarity in its origins. That Christ saves us from our sins grounds the need for a human solidarity in sin in those origins. A second point of interest is that there is no attempt to explain the Genesis stories in terms of historical-critical analysis. They are taken at face value. If one did not know the historical context of the *Catechism* one could be led to think it to be a literalist reading.

Catholic Reaction to Evolution from the Mid-1800s to the Mid-1900s

Charles Darwin’s *Origin of Species* appeared in 1859. Official Catholic reaction to it, on average, was cautiously negative. There are a number of reasons for this, not least of which was the use that was made of it to attack Christianity in general and Catholicism in particular. The next year a provincial council of German bishops meeting in Cologne rejected the notion of human evolution: “The first parents were created [*conditi*] directly by God. Therefore, we declare as contrary to Sacred Scripture and to the faith the opinion of those who are not ashamed to assert that man, insofar as his body is concerned, came to be by a spontaneous change [*spontanea immutatione*] from imperfect nature to the most perfect and, in a continuous process finally [became] human.”⁵ Matthias Joseph Scheeben (1835–88) was active at this time and presumably was influential at this

⁵Cited in Mariano Artigas, Thomas F. Glick, and Rafael A. Martínez, *Negotiating Darwin: The Vatican Confronts Evolution, 1877–1902* (Baltimore: The Johns Hopkins University Press, 2006), 23.

provincial council. Later, in his *Handbuch der katholischen Dogmatik*, he wrote that “It is heresy to pretend that man, insofar as concerns his body, ‘is descended from monkeys’ as a consequence of a progressive change registered in forms, including the supposition that in the complete evolution of man’s form, God has simultaneously created a soul.”⁶ Other theological manuals of the time were more reserved with regard to evolution though generally negative.

Rome itself, apart from the customary “recognition” given to this council which likely signalled some sort of tacit agreement, was silent.⁷ The question of evolution was on the agenda for the First Vatican Council (1869–70) but it was never acted on because of the intervening Franco-Prussian War which prevented the council from reconvening. The gist of the proposed document was an affirmation of the truth of the Genesis narrative. The same council affirmed the harmony between faith and reason—“it is the same God who reveals the mysteries and infuses faith, and who has endowed the human mind with the light of reason” (*De fide* 4)—which in principle ratifies the legitimate conclusions of science.

Mariano Artigas, Thomas F. Glick, and Rafael A. Martínez, in *Negotiating Darwin: The Vatican Confronts Evolution, 1877–1902*, examined six cases that were brought before the Congregation of the Index in the final decades of the nineteenth century involving evolutionism.⁸ Details of these cases were scarce in this era before the recent opening of the Vatican archives in 1998.

The first book to be brought before the Congregation appeared in 1877, authored by Raffaello Caverni, an Italian priest who argued that evolution was consistent with Catholic doctrine.⁹ It was denounced to the Congregation by his archbishop and condemned the next year and placed on the *Index of Prohibited Books*. There was in this action a desire to condemn Darwinism indirectly—also problematic were elements of Caverni’s interpretation of Genesis¹⁰— but the word “evolution” does not appear in the title of the book and the Index, in accord with

⁶Matthias Joseph Scheeben, *Handbuch der katholischen Dogmatik*, book III: *Schöpfungslehre* (Freiburg: Herder, 1961), 160–61.

⁷Brian W. Harrison, “Early Vatican Responses to Evolutionist Theology,” <http://www.rtforum.org/lt/lt93.html> (accessed 10/2/2019), *Living Tradition*, Organ of Roman Theological Forum, May 2001. Harrison is of the view that this reached the level of infallible teaching. See his “Did the Human Body Evolve Naturally? A Forgotten Papal Declaration,” <http://www.rtforum.org/lt/lt73.html> (accessed 10/2/2019), Organ of Roman Theological Forum, January-March 1998.

⁸The following summaries are drawn from pp. 14–18.

⁹Raffaello Caverni, *De’ nuovi studi della Filosofia. Discorsi a un giovane studente* (Florence: Carnesecchi, 1877).

¹⁰*Negotiating Darwin*, 47.

its general policy, never indicated the reasons for the work's inclusion on the Index. The result was that Caverni's work figured into none of the subsequent discussion; it was ignored.

More important was the second edition of Fr. Marie-Dalmace Leroy, O.P.'s *The Evolution of Organic Species*¹¹ which argued that "the *substrate* destined to receive the immortal soul was the work of God, but that it was prepared through secondary causes, that is, by means of evolution."¹² This attempt to reconcile evolution with Catholic doctrine is sometimes described as "transformism." The Congregation of the Index, after much debate (some of which was in the defense of Leroy), decided to condemn the book but also decided not to publish the decree. Leroy was asked to repudiate his opinion; he did so; his work was never placed on the *Index*.

The third case was that of Fr. John Zahn, a Holy Cross priest who taught physics at Notre Dame University and who wrote extensively on the topic of science and religion. His *Evolution and Dogma*, published in 1896, was condemned by the Congregation of the Index in 1898. Again the decree of condemnation was never published. He too was asked to repudiate his opinion. He never did but he did write to his Italian publisher noting that Rome opposed the distribution of the book. This became known and was counted as a repudiation. His book was never placed on the *Index*. The case was complicated by its involvement in an entirely different issue, that of "Americanism," perceived to be a form of "modernism."

The fourth and fifth cases involved two bishops, Geremia Bonomelli and the Welsh Benedictine John Hedley. Bonomelli had had another of his works, a proposal for the reconciliation of the Italian state and the papacy, placed on the *Index*. Both Bonomelli and Hedley had praised Zahn's view on evolution. Bonomelli learned from a cardinal friend that the Vatican was not pleased and on his own initiative published a retraction. Hedley was more reserved than Zahn on the origin of the human body and, in a polemic with *La Civiltà Cattolica*, had published a letter that was interpreted (wrongly) as a retraction. No action by the Congregation of the Index or by the Vatican was taken against them.

The final case involved a layman, St. George Jackson Mivart, who was an English biologist who argued in an 1871 book, *On the Genesis of Species*, that biological evolution was compatible with Christian doctrine.¹³ It was never condemned and it was never placed on the *Index*, although several of his later articles on hell were so placed.

¹¹Marie-Dalmace Leroy, *L'évolution des espèces organiques* (Paris: Perrin, 1887, 1891).

¹²Artigas, Glick, and Martínez, *Negotiating Darwin*, 59.

¹³St. George Jackson Mivart, *On the Genesis of Species* (New York: Appleton, 1871).

It is also of interest to note that, although Erasmus Darwin's (Charles Darwin's grandfather) didactic poem *Zoonomia* (which contained an arguably materialistic version of evolution) was placed on the *Index*, none of Charles Darwin's works were.¹⁴

The case of Leroy is instructive. He began his work with a refutation of “the godless brand of evolution, according to which matter is eternal and has formed everything that exists in the universe through a process in which God does not intervene at all.”¹⁵ For the most part he treated of “limited evolution,” which is to say, “evolution limited to organisms lower than human beings.” He held to the primordial creation from nothing of cosmic matter by God, he accepted that “the introduction of life on Earth [was due] to the special intervention of a prime cause,” he accepted the role of divine Providence in the unfolding of the universe. He then established “that human beings have a spiritual and immortal soul...created by the direct action of God.” He rejected, with the provincial council of Cologne, the view “that the human body arose as a result of a *spontaneous and continuous change* starting from a lower animal” since such a view eliminates any divine action in the emergence of the first human.¹⁶ Part of the problem is philosophical. The soul is the form of the body. That form cannot derive from irrational sources; the perfect (here, the rational) cannot derive from the imperfect (the irrational) *spontaneously*—it requires divine intervention. You cannot get something from nothing unless you are God. Leroy runs into problems when he introduces an additional consideration:

The human body is composed of matter and form, and the soul, in substantial form, comes directly from God, of course. But where does the matter come from? It is also certain it comes from the mud of the earth—Scripture and tradition clearly say so. But does this mud receive the infusion of the human soul instantly, that is, without any preparation?¹⁷

The problem is that he went on to defend the position “that the *substrate* destined to receive the immortal soul was the work of God, but that it was prepared through secondary causes, that is, by means of evolution.”¹⁸ It was pointed out by critics

¹⁴*Negotiating Darwin*, 14.

¹⁵*Ibid.*, 55.

¹⁶*Ibid.*, 56–59.

¹⁷*Ibid.*, 59 citing Leroy, pp. 266–67.

¹⁸*Negotiating Darwin*, 59.

that Leroy was being a bit inconsistent because he held, “in passing, that he accepted the immediate formation of the body of the first woman from Adam.”¹⁹ If God immediately formed the body of Eve then why not the body of Adam? He was willing to accept the immediate creation of her body but not his.

When the denunciation of Leroy’s book reached Rome it was assigned to the Observant Franciscan, Fr. Teofilo Domenichelli. Domenichelli wrote a favorable report. He cited the recently published encyclical of Leo XIII, *Providentissimus Deus*, on the interpretation of Scripture. He followed Thomas Aquinas in arguing that only the fact of creation was essential to faith, how God creates “touches faith only accidentally and thus it has been interpreted differently by the Church fathers.” He cited Augustine (*De Genesis ad litteram*, bk. IV, 52) to the effect that the fathers of the Church “accepted the possibility of diverse interpretation of the Creation narrative.”²⁰ He concluded that to say that the opening chapters of Genesis use figurative language to condescend to our understanding “is completely correct.” In his view “the question of whether the biblical narrative of Creation should be interpreted literally or allegorically is open to the free discussion of theologians.” He was not convinced of Leroy’s argument but concluded that the work should not be censored. He noted all of the positive elements of that work—the existence, spirituality, immortality of the soul, for instance—and that Leroy had given a satisfactory account of the council of Cologne. With regard to Leroy’s final point on a preparation of the “substrate” through evolution he notes that the common view understands the Genesis text on the creation of Adam from the “mud” in a literal fashion and that this is the “safer and more pious” position. Leroy was pushing the limits of orthodoxy but had not passed over into heresy.²¹

Domenichelli was not the only one to argue that Leroy’s book should not be put on the *Index*. Another consultor for the Congregation, Ernesto Fontana, while he had various caveats—he found the notion that the first human was created from a beast repugnant—argued that Leroy should only be “seriously warned for the intemperance and impertinence of his ideas.”²²

The third consultor was Luigi Tripepi. Tripepi was of the view that the work should be placed on the *Index*. At the heart of his objection was Leroy’s position on the creation of Adam. Among the various arguments he put forth he noted that there was disarray on the part of evolutionists which called into

¹⁹Ibid., 64.

²⁰Ibid., 69.

²¹Ibid., 69–71.

²²Ibid., 79.

question the validity of the hypothesis in the first place. He also noted the consensus of Catholic theologians on the question (a consensus that was breaking at the time). More to the point Tripepi contended that “the theory of evolution is not in agreement with the natural sense of Scripture.”²³ He considered the book of Genesis to be a historical book; it should be interpreted literally even if it uses metaphorical language. He, too, referred to Leo XIII’s encyclical on biblical interpretation who established a hermeneutic rule “that the literal meaning of Scripture should not be abandoned, unless it leads to a patently absurd conclusion, or when other scriptural passages or the traditional interpretation indicates an exclusively allegorical meaning.”²⁴ These conditions, in his view, were not met by the Genesis text.

Artigas, Glick, and Martínez point out that Tripepi’s formulation of this rule “is much stronger than that of Leo XIII himself.” What the pope had actually written was “the rule so wisely laid down by Saint Augustine—not to depart from the literal and obvious sense, except only where reason makes it untenable or necessity requires.”²⁵ Leo went on to say that “there can never, indeed, be any real discrepancy between the theologian and the physicist, as long as each confines himself within his own lines, and both are careful.” The reason, of course, is that God is both the revealer and the creator and God cannot contradict himself. Scripture is true; nature is true. This point, in effect, had been affirmed at the First Vatican Council.

Tripepi concluded that it was necessary to take some action for two reasons. The first was “the confusion and even scandal that is caused among so many of the faithful who read these doctrines so contrary to the natural sense of Scripture.” The second “arises from the need to restrain a certain, most deplorable freedom of thought and teaching that has insinuated itself among some Catholics, who call themselves scientists.”²⁶ The fear was that it would be all too easy to set aside Catholic beliefs in the name of “so-called modern science.”²⁷

Artigas, Glick, and Martínez note that the Roman officials “consistently rejected evolution when applied to the human body.” As a theory it was still contested by scientists, certainly with regard to its mechanism, and potentially raised all sorts of questions with regard to Catholic faith; it was being used by atheistic and materialistic parties to attack Christian in general and Catholic faith

²³Ibid., 85.

²⁴Ibid., 86.

²⁵Ibid., 86–87.

²⁶Ibid., 88.

²⁷Ibid., 89.

in particular. But, with the exception of Caverni's work—which had no effect because the reasons for the condemnation were never revealed—no public action was taken by the Church. The Holy Office was not involved; the papacy was not involved—at least in any direct fashion. In part there was concern that the case of evolution was too similar to the case of Galileo and the Roman authorities were hesitant to enter into that fray again. Everyone was clear on the autonomy of science when it was pursued with appropriate care. Their decisions were pragmatic, designed rather to slow the rush of Catholic thinkers into evolutionary thought before the consequences could be thought out. And there were consequences, especially with regard to the literal interpretation of Scripture but also with regard to the doctrines of the human soul and original sin.

A large part of the subsequent discussion was distorted because there was so little information on these proceedings available at the time. *La Civiltà Cattolica*, which during this period was strongly adverse to evolutionism, publicized the cases of Leroy, Zahm, Bonomelli, Hedley, and Mivart but mistakenly attributed these decisions to the Holy Office (the CDF) rather than to the Congregation of the Index, which is to say, gave the impression that these decisions held a greater doctrinal weight than was, in fact, the case.²⁸ The result was that many theology textbooks into the twentieth century routinely rejected as incompatible with the faith an evolutionary explanation for the origin of the human body. A case in point would be the manual composed by Joseph Pohle and adapted by Arthur Preuss:

The modern antithesis of Christian Anthropology is atheistic Darwinism, which teaches that in soul and body alike man is descended from the brute, the human soul being merely a more highly developed form of the brute soul. This teaching is as heretical as it is absurd. The modified Darwinism defended by St. George Mivart, who holds that the body of Adam developed from the animal kingdom, whereas his spiritual soul was infused immediately by the Creator must likewise be rejected; for while not directly heretical, it is

²⁸This was aggravated by the status of the *Civiltà*. It had originated in the middle of the nineteenth century with the support of Pius IX specifically to engage the culture. While it was not an official organ of the Vatican it nonetheless “enjoyed a singular level of authority” (*Negotiating Darwin*, 27); it was the only journal to submit its copy to the Vatican Secretarian of State for its approval prior to publication.

repugnant to the letter of Sacred Scripture and to Christian sentiment.²⁹

Artigas, Glick, and Martínez provide several other examples such as the 1908 edition of the textbook by Christian Pesch, S.J. and Adolphe Tanquerey's 1913 text. The attribution of these cases to the Holy Office persisted to the end of the century in the writings of Charles Boyer, S.J. (1940), Karl Rahner, S.J. (1953), Pietro Parente (1959), and Juan Luis Ruiz de la Peña (1996).

In 1909 various questions were posed to the Pontifical Biblical Commission on the historical character of the first three chapters of Genesis. The first question was whether exegetical systems, supposedly based on science which had the purpose of excluding the literal historical sense of those chapters, were based on solid arguments. The commission's answer was in the negative. The second question was whether one may teach that these chapters "do not contain the narrative of things which actually happened, a narrative which corresponds to objective reality and historic truth," that they "contain fables derived from mythologies and cosmologies belonging to older nations, but purified of all polytheistic error." Again the answer was in the negative. The third question was whether it was permissible to "call in question the literal and historical meaning where there is question of facts narrated in these chapters which touch the fundamental teachings of the Christian religion." Examples include "the special creation of man, the formation of the first woman from man, the unity of the human race," and so forth." Again, this was rejected. On the other hand where the fathers and doctors of the Church were divided in their interpretation one may follow an opinion prudently arrived at. One may depart from the literal sense where expressions in the text are manifestly figurative, metaphorical, or anthropomorphic. Allegory and prophetic interpretations may be used where these are justified by the example of the fathers or of the Church. One is not always required in interpreting these chapters "to seek for scientific exactitude of

²⁹Joseph Pohle, *Dogmatic Theology*, vol. 3: *God: The Author of Nature and the Supernatural: A Dogmatic Treatise*, adapted and edited by Arthur Preuss (St. Louis and London: B. Herder, 1951 <1912>), 127. Two pages later he explains that the "creation of Eve furnishes a decisive argument against the evolutionist hypothesis. It is quite inconceivable, and at the same time repugnant to the spirit of divine Revelation, that woman should have had a sublimer origin than man. Eve was fashioned immediately by God from a rib which He had taken from Adam. Cardinal Cajetan's allegorical interpretation of this text has been unanimously rejected by theologians as fanciful and unwarranted."

expression.” Finally, free discussion is permitted on how the word *yom* (day) is to be understood.³⁰

There are two things to notice about this report of the Biblical Commission. The first is the pragmatic cast of the responses. Are the biblical methodologies used to reject a literal understanding of the first three chapters of Genesis sound? May one teach that these chapters are other than historical narratives? May one call into question the literal and historical character of these narratives where these touch on Catholic faith? Secondly, this report needs to be read in the light of the answer provided four years earlier by the same Commission. There the question was whether one may hold that books of Scripture which are regarded as historical may “sometimes narrate what is not history properly so-called and objectively true” but “are intended to convey a meaning different from the strictly literal or historical sense of the words.” The Commission answered in the negative but then went on to clarify:

excepting always the case—not to be easily or rashly admitted, and then only on the supposition that it is not opposed to the teaching of the Church and subject to her decision—that it can be proved by solid arguments that the sacred writer did not intend to give a true and strict history, but proposed rather to set forth, under the guise and form of history, a parable or an allegory or some meaning distinct from the strictly literal or historical signification of the words.”³¹

In short, if solid arguments are present, then one may indeed interpret a text in other than a literal fashion.

The resistance to the theory of evolution and the tendency to interpret the text of Genesis in a literal, historical fashion in the nineteenth and early twentieth century had to do with the uncertainties still present in the scientific account of evolution and the conviction that the plain sense of Scripture was to be preferred, absent any compelling reasons to think otherwise. As the theory of evolution gained in coherence and in evidence (including the advances in genetics) and as the magisterium *cautiously* opened the door to modern biblical studies, the conditions for shifting from a literal, historical reading of Genesis to a more figurative reading developed. There was a convergence between what reason

³⁰*Rome and the Study of Scripture: A Collection of Papal Enactments on the Study of Holy Scripture together with the Decisions of the Biblical Commission*, rev. and enlarged (St. Meinrad: Grail, 1958), 120–22.

³¹*Rome and the Study of Scripture*, 115–16.

(science) could ascertain and what a more historical contextual reading of the Scriptural text concluded. Because of the misunderstanding regarding the actions of the Congregation of the Index this shift in the reading of Genesis was delayed. There are Catholics still alive who would have been trained under the earlier more literal reading of Genesis.

The first official papal statement on evolution was Pius XII's 1950 encyclical, *Humani generis*. On the one hand he is fairly negative with regard to evolution: "Some imprudently and indiscreetly hold that evolution, which has not been fully proved even in the domain of natural sciences, explains the origin of all things, and audaciously support the monistic and pantheistic opinion that the world is in continual evolution" (HG 5). He had Communism, with its dialectical materialism, primarily in view. "Such fictitious tenets of evolution which repudiate all that is absolute, firm and immutable, have paved the way for the new erroneous philosophy which, rivaling idealism, immanentism and pragmatism, have assumed the name of existentialism, since it concerns itself only with the existence of individual things and neglects all consideration of their immutable essences" (HG 6). For all of that he rarely mentions the theory of evolution in the encyclical which is primarily concerned with various dangerous philosophical tendencies of the time. Still, he allows that "the Teaching Authority of the Church does not forbid that in conformity with the present state of human sciences and sacred theology research and discussions on the part of men experienced in both fields take place with regard to the doctrine of evolution in as far as it inquires into the origin of the human body as coming from pre-existent and living matter" (HG 64). The only caveat is the obligation in faith "to hold that souls are immediately created by God." Such discussions are to be submitted to the judgment of the Church. One should not also rashly presume that "the origin of the human body from pre-existing and living matter were already completely certain and proved" as if there were nothing in Divine Revelation which urges caution (HG 65). Even with the question of polygenism—"that after Adam there existed on this earth true men who did not take their origin through natural generation from him as from the first parent of all, or that Adam represents a certain number of first parents"—Pius was cautious. All he wrote was that "it is in no way apparent how such an opinion can be reconciled" with the faith (HG 66).

By this time the science of genetics was beginning to come to the fore which provided a more accurate insight into the transformations in time of animal species. This, along with the continued discoveries by paleontology, have provided increased support for an evolutionary understanding of the development of life on earth. This led John Paul II to declare that evolution was "more than a hypothesis" even as he reiterated that philosophies which "regard the spirit either

as emerging from the forces of living matter, or as a simple epiphenomenon of that matter, are incompatible with the truth about man.”³² Pope Benedict XVI, then Joseph Cardinal Ratzinger, wrote that

We cannot say: creation *or* evolution, inasmuch as these two things respond to two different realities. The story of the dust of the earth and the breath of God, which we just heard, does not in fact explain how human persons come to be but rather what they are. It explains their inmost origin and casts light on the project that they are. And, vice versa, the theory of evolution seeks to understand and describe biological developments. But in so doing it cannot explain where the “project” of human persons comes from, nor their inner origin, nor their particular nature. To that extent we are faced here with two complementary—rather than mutually exclusive—realities.³³

Pope Francis, in his comments, has ratified the sort of position taken by his two predecessors. The thing to note is that the only thing which has changed from the late nineteenth century, from the perspective of the Church, is that the scientific basis for the theory of evolution has been strengthened, including the unity of human life with all other forms of life. This has provided the grounds, already admitted as possible in the nineteenth century discussions, for asserting that a literal historical reading of the Genesis text is no longer possible. Still, what Genesis teaches about creation and human origins is true and the teaching of the Church on these topics has not changed: God created the heavens and the earth; creation is good and ordered; the production of the man and the woman was intended by God; humans are endowed with spiritual, rational, immortal souls. Humans are in solidarity with each other; sin traces back to the first human and has affected all of humankind. In short, versions of evolutionary theory which exclude the presence and role of God and the spiritual nature of human reality are incompatible with Catholic faith.

With this let us make a few comments on Genesis 1–3, particularly on this shift from a literal, historical reading of the text.

Considerations on Genesis 1–3

³²John Paul II, address to the Pontifical Academy of Sciences, Oct. 22, 1996.

³³Pope Benedict XVI (Joseph Ratzinger), *In the Beginning...A Catholic Understanding of the Story of Creation and the Fall*, Ressourcement: Retrieval & Renewal in Catholic Thought, trans. Boniface Ramsey, O.P. (Grand Rapids, MI: William B. Eerdmans, 1995 <1990, 1986>), 50.

It is useful in beginning these considerations to call to mind Vatican II's treatment of Scripture especially with regard to what is referred to as "biblical inerrancy." *Dei verbum* begins these sections with the observation that "Those things revealed by God which are contained and presented in the text of holy scripture were written under the influence of the holy Spirit" (DV 11). It continues by noting that

In the process of composition of the sacred books God chose and employed human agents, using their own powers and faculties, in such a way that they wrote as authors in the true sense, and yet God acted in and through them, directing the content entirely and solely as he willed. It follows that we should hold that whatever the inspired authors or "sacred writers" affirm, is affirmed by the holy Spirit; we must acknowledge that the books of scripture teach firmly, faithfully and without error such truth as God, for the sake of our salvation, wished the biblical text to contain (DV 11).

It continues in the next section:

Now since in the Bible God has spoken through human agents to humans, if the interpreter of holy scripture is to understand what God has wished to communicate to us, he must carefully investigate what meaning the biblical writers actually had in mind; that will also be what God chose to manifest through their words (DV 12).

This requires paying attention to literary genres, to the different ways that "truth is presented and expressed" including the "particular circumstances, and in his [the author's] historical and cultural context....due attention is needed both to the customary and characteristic ways of feeling, speaking and storytelling which were current in his time, and to the social conventions of the period" (DV 12). In short, one must take care not to import into the text modern notions of science and history which differ from those of the inspired author. The question is "what did the sacred author intend"?

A second initial point flows from Augustine's treatment of these chapters and other of his scriptural observations. First, in both the *Confessions* (Book XII) and in his *Literal Meaning of Genesis*, Augustine conforms the text of Genesis to the Plotinian philosophy which informed his theology. Thus, the references to the primordial abyss over which the Spirit hovered must be identified with Aristotle's

prime matter (Plato's Receptacle) which itself was created by God. This is important because it manifests Augustine's conviction that divine revelation and "right reason" will converge because both are grounded in the eternal Word of God. This principle, as noted above, was explicitly ratified by the First Vatican Council.

Second, Augustine's belief in the inspired nature of Scripture led him to write, in a discussion of numbers in Scripture, "let no one be so foolish or so absurd as to contend that they have been put in the Scriptures for no purpose at all, and that there are no mystical reasons why these numbers have been mentioned there";³⁴ the Holy Spirit does nothing in vain. What we find in Scripture is there because God intended it. It does not follow that the meaning intended by God is easy to discern. He acknowledges that other writers have interpreted Genesis in a different way than he has. "Therefore, while every man tries to understand in Holy Scripture what the author understood therein, what wrong is there if anyone understand what you, O light of all truthful minds, reveal to him as true, even if the author he reads did not understand this, since he also understood a truth, though not this truth?"³⁵ There is nothing in Scripture that is in vain but the truth that is being conveyed may not be clear. As long as truth is being affirmed "what harm comes to me"?

Let us begin by looking at several inconsistencies in the Genesis accounts of creation. The first account of creation arranges things according to days. Things begin with darkness over the abysmal waters then light is created and separated from the darkness on the first day. On the second day God created the firmament which separated the abysmal waters. On the third day the lower waters are gathered and dry land appears. Vegetation was then produced. On the fourth day God made the lights of heaven and the sun and the moon. On the fifth day animals in the waters, in the air, and on earth are created. And, finally, on the sixth day the man and the woman are created. The second creation story begins "when no plant of the field was yet in the earth and no herb of the field had yet sprung up." There is no vegetation. God first creates the man, Adam. Only then is vegetation created. The man and the woman are not created together as they are in the first account. The man is placed in the garden of Eden to till and keep it. God determines that "it is not good that the man should be alone." The animals, both those of the land and of the air (those of the water are not mentioned), are

³⁴Augustine, *The Trinity*, trans. Stephen McKenna, C.S.S.R. (Washington, D.C.: Catholic University Press, 1963), IV.6.10.

³⁵Augustine, *Confessions*, trans. John K. Ryan (New York: Doubleday <Image>, 1960) XII.18.27.

created—in the first account these animals are created before the man. In the second account it is only after the creation of the animals that the woman is created.

How can these two creation stories both be true? They contradict each other. Has the author (or the final editor) made a mistake? The Holy Spirit does nothing in vain. One presumes that the author was aware of these differences in the stories and chose to include both *in spite of these differences*. At the very least it should warn us against taking these stories as literally accurate historical accounts (in the modern sense) and that may be part of God’s intent. There may be other reasons. That both stories were included may indicate the reverence with which the author treated his sources—refusing to alter them to make them superficially agree with each other which would have been so easy to do. We should similarly reverence these stories.

It was such inconsistencies which led the Alexandrian fathers (Origen and his successors) to reject a literal reading of Genesis 1 in favor of a spiritual reading. The Antiochians, who were more influential on later Church tradition, tended more toward the literal meaning of Scripture³⁶ but even they had difficulty with the characterizations of the days of creation—how could there be a day before the sun was created on the fourth day? “Day” has to be understood in some sense other than the literal—a point accepted even by the Pontifical Biblical Commission’s report of 1909. Some of the fathers tried to interpret it simply in terms of the alternation between light and darkness. Even the Antiochians, though, often interpreted the seven days of creation as more importantly describing the structure of human existence or of history. Concordists in the nineteenth century, when faced with the increasing evidence for the extreme age of the earth brought forward by geologists, made use of the Scripture (2 Pt 3:8)—“With the Lord a day is like a thousand years, and a thousand years are like a day”—to argue that a biblical day was “a long time.” It was an attempt to save the literal meaning of Scripture.

Genesis 1:1 speaks of primordial waters. Astronomers in the last century have discovered an expanding universe and speak of an initial expansive impulse—the “Big Bang.” The first particles to form from that impulse were protons, neutrons, and electrons; the first atoms to form would have been hydrogen. Collapsing clouds of hydrogen gave us the first stars. Those stars were

³⁶Johannes Quasten, *Patrology*, Vol. 2: *The Ante-Nicene Literature After Irenaeus* (Westminster, MD: Christian Classics, 1986), 122. See also Andrew J. Brown, *The Days of Creation: A History of Christian Interpretation of Genesis 1:1-2:3*, History of Biblical Interpretation Series 4 (Blandford Forum, Dorset, UK: Deo Publishing, 2014).

the forges for heavier elements. There was no water until much later. Even the fathers of the Church were skeptical that water was the first thing existing at creation—“We might say that by the term ‘water’ the sacred writer wished to designate the whole of material creation” (Augustine, *The Literal Meaning of Genesis*, 5.10). He draws this conclusion because “we observe all things on earth being formed and growing into their various species from moisture.” He tries again, “Or we might say that by this term he wished to designate a certain kind of spiritual life, in a fluid state, so to speak, before receiving the form of its conversion.” One can see his reluctance to see the reference to water here as being simply to water. These examples can be multiplied. The truth of these passages lies elsewhere than in a literal, historical reading of the text.

And they are true, they remain at the heart of the Church’s teaching on creation—“in the beginning God created the heavens and the earth.” God saw that it was good, indeed, very good. Was the emergence of humanity an accident of evolution or was it according to God’s intent? Was the division of humankind into two sexes an accident of evolution or was it according to God’s intent. “God created man in his own image, . . . male and female he created them”—however the mechanisms among secondary causes effected this.

Science and Faith

As noted above, Vatican I affirmed that “it is the same God who reveals the mysteries and infuses faith, and who has endowed the human mind with the light of reason” (*De fide* 4) which sets out the fundamental compatibility and complementarity of faith and science. Benedict XVI had insisted that faith and revelation respond to different realities. It is worth our time to consider these briefly.

A first point might be to look at Benedict’s assertion that science cannot explain everything. One form this thought can take is by reference to the “God of the gaps.” The idea is that science cannot explain everything and the gaps in scientific knowledge point to the existence of God. This has been thoroughly critiqued and will not detain us here but there is one point to be made. There will always be gaps in the scientific explanation of the natural world. Some of these are for pragmatic reasons. For instance, a complete account of evolution would require finding all of the “missing links” in evolution. More and more bones are being found but scientists will never find all the bones. Many have simply been destroyed by natural processes. There will always be gaps. Still, enough have been found to sketch out the overall process.

Beyond this, science always works in terms of approximations. This is true on a number of levels. Various physical constants such as the gravitational

constant, the speed of light in a vacuum, the Planck constant, are measured. The value depends on the precision of the measurement and that precision has been increasing with the development of technology but “increased precision” is not the same thing as an exact value. It is always an approximation of the “real” value. Mathematically we see this in something like the value of pi. Pi is an irrational number, in decimal form it extends forever, and, seems not ever to repeat. Uses of pi in equations always involves an approximation. Weather predicting makes use of models of the atmosphere. Precision requires identifying all of the variables—including the effect of the proverbial butterfly in Brazil that leads to tornados in Texas (the so-called butterfly effect). Exactitude would require assessment of every atom and molecule in the atmosphere. The problem is that there is no computer on earth which could crunch all of the numbers. Meteorologists make use of approximations, dividing the atmosphere into cubic miles (or even smaller cubes), because this makes the resulting calculations manageable.

Quantum mechanics makes use of a mathematical system that, in principle, can take into account every possible observation—infinite-dimensional matrices. The only equations that can be actually solved are for the simplest form of hydrogen. Everything else requires the use of approximations. The situation is similar to the so-called “three body problem.” The equations cannot be solved, they can only be approximated in an ongoing fashion.

There is the further problem of the fundamental limits of observation. Heisenberg’s uncertainty principle, which has been verified any number of times, asserts that there “a fundamental limit to the precision with which certain pairs of physical properties of a particle, known as complementary variables or canonically conjugate variables such as position x and momentum p , can be known or, depending on interpretation, to what extent such conjugate properties maintain their approximate meaning, as the mathematical framework of quantum physics does not support the notion of simultaneously well-defined conjugate properties expressed by a single value.”³⁷

The Newtonian or mechanistic world view presumed that everything could be explained in terms matter, absolute space and time in which matter moves, and the forces or natural laws which govern that movement. “No other fundamental categories of being, such as mind, life, organization or purpose, are acknowledged. They are at most to be seen as epiphenomena, as particular arrangements of particles in space and time”—“it ignores or denies human agency, values, creativity and evolution.”³⁸ Everything is explained in terms of

³⁷Wikipedia, “https://en.wikipedia.org/wiki/Uncertainty_principle,” accessed Nov. 9, 2019.

³⁸F. Heylighen, “The Newtonian World View,” <http://pespmc1.vub.ac.be/NEWTONWV.html>, accessed Nov. 9, 2019.

physical/biological processes in the brain and in the environment. There is no room for human freedom and, of course, no room for a transcendent God in conversation with his creatures. Nineteenth century Newtonians (Deists, for instance) were willing to admit that the universe was created but they argued that God had created a perfect world that needed no further interference from God—the so-called “watchmaker God.” Any activity of God in the world was seen as a violation of natural laws and, as such, unworthy of God. In such a world there is no revelation by God.

In contrast, as noted above, a quantum mechanical world is rather “fuzzy.” Explanations can become more and more precise but on the quantum level one must speak of probabilities rather than of exactitude—there is a limit to what science can determine. Can realities other than material realities—spiritual realities—“nudge” those probabilities? Are humans able to make choices that are not reducible to the mechanistic actions of atoms and molecules however much such explanations may steer choices? Are humans free? or is this merely an illusion. And if humans are able to make free choices in the midst of material constraints then there is nothing to prohibit a transcendent God from making free choices—without violating any of the laws of nature. The point is not that there are particular gaps in scientific knowledge—“missing links”—which provide “space” in which God may be operative. Quantum mechanical “gaps”—limitations on our ability to observe and determine—are everywhere; God can be operative everywhere and in nonlinear dynamics the smallest “nudge” can have enormous effect.

The question is whether non-material causes—spiritual causes—can have an observable effect of material reality. Science, in itself, cannot answer this question since, methodologically, it takes into consideration only material causes. It cannot rule out such spiritual causality because, again methodologically, it is limited in what it can observe and determine. This does not mean that science is unable to observe the effect of spiritual realities on material reality. Human civilization, built up through any number of free choices, is observable. All science can do is become more and more precise about the material causes that contributed to that—and this is useful. The judgment whether such causes are, in themselves, sufficient to explain the human phenomenon cannot be answered by science. The alternative is clear enough. If material causes are sufficient to explain the human phenomenon then humanity has no meaning, no purpose. If “gravity is God,” as Carl Sagan is reputed to have held, then all we can expect is that ultimately we will be crushed by a universe that does not care, that cannot care. On the other hand, if humans are at root free, if there is a Creator God who uses the “fuzziness” of our world to shape it and to communicate with us, then a

different vision of the universe is possible, a vision in which individually and as a species we have a *raison d'être*, and the revelation of a God who loves us—even to death—becomes possible.

Years ago I was watching a program on Pablo Picasso with an artist friend of mine. At one point Picasso was engaged in painting a pot. He filled his paintbrush with paint and applied it to the pot. Suddenly there was paint dripping down the side of the pot. I exclaimed, “Oh! He made a mistake!” My artist friend informed me that I was wrong—“He knows how it drips. He pushes the paintbrush a little bit or a lot to achieve the effect he desires.” God knows how material reality “drips”; he “nudges” it a little or a lot, using the properties of the “paint,” of the matter, to achieve the effect he desires. St. John Henry Cardinal Newman had the following to say:

As to the Divine Design, is it not an instance of incomprehensibly and infinitely marvellous Wisdom and Design to have given certain laws to matter millions of ages ago, which have surely and precisely worked out, in the long course of those ages, those effects which He from the first proposed. Mr. Darwin’s theory need not then to be atheistical, be it true or not; it may simply be suggesting a larger idea of Divine Prescience and Skill. Perhaps your friend has got a surer clue to guide him than I have, who have never studied the question, and I do not [see] that “the accidental evolution of organic beings’ is inconsistent with the divine design—It is accidental to *us*, not to God.³⁹

Another difference between the approaches of science and Christian faith has to do with how time is handled. While the mathematics of quantum theory and relativity can handle reversals of time, in point of fact time is understood as always having a forward trajectory. The universe began with the Big Bang, elementary particles formed, the gravitational collapse of local regions led to the formation of stars, and so forth. Christian faith, insofar as it holds Jesus Christ to be the Son of God incarnate, necessarily has a different perspective. Simply put, if Jesus is God then as he was walking the dusty roads of Galilee he was also

³⁹Cited in “Evolution and the Catholic Church,” https://en.wikipedia.org/wiki/Evolution_and_the_Catholic_Church, accessed Nov. 10, 2019. Cf. <http://inters.org/Newman-Scarborough-Darwin-Evolution>, accessed Nov. 10, 2019 for the full text. Cf. *The Letters and Diaries of John Henry Newman*, edited by C.S. Dessain and T. Gornall, vol. XXIV (Oxford: Clarendon Press, 1973), 77-78.

creating the heavens and the earth. To say otherwise would be to deny his divinity which is eternal and present to every time and place as God is eternal and omnipresent.

Thomas, who held that the Incarnation was a result of the sin of Adam, nonetheless held that the Incarnation was revealed to Adam. One of the objections to that position that the Incarnation was a result of Adam's sin was that the mystery of the Incarnation was revealed to Adam in Gen. 2:23—"flesh of my flesh, bone of my bones"—on the basis of Eph. 5:32—"a great sacrament...in Christ and in the Church." Thomas himself does not explore this theme but the implication is there—the resolution (Jesus Christ) of the sin of Adam was built into the structure of humanity ("male and female he made them") before that sin had been committed. One sort of mechanism that can be used to explain this (if one is uncomfortable with the notion that time and the universe were created from a point in the middle of the flow of time) is divine foreknowledge—God, foreseeing that man would sin, built into the structure of creation the means to remedy that sin—the Christological structure.

One can carry this line of thinking a step further. If Jesus was/is God then as he hung upon the cross he was creating the heavens and the earth. But for that to be the case then he/God would have to allow death to enter into his good creation "from the beginning." Christ could not pour out his life for us in love unless a "pouring out" of life were possible. Again, recourse could be had to divine foreknowledge—God, foreseeing that man would sin, built into the structure of creation the punishment for sin which is death but, in his providence, also the remedy for sin. This view of time from within obviates the need to disassociate physical death, present throughout evolutionary history, from sin.⁴⁰

For the creation waits with eager longing for the revealing of the sons of God; for the creation was subjected to futility, not of its own will,

⁴⁰One such attempt is found in Daryl P. Domning, "Evolution, Evil and Original Sin" in *America*, 185.15.4547 (Nov. 12, 2001) 14–21. "The overt selfish acts that, in humans, demonstrate the reality of original sin by manifesting it as actual sin do indeed owe their universality among humans to natural descent from a common ancestor. However, this ancestor must be placed not at the origin of the human race but at the origin of life itself. Yet these overt acts [eat or be eaten] did not acquire their sinful character until the evolution of human intelligence allowed them to be performed by morally responsible beings." The implication is that the mechanism of evolution is, in humans, fundamentally sinful. Does, then, Christ save us from evolution?! Domning is judging theological truth on the basis of a cosmic forward temporal trajectory rather than on a Christ-centered understanding of time; in such a view the cosmic trumps the Christological, the mechanism which temporally predates the rise of humanity explains the dynamics present in humanity.

but by the will of him who subjected it in hope; because the creation itself will be set free from its bondage to decay and obtain the glorious liberty of the children of God. We know that the whole creation has been groaning in travail together until now; and not only the creation, but we ourselves who have the first fruits of the Spirit groan inwardly as we wait for adoption as sons, the redemption of our bodies (Rom. 8:19–23).

Jesus was also creating the heavens and the earth as he rose from the dead. There will be a new creation where “the wolf shall dwell with the lamb, and the leopard shall lie down with the kid, and the calf and the lion and the fatling together, and a little child shall lead them...They shall not hurt or destroy in all my holy mountain” (Is. 11:6–9).

This perspective is the perspective of faith, not that of science, but the two are not for that reason at odds with each other. As Pope Benedict pointed out, they are responding to two different realities, one spiritual, the other material.

I have dealt with the question of monogenism and polygenism elsewhere as well as the question of original sin.⁴¹ I do not propose to deal with these extensively here. It is perhaps useful, however, to underscore the Christocentric character of the Church’s teaching on these topics. As I noted above, at key points the *Catechism* turns to Paul’s Adam-Christ imagery to explicate the position of Catholic faith. The solidarity in salvation offered in Christ, for instance, corresponds to the solidarity in sin which we experience in Adam. This presumes several things.

First, it presumes that there is such a thing as human solidarity. Materially that solidarity is guaranteed by our physical descent from our parents. The typical Aristotelian analysis of relationship holds “relation” to be an accident of “substance”; it, in effect, derives its being from the substance. This does not work in the case of the divine relations that constitute the Trinity because there are no “accidents” in God. Relationality in God is understood as subsistent, as, in some sense, identical with the divine essence, with the divine substance. A similar understanding of relation undergirds the relationship of the creature to God. That relationship can only awkwardly be understood as an accident of the substance of the creature because apart from that relationship to God there is no substance. The substance of the creature derives its being from its relationship to God and not the other way round. The relation of the creature to the Creator is, in some analogous

⁴¹Earl Muller, S.J., “The Magisterium and Human Origins,” *The National Catholic Bioethics Quarterly* 3.3 (Autumn, 2003), 501-15.

sense, a “subsistent” relationship. The same is true of our relationship to our parents. To them we may be “an accident”—which is to say, we may not have been intended; but our relationship to them is no accident because apart from their marital union—a free decision on their part (mostly)—we do not exist at all. Our relation to them goes to the level of our substance—again, analogously, our relation to our parents is that of a “subsistent” relationship. That subsistence biologically traces all the way back to that original bit of DNA in the world. Humanly it traces back only to the first true human. But this subsistent relationality is true of every human being on earth which means that every human being is our “brother” or “sister”—children of the same ultimate parents. It is into this human solidarity that the Son of God was incarnate. He is our brother.

Jesus came to save us from our sins. This presumes that there is something we need to be saved from—sin, which fundamentally is a rebellion against God. Christ’s saving action is universal (he is, after all, God) which suggests that there is a universal need to be saved from sin (Mary is the exception which proves the rule—she is excepted precisely because of her close relationship to her Son who is the source of all salvation—which is to say, her immaculate conception is itself a form of salvation from sin effected by Christ). This universal need to be saved from sin extends backward to the first true humans which implies that there was an “original sin.”

The *Catechism* notes that the transmission of the effects of that first sin to all subsequent generations of humans is a mystery and hard to understand. There is a simple enough problem here. Where, for instance, does one locate this “original sin.” To say that it resides in the soul of the newly conceived child would seem to disparage God who, by Catholic doctrine, immediately created that soul; to say that it resides in the flesh derived from the parents would seem to disparage the goodness of God’s material creation. Theologians in the past have suggested that the transmission of original sin was by way of imitation; the Council of Trent rejected this, at least as an adequate explanation, and instead insisted that original sin was passed on by way of propagation.

The key, I think, is not to try to locate original sin in either of the “parts” of the human composite. Original sin distorts human nature; it distorts our concrete substance. That concrete individual human substance is in a subsistent relationship with our parents and they with their parents. The distortion that is sin is not transmitted flesh to flesh or soul to soul, it is transmitted person to person—our parents did not create our souls, the forms of our bodies, but they did create us (in union with God) as persons. Because of the substantial character of our relation to our parents and grandparents and great-grandparents a distortion “in the beginning” will be transmitted to us (not as personal sin but as a distortion of our

substance); the sinful fall of our “father” Adam has an effect on us that cannot be reduced to mere imitation.

It was sin (or rather its effects) that was transmitted. Sin involves a moral choice—it cannot be reduced, as some try to reduce it, to the messiness of evolution. Moral choices are made by individuals. Original sin was committed by an original human. The universality of salvation in Christ argues for that original human to have been the first human, named Adam in the Genesis story.

The question becomes whether the human race descended from a single individual (or single couple). Biologically there have been numerous bottlenecks in the evolution of primates and then humans—bottlenecks where the populations involved became “vanishingly small.” No evolutionary biologist would want to reduce that to a single couple. The genetics does not quite work out for that. Is that really required by Catholic faith? Pius XII did not see how such a view could be compatible with Catholic faith but he did not positively exclude the possibility. The thing is, the first true human would have been virtually indistinguishable from other members of his or her biological species. At some point (at conception? at some later time?) an immortal soul was infused into one of those creatures. Science does not have the resources to identify that point (as a professor said in a course on Teilhard de Chardin’s thought—explaining Teilhard’s description of the “automatic destruction of the peduncle of the phylum”—“they’ll never find the bones”!) All science can do is chronicle a shift from mere tool construction to the artistic construction of tools over a long period of time (an indicator of true human intelligence?). Our faith tells us that from that moment humanity bred true, human persons generating human persons.

That first true human (doctrinally understood) need not have been of the species *homo sapiens*. This designation of current humans is a scientifically constructed term, not a theological term; it is based on various characteristics such as bone structure, brain development, and the like. Faith (theology) rather judges the matter in terms of the spiritual reality, the “soul,” whose appearance in time is judged only with great difficulty. The discovery of “artistic tools” among predecessor primates, *homo erectus*, or the existence of “funeral rites” among Neanderthals, suggests a first ensoulment prior to the emergence of *homo sapiens*. Theologically there is no problem with this, which is to say, there is no problem with the notion that true humanity (ensouled humanity) continued to develop biologically after it first appeared.⁴² The only thing Catholic faith requires is the

⁴²Dennis Bonnette, a fairly conservative Thomist, examines the issue in more detail in his *Origin of the Human Species*, 3rd. ed. (Ave Maria, FL: Sapientia Press, 2014).

belief that whenever that first ensoulment took place it bred true. We are one in “Adam”; we are one in Christ.