

## **Chrtc 390 Module 3 Class Notes by Paul Flaman:**

### **The Origin of Human Persons: Evolution and/or Creation**

#### **Discussion Questions**

1. How should we interpret the first chapters of the Bible with regard to God's creation, especially human beings? Are Chapters 1 and 2 of Genesis contradictory in parts or fully complementary? Was there an historical Adam and Eve? Did their personal sin result in a "fallen" human condition or is there some other explanation for the various evils we humans experience?
2. Do the biblical accounts of creation teach us anything relevant with regard to understanding ourselves as persons and our relationships with God, each other and the rest of creation? Can an educated person today still believe that these accounts are inspired by God?
3. How strong is the evidence supporting an evolutionary hypothesis of human origins? Does an evolutionary view contradict or complement Christian teachings with regard to creation, including humankind created in God's image, original sin and God's providence?
4. Christian accounts of God's creation, and scientific theories of the big bang and evolution, both explain the origin of the universe and human persons. Discuss this in the light of a few different views / models of the interaction of science and religion. What model do you find most satisfactory? Why?
5. What do you think of Pope John Paul II's conclusions with regard to evolution and Christian faith, especially his concepts of a physical continuity and an ontological leap?
6. What do you think of the hypothesis of Flaman (the author of this book) with regard to the first human person or persons?

7. If you believe that God created the universe including human beings, how do you understand God and God's relationship to creation and human persons today?

## **Introduction**

Scientific theories of the big bang and evolution, as well as biblical and later Christian accounts of God's creation, both explain the origin of the universe and human persons. Much of the conflict regarding evolution and creation is related to a literal interpretation of the first chapters of the Bible, Genesis 1-3. In this chapter we will first consider a scientific approach to the question of the origins of human persons. This will include an overview of some conclusions of mainline science with regard to evolution including that of humans and the human brain. Next, we will consider the Bible with regard to the origin of human persons. Then we will consider some more recent Christian theological views including some relevant Catholic teachings.

## **Science, Evolution and the Human Brain**

Did humankind evolve? If we evolved, in what way, if any, can we be considered special? Was there an historical Adam and Eve? Did they "fall" into sin? Science does not answer questions such as why we evolved or metaphysical and theological questions such as did God create the universe, and our relationship with God including questions regarding sin and redemption.

Evolutionary science addresses the history of the universe and life, including the evolution of species of life. It describes and theorizes regarding mechanisms of change including genetic mutations, natural selection, and sexual selection. Natural selection selects for traits with a survival advantage. For example, hominids with a greater intelligence to make

better tools were more likely to survive. Sexual selection refers to mating preferences. For example, the peacock's large heavy tail would seem to be a disadvantage regarding survival, but in terms of reproduction mating preferences are also relevant. Our species having less body hair than other primates may have related to mating preferences and sexual selection. Evolutionary science also identifies genetically-based traits such as eye colour, skin colour, morphology including our erect posture and basic brain structures. Even identical twins who basically share the same nuclear DNA, however, are unique in some ways including having some unique interconnections of the neurons in their brains. The science of evolution is like a big puzzle for which we have many but not all the pieces such as the fossil data of hominids. New discoveries have been filling in more of the pieces such as the discovery of a nearly complete skeleton of a 3.3-million-year-old child of the primitive human ancestor Australopithecus Afarensis. From the waist down the skeleton looks like a modern human but the upper body has many apelike features.(Gorner 2006)

According to mainline science today our universe is expanding and as far as we know will continue to expand forever since the centrifugal force is greater than the force of gravity. Calculating backwards our universe began with an extremely powerful explosion, a "Big Bang," some 12-15 billion years ago (some recent estimates calculate about 13.8 billion years ago). Our sun and planet earth began about 4.6 billion years ago. Our sun is expected to burn out in about 6 billion years. Life on our planet is thought to have begun about 4 billion years ago. From a very simple life form it is thought that hundreds of millions of species of life have evolved with many such as the Dinosaurs now extinct.(Martin Rees in Arber et al. 2009, 35-41; and Kolb and Wishaw, 51-67)

Humans today are only one of about 275 species of primates, which "have excellent vision—including colour vision and eyes in the front of the face to enhance depth perception"

which helps “guide their hand movements. Female primates usually have only one infant per pregnancy, and they spend a great deal more time caring for their young than most other animals. Associated with their skilful movements and their highly social nature, primates on average have larger brains than animals in other orders of mammals...” Primates who are fruit eaters need more skills than vegetation eaters. These skills include colour vision, climbing, memory (much fruit is seasonal), teaching skills to the young, and social communication skills to let others know where they have found fruit. Vegetation is typically plentiful and in reach from the ground. Foraging for fruit is a difficult, complex activity since much fruit grows only on certain trees and in certain seasons.(Kolb and Wishaw, 51-67)

The DNA difference among human individuals today is about 0.1 percent. This small difference relates to all human variations including skin colour, size, and natural aptitudes (e.g., math, music, spatial and verbal). The closest living species to us today is the chimpanzee (and its close cousin the bonobo) which has about a 1.2 percent DNA difference from us (gorillas have about a 1.6 percent DNA difference from us). When the entire genome of humans and chimpanzees is compared, however, there is an additional 4-5 percent difference or a total difference of about a 5.2-6.2 percent difference. It is concluded that the last common ancestor of humans and chimpanzees lived about 6-10 million years ago.(“Human Evolution Evidence” 2016; and Yves Copens in Arber et al. 2009, 367-72).

The formation of the Great Rift Valley by a massive tectonic event about 8 million years ago is thought to have had a significant impact on the evolution of humans. Before this most of Africa was a rich forest inhabited by monkeys and apes. After the formation of this Valley, which runs south to north across the African continent, there remained a wet jungle climate to the west where apes continued relatively unchanged. To the east, however, there was a drier climate with a mixture of tree-covered and grassy regions where apes needed to evolve rapidly to

adapt. This habitat required not only fruit-eating skills but also skills for scavenging, hunting and gathering.

These new food-getting efforts required navigating for long distances, and they required recognition of a variety of food sources. At the same time, they required making tools for digging up food, killing animals, cutting skin, and breaking bones. These tasks also required a good deal of cooperative behaviour. The elaboration of all of these skills necessitated new brain areas or more brain cells in existing brain regions. Added up, more brain cells produce an even larger brain.(Kolb and Wilshaw, 62; compare Yves Coppens in Arber et al. 2009)

Australopiths, our distant ancestor who lived from about 4 to 1 million years ago, were the first primates to walk upright. This upright posture enabled them to move more quickly across grass-covered areas, moving between clumps of trees. Their brains remained about the same size as that of apes. Around 3 million years ago another significant climactic change involving a cooling of the whole world produced an important drought in tropical Africa. This relates to the first “Homo” species (some distinguish two species Homo Habilis and Homo Rudolfensis) who made simple tools, became carnivores and ran behind game. Their brain size was about 510-660 cubic centimetres, about 44 percent larger than that of Australopiths. They had an increase in the speech areas of the brain and were more culturally dependent.(Yves Coppens in Arber et al. 2009; and Eccles 1989, 15-25)

Another significant species in the hominid line was Homo Erectus, who is generally thought to have originated in Africa. They lived from about 1.8 million years ago until about 70,000 years ago. They were the first species to control fire, to cook their food, to hunt in groups, and to care for their infirm. They made hand axes out of stone. They spread through much of Europe and Asia. They had a larger brain than Homo Habilis, about 850-1100 cubic centimetres.(“Human Evolution,” WFE, retrieved 10 Aug. 2016; and Eccles 1989, 25-27)

Neanderthals are thought to have lived from about 400,000 years ago until about 28,000 years ago in Europe and Asia, having evolved from Homo Erectus. Denisovans shared a common ancestor with Neanderthals and ranged from Siberia to Southeast Asia. Neanderthal’s

bodies were adapted to living in a colder Northern climate. They had a brain size of about 1200-1900 cubic centimetres, somewhat larger on average than that of modern humans which ranges from about 950-1800 cubic centimetres. While Neanderthals may have had better vision than modern humans since their brain chamber suggests larger occipital lobes, they were not as intelligent and creative. They developed no specialized tools. There is no convincing evidence that they exhibited symbolic behaviour and communication, that they expressed themselves artistically or that they used symbols for a shared system of meaning. While their speech anatomy was more advanced than Homo Erectus it did not allow for the full range of human sounds. There is no convincing evidence that they had a highly developed language.(Purcell 2012, 151-62; “Human Evolution,” WFE, retrieved 10 Aug. 2016; and Eccles 1989, 27-30)

Humans who looked like us and had the same gross brain size are generally thought to have originated in Southeast Africa, having evolved from Homo Erectus, about 200-100 thousand years ago. Shortly before 50,000 years ago, when they began to spread across Europe, Asia and the rest of the world, there is much evidence that their behaviour was radically different than earlier forms of humans. Modern humans are very creative as exhibited in art, beadwork, tools, and so forth. They are socially complex and have developed complex cultures. This remarkable change in behaviour may have been due to some rewiring of their brains which enabled more integrated and flexible thinking. Modern humans are not only more intelligent but differently intelligent in a qualitative way than their ancestors and other species. They are able to be self-aware and manipulate their environment in a qualitatively unique way.(Van Huyssteen 2003, 172-77; Eccles 1989, 30-35; Lamoureux 2008, 441-2; and Purcell 2012, 189-290) There is evidence that non-African modern humans (Homo Sapiens) share 1-4 percent DNA with Neanderthal and people of Melanesia about 5 percent DNA with Denisovans, which suggests some interbreeding of modern humans with Neanderthal and Denisovans after modern humans

left Africa. While this may have contributed to some physiological differences among people today it seems that most of these genetic variants had no functional consequences according to evolutionary geneticist Svante Pääbo.(2013, 3)

The presentation of human origins here in the light of fossil, genetic and other evidence is only meant to highlight some of the widely accepted conclusions of main line evolutionary science today. The actual reality is more complex with more species and sub-species in the hominid line, for example, than is presented above (see the sources referred to for some more reading). It should be noted that the evolution of life is not only gradual as Darwin thought. There have also been periods of rapid changes and other quite stable periods, called “Punctuated Equilibria” by Niles Eldredge and Stephen Gould.(Purcell 2012, 125)

## **The Bible, God’s Creation, and the Origin of Human Persons**

Today many biblical scholars understand Genesis 1-11 as a type of literature that is prehistorical (in the modern sense of history) and prescientific (in the modern sense of science). Many of these same scholars, however, understand many other narratives from Genesis 12 onwards in the Bible as accounts of real people, for example, Abraham, Moses, David, Jesus, and the Apostles, and real events including the Exodus from Egypt, the Exile in Babylon, and the bodily resurrection of Jesus. Parts of this section will illustrate some points made in the first chapter of this book with regard to various “literary forms” and interpreting the Bible, the biblical human authors writing as true human authors who were inspired by God.

Today many biblical scholars think there are two accounts of Creation in the first parts of the book of Genesis. The “first” account, Gen 1:1-2:4a, follows the pattern of the Jewish seven-day week with God creating on six days and resting on the seventh day. The “second” account, from Gen 2:4b-25, highlights the creation of man and woman. These two accounts differ in some significant ways.

First of all, the **Style** is quite different. As noted, the first account follows the pattern of the Jewish seven-day week—Jews were to work for six days and rest on the seventh day, the Sabbath. God’s creating on six days and resting on the seventh provides a model for this. The style is quite formal and repetitive with certain phrases such as, “God said, ‘Let there be light [Sky, Earth, Seas, vegetation and so forth],’ and there was light [and so forth] and God saw that the light [and the other things he created] was good” repeated several times. The second account is narrative in style and includes some graphic details such as “God formed man from the dust of the ground, and breathed into his nostrils the breath of life.”(Gen 2:8)

The **Order of Creation** in the two accounts is also different. In the first, the order concerning the creation of life is basically from simpler to more complex with plants before animals, and humans (male and female) created last. This is not understood by mainline biblical scholars today as “concordism” with the contemporary scientific theory of evolution which was not part of the worldview of the biblical author. In the second account, among living beings the male human being is created first, then the plants, then the animals, and finally the female human being, an order which is certainly not in line with a modern scientific evolutionary view.

There is also a difference in the **Main Themes** in the two accounts although their themes can be understood as complementary. In the first account Creation is presented as effortless for God—whatever God says happens. This contrasts with other creation accounts in the Middle East that existed when this account was written such as *Enuma Elish* where creation involves a conflict and struggle, for example, a war between good gods and bad gods. In this Genesis account everything God makes including matter and human sexuality is good. This too contrasts with the dualism prevalent in the culture at the time which considered spirit to be good and matter to be evil, often with woman more closely tied to matter than man. In the Genesis



account, human beings, both male and female, are created in the image of God, as God's ambassadors and to be stewards of God's creation. Men and women have a great and equal dignity.(see Clifford and Murphy, "Genesis," in NJBC 1990) Some details in the first creation account in Genesis reflect the ancient "scientific" worldview of the human author. The "dome" or "firmament" (the Hebrew is *rahkiah* meaning a hard concave plate) created on the second day, which separates the waters above the dome from those under the dome, does not have any correspondence with our modern scientific view. Also, in this account the "vegetation" is created on the third day, before the "greater light to rule the day," which obviously refers to our sun, and "the lesser light to rule the night," which obviously refers to our moon. This does not fit our modern scientific perspective where our sun existed long before vegetation on earth.(see Lamoureux 2008, Ch. 4. "The Ancient Science in the Bible")

The main theme in the second creation account of Genesis is the complementarity of man and woman, also as sexual partners. The order of creation in this account with the animals created after the man but none of them being a suitable partner for the man (bestiality is clearly excluded), followed by the creation of the woman who is a suitable partner for the man—she is to become "his wife" and they are to "become one flesh"—emphasizes this. In this account God's plan includes sexual union of the man and woman in the context of heterosexual marriage. The archetype also involves a monogamous marriage.(see May et al. 2011, 54-56)

We can note that the main themes in each account fit their respective orders of creation. In the first account the order of simpler life forms created before more complex life forms and finally human beings created in the image of God fits the theme that human beings are created last as the apex of a very good creation. In the second account as noted above the order with the

animals created in between the creation of the man and the woman highlights the theme that the man and woman are suitable (complementary) partners for each other.

In comparing the first and second accounts of creation in Genesis we also find some difference with regard to the **Name of God**. The first account only uses the Hebrew *Elohim*, a general word for God. The second account in the Hebrew repeatedly refers to God as *Yahweh Elohim*. The Hebrew *Yahweh* means “He is who He is.” This is the third person of how God reveals his name to Moses in the first person: “I am who I am.”(Ex 3:13-15). In some English translations of the Bible (e.g., NRSV), *Yahweh* is often translated as “Lord” from the Hebrew *Adonai* out of respect for the Jews, many who dare not pronounce God’s name.

In the two creation accounts we also find differences with regard to **How God is Presented**. The first account emphasizes that God is all-powerful. God speaks and it happens, creation is effortless for God. This account highlights God’s “transcendence,” God’s being “above” or “beyond” what he creates—there is a certain distance between God and creation. The second account of creation presents God using very “human” images: God breathes, plants, and fashions woman from a rib of man. God here is presented as “immanent,” present within creation and intimately involved with it. The biblical “editor” or redactor who placed these two accounts together in the Bible no doubt understood these attributes of God as complementary rather than as contradictory. We can note here that later Jewish and Christian theology have continued to understand God’s transcendence and immanence as complementary aspects of God’s nature. This theology has understood this true nature of God as presented in the Bible to contrast, for example, with pantheism, the view that everything is God, and with deism, the view that God is not involved in the world.

The **Dates When These Accounts were Written** is an educated guess. Compare the dating of any old document or manuscript. One consideration is that living languages evolve over time. Compare, for example, the evolution of English from Chaucer to Shakespeare to today. Experts in biblical Hebrew also detect an evolution of the Hebrew language within the Jewish Scriptures which are thought to have been written between about 1200 B.C. until sometime before the time of Jesus. According to the understanding of many biblical scholars the first account of creation in Genesis is thought to have been put to writing some time after the Babylonian Exile (587-38 B.C.), between 550-449 B.C. The second account is thought to have been put to writing several hundred years earlier, around the time of King Solomon, about 950 B.C. It should be noted that the transmission of narratives by oral tradition over several and perhaps even many generations is common in ancient cultures. Thus both Genesis creation accounts may have included material from older traditions.

Today many biblical scholars speak of the **Author** of the first biblical account of creation as the “Priestly” author related to the “priestly” concerns in this account such as observance of the Jewish Sabbath, resting on the seventh day of the Jewish week. They speak of the author of the second biblical account of creation as the “Yahwist” author related to this account’s use of the name “Yahweh” for God. This is in line with the biblical scholar Wellhausen’s four-source theory with regard to the authorship of the first five books of the Bible, the Pentateuch, the Jewish Torah. According to this theory the other two main human authors found within the Pentateuch are the “Elohists” and the “Deuteronomist.” Related to the tradition that Moses is the author of the Torah, the Pentateuch, consider Jesus as the author of the New Testament in a real sense even though he did not personally put any of it into writing.(see Murphy, “1 Introduction to the Pentateuch,” in NJBC 1990)

**A Good Theory**, whether of science, biblical interpretation or theology, does not ignore significant data that contradicts one's view. For example, what does a literalist theory of interpretation of these creation accounts do with the different orders of creation (could even God have created the same beings at different times) and with modern scientific data? The biblical creation accounts do not say that they are meant to be interpreted literally. To conclude that all the details should be interpreted literally is a theory just as to say that all of the details do not need to be interpreted literally. We believe that God is all-powerful and could have, for example, created the woman from a rib of the man, but is that what the author really intended? What would be the point of that? Concerning this detail in the second account we can note that some people today in the Middle East refer to a good friend as their rib.(Clark 1980, 18) Was the author here perhaps intending to say, in a figurative way in line with the literary genre of the account, that a man and a woman in marriage should be good friends? Compare the English idiom, "Sweetheart." When one speaks of another as one's "sweetheart," one is not intending this literally, that the other person is a sugary organ that pumps blood through one's body.

**Inspiration:** We think that modern biblical scholarship helps us to appreciate how the authors of these biblical accounts can still be understood as inspired by God. When one appreciates the type of literary genres the writers used the accounts are not really contradictory, even though the order of creation in them is different, but complementary. The different order in the accounts highlights the respective main themes in these two accounts, which are complementary. When one considers the authors' cultural context including the prevailing dualism and the lesser status of women as compared to men, then these authors can be considered to be very enlightened. Their being inspired by God does not mean that God intended to teach them our modern science but that God intended to inspire them to appreciate

the goodness of all creation, that both men and women have a great and equal dignity created in the image of God, that we are called to be wise stewards of the rest of creation, and so forth. As Pope John Paul II notes in his “Theology of the Body”: these “archaic” accounts express some very profound themes regarding our relationship with God, who we are, our relationship with each other, and our place in the universe. They provide a foundation for developing an “integral vision” of life (see Waldstein 2006, Ch. 7. “Conclusion: An Integral Vision”). Such a vision is often lacking in our own cultural context: many fields of highly specialized knowledge result in many having “reductionist” rather than “holistic” understandings of life and human persons. These biblical accounts of creation have inspired much subsequent theological reflection.

With regard to the origin of human persons and the Bible, we should also consider here briefly the biblical accounts of the first or “original” sin of the first human beings and its negative consequences as depicted in Genesis 3 and Romans 5:12-21. Genesis 3 is understood by biblical scholars to be a continuation of the “Yahwist” second account of creation. The man and woman disobey God by eating of the “tree of the knowledge of good and evil.” In the Hebrew “knowledge” is in the active sense. This has been interpreted to mean that this first sin was not about a true discernment or knowledge of reality. Rather, it was about human beings not accepting the created order established by God but trying to decide or determine for themselves what is good and evil. Concerning this consider moral relativism today. As a consequence of this sin, the man and woman are no longer in harmony and at peace with God, each other and the rest of the created order. They experience alienation in these areas (see Gen 3). The account also attributes human death as a consequence of this “original” human sin (see, e.g., Clifford and Murphy, “2 Genesis,” in NJBC 1990; and May et al. 2011, 56-57).

Romans 5:12-21 presents a contrast between Adam and Jesus Christ. Sin comes into the world through Adam's trespass or disobedience. As a result, many are made sinners, all have sinned and have experienced condemnation and are under the dominion of death. In contrast many will be made righteous by the free gift of God's grace leading to eternal life through the obedience of the one man, "Jesus Christ our Lord" (v. 21). The gift of God's grace is greater than sin: "where sin increased, grace abounded all the more" (v. 20). Jesus Christ, "the new Adam and new head of humanity, was incomparably more beneficent toward human beings than Adam was maleficent" (Fitzmyer, "51 The Letter to the Romans," in NJBC 1990, 51:53).

### **Some Christian Theology and Catholic Teaching on Human Origins**

The Nicene Creed (325) affirmed the faith of the early Church with regard to creation: "We believe in one God, the Father almighty, creator of all things both visible and invisible."(TCT 1973, 1) A few other common themes among early Christian writers (Fathers of the Church) include that: God is omnipotent and omniscient, eternal and unchangeable, and present everywhere; God, who alone can create, created all things (*ex nihilo*) out of nothing (cf. 2 Macc 7:28: God did not make the heaven and earth "out of things that existed."[NRSV]),<sup>1</sup> freely, and to manifest His perfections; the human being, created in the image of God, is composed of a body and an incorporeal immortal soul which is created by God; our first human parents fell into grave sin resulting in a loss of God's grace, right relationship with God, and death for themselves and their progeny. Original sin (an actual sin of our first parents but not of us) is transmitted through the natural process of procreation. Jesus Christ, the Incarnation of the Son of God,

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<sup>1</sup> 1 and 2 Maccabees are in the Greek Septuagint version of the Jewish scriptures which was used in the early Christian Church. They are accepted as canonical (part of the deuterocanonical books of the Bible) by the Catholic and Orthodox Churches but are generally only accepted as apocrypha by Protestant denominations.

suffered and died to overcome death and to offer us grace, salvation and eternal life (see FEF, Vol. 3, the Doctrinal index, pp. 262-78).

One of the most articulate Church Fathers, Augustine of Hippo (354-430), acknowledged difficulties in interpreting the first three chapters of Genesis. He held that the Spirit of God in speaking through the biblical authors did not intend “to teach men anything that would not be of use to them for their salvation.” He considered the days of creation in Gen 1 to be different than our days measured by the rising and setting of the sun (FEF, nn. 1687-92). It should be noted that early Christian writers did not only interpret the Bible or parts of it literally. For example, John Cassian (360-435), who was followed by many others, distinguished four senses of Scripture: 1) the historical or literal, e.g., Jerusalem as a Jewish city, 2) the allegorical or Christological, e.g., Jerusalem referring to the Church of Christ, 3) the tropological, moral or anthropological, e.g., Jerusalem standing for the human soul, and 4) anagogical or eschatological, e.g., Jerusalem standing for the Heavenly City (Raymond Brown and Sandra Schneiders, “Hermeneutics,” NJBC, 71:39).

In line with the early Church, the Fourth Lateran Council (1215) taught:

[T]here is only one true God, eternal, immense, unchangeable, incomprehensible, omnipotent, and indescribable.... God has no beginning, he always is, and always will be.... [God is the] Creator of all things visible and invisible, spiritual and corporeal, who, by his almighty power, from the very beginning of time has created both orders of creatures in the same way out of nothing, the spiritual or angelic world and the corporeal or visible universe. And afterwards he formed the creature man, who in a way belongs to both orders, as he is composed of spirit and body.... [Man’s] sin was at the prompting of the devil.”(TCT 1973, 146)

Thomas Aquinas (1225-74) defended and explained Church teaching. Among other things, he “accepted a beginning in time as part of scripture and tradition and said that creation in time helps to make God’s power evident.” Aquinas asked, “Why is there anything at all?” and replied “that the whole causal chain ... is dependent on God.”(Barbour 1990, 132) Aquinas not

only held that God created everything other than Himself out of nothing but also that He keeps them in existence—without God they would instantly become nothing.(ST, I, q. 5) Following Aristotle’s terminology he considered the human intellectual soul to be the form (in an analogous sense) of the body. He considered the human being to be a compound of a mortal body and an immortal soul.(ST, I, q. 76) A “person” is an individual being having a rational nature. “Person” refers to what is most perfect in nature. Since God’s nature has every perfection, it is fitting to use the word “person” to speak of God, although, as in the case of other words, it is used in a much higher sense than regarding creatures (ST, I. q. 29). Although Aquinas in many respects was a giant among theologians, like others of his time, he seemed to accept certain details of the Creation accounts as historical, for example, that God created woman from the rib of man. He offers two reasons for this: first, she was not made from his head so as to have authority over man, nor was she made from his feet since it was not right to be subject to the man’s contempt as his slave; and secondly, this has sacramental significance since on the Cross from the side of Christ the Sacraments flowed (blood and water) on which the Church was established (ST, I, q. 92, a3). Aquinas’ interpretation of Scripture, like many Christian writers before and after him, thus moves beyond the “literal” sense.

The Council of Trent (1545-63), among other things, decreed that original sin changed the whole human being, body and soul, for the worse. It is communicated to all human beings (except Jesus and his mother Mary) by propagation not by imitation. Its only remedy is “our Lord Jesus Christ who reconciled us to God in his blood, having become for us justice, and sanctification, and redemption.” The “sacrament of baptism rightly conferred” applies this “to adults and to infants alike...” (TCT, 158-9).



In 1859 Charles Darwin published the *Origin of Species*. His theory of evolution of species by natural selection has been developed by many scientists since. The theory of evolution including human evolution has received a mixed response among Christians. Some, such as young earth creationists, who “assert that the early chapters of the Bible offer a reliable scientific and historical record” and that “God created the universe and life in six 24-hour days about 6000 years ago” reject the theory of evolution (Lamoureux 2008, 441-2 and 22; see also his Appendix 10 on “Human Evolution). Some others understand evolution as “relating to the ‘how’ of God’s creative action” and compatible with deeply held Christian beliefs (Polkinghorne 1998, 4-9). Contemporary evolutionary biologist and Christian theologian Denis Lamoureux explains five views with regard to evolution and creation today: young earth creation, progressive creation, evolutionary creation (his own view), deistic evolution and dysteleological (without purpose, blind chance) atheistic evolution (Ch. 2).

The First Vatican Council (1869-70) reaffirmed that the one, true, eternal, incomprehensible and limitless God, by a completely free decision, created both spiritual and material finite beings out of nothing (they did not emanate from God). It also affirmed that “by his providence God watches over and governs all the things that he made, reaching from end to end with might and disposing all things with gentleness (*see Wisd. 8:1*).”(TCT, 152-3) With regard to God’s providence see also Mt 6:25-34).

In his Encyclical Letter *Humani Generis* in 1950 Pope Pius XII explicitly addressed the question of evolution saying in part:

...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—for the Catholic faith obliges us to hold that souls are immediately created by God.... When, however, there is question of another

conjectural opinion, namely polygenism, the children of the Church .... cannot embrace that opinion which maintains that either 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. Now it is in no way apparent how such an opinion can be reconciled with that which the sources of revealed truth and the documents of the Teaching Authority of the Church propose with regard to original sin, which proceeds from a sin actually committed by an individual Adam and which, through generation, is passed on to all and is in everyone as his own.

This Encyclical, among other things, addressed errors such as rationalism and relativism.

The Second Vatican Council (1962-55), in the Pastoral Constitution on the Church in the Modern World GS, Ch. 1, speaks of the dignity of the human person, a unity of body and soul, created in the image of God. It states that the elements of the material world are brought to their perfection in the human person. When the human person recognizes within himself “a spiritual and immortal soul, he is not being led astray by false imaginings that are due to merely physical or social causes. On the contrary, he grasps what is profoundly true in this matter.”(GS, n. 14) Interestingly, GS, n. 18, also affirms that “the Christian faith teaches that bodily death, from which man would have been immune had he not sinned (cf. Wis. 1:13; 2:23-24; Rom. 5:21; 6:23; Jas. 1:15), will be overcome when that wholeness which he lost through his own fault will be given once again to him by the almighty and merciful Savior.”(Vatican II).

In 1966, in an address to a symposium on original sin, Pope Paul VI, said that some modern authors start “from the undemonstrated hypothesis of polygenism” and give “explanations of original sin” which are “irreconcilable with Catholic doctrine.” They deny “that the sin from which” our many ills are derived “was first of all the disobedience of Adam, ‘the first man,’ a figure of the man to come—a sin that was committed at the beginning of history.... The sin of the first man is transmitted to all his descendants not through imitation but through propagation.” It “means privation and not just an absence of holiness and justice...”

A number of Catholic theologians who are trying to be faithful to Catholic teaching have speculated on how evolutionary data may be reconciled with God's special creation of human beings and original sin. For example, in a 1983 publication Germain Grisez argues that "it is not clear that either" popes Pius XII or Paul VI "proposed monogenism as the position to be held definitively." While evolutionary "theory points to a single group at the beginning of mankind," Grisez argues that free choice and the spiritual reality of persons either are present or not. Their emergence in the world had to be a sudden event. For "the sake of argument" he speculates how polygenism might be reconciled with Catholic teaching on original sin saying in part: "theology must assume that the spiritual capacity for free choice was given initially by a special divine intervention, which completed hominization, to a group of individuals small and cohesive enough to function socially as a single body. In this way, solidarity in sin by the whole of humankind was possible at the beginning." God may then have hominized additional groups which "emerged into an already-given existential situation, and so shared prior to any personal act in the moral condition of humankind. In this sense, they shared 'by propagation not by imitation' ... even if not all humans were lineal descendants of a single couple...." Therefore, "there is no obstacle to thinking the original human community had a single leader whose action was decisive for its action as such."(342-3; in the original the last sentence is in bold; for Grisez's whole treatment on original sin see 1983, Ch. 14.D-F, 339-44, and Summary, 351-2). With regard to Pope Pius XII saying that it is not apparent how polygenism can be reconciled with faith regarding original sin, Earl Muller more recently said that "such a modest statement leaves the door open to further elucidation."(2009, 312-23)

Catholic theologian Benedict Ashley in 1985 also notes that: "In current evolutionary theory, it is not individuals but populations which evolve from one species to another." He

considers truly human intelligence to be a unitary, all or none trait, and speculates how this could have come into a population by a mutation in a subhuman individual who then had a child that was the first human being. This human interbred with other members of the population producing more human children. Or, Ashley points out, since evolutionary theory cannot exclude unique events, another possibility is that

...the origin of that final genetic trait responsible to produce a human brain capable of functioning at the human level depended on the mutation of one dominant gene that occurred in the germ-cells of a primate ancestor, which was not itself human but which then bred with another primate of its own kind to produce a male and female child who were genotypically the first human beings having fully human brains, and who by interbreeding became the ancestors of the entire human race. Either this or the former explanation is consistent with the interpretation of *Genesis* which is not concerned with the exact way in which the human species came into existence and began as a single interbreeding and intercommunicating species to have a history determined by a primordial act of human choice [i.e., original sin].(375-77)

In the light of such speculations it is interesting to see what Pope John Paul II both said and did not say in his Message to the Pontifical Academy of Sciences on Evolution in 1996. Of the many points in his address only a few will be highlighted here. He says that if “there are apparent contradictions” between “the various scientific disciplines” and “those contained in the message of revelation.... We know, in fact, that truth cannot contradict truth.” He thinks it is remarkable how the theory of evolution “has been progressively accepted by researchers following a series of discoveries in various fields of knowledge.” He says, “The convergence ... of the results of work that was conducted independently is in itself a significant argument in favor of this theory.” Rather than “*the* theory of evolution,” he says, “we should speak of *several* theories of evolution” since different explanations have been advanced “for the mechanism of evolution” and there exist various “materialist, reductionist and spiritualist interpretations.” Pope John Paul II continues:

The church's magisterium is directly concerned with the question of evolution for it involves the conception of man: Revelation teaches us that he was created in the image and likeness of God (cf. Gn. 1:27-29) .... [M]an is called to enter into a relationship of knowledge and love with God himself, a relationship which will find its complete fulfillment beyond time, in eternity.... It is by virtue of his spiritual soul that the whole person possesses such a dignity even in his body.... Consequently, theories of evolution which, in accordance with the philosophies inspiring them, consider the spirit as emerging from the forces of living matter or as a mere epiphenomenon of this matter are incompatible with the truth about man. Nor are they able to ground the dignity of the person.

With man, then, we find ourselves in the presence of an ontological difference, an ontological leap, one could say. However, does not the posing of such ontological discontinuity run counter to that physical continuity which seems to be the main thread of research into evolution in the field of physics and chemistry? Consideration of the method used in the various branches of knowledge makes it possible to reconcile two points of view which would seem irreconcilable.

The sciences of observation describe and measure the multiple manifestations of life with increasing precision and correlate them with the time line. The moment of transition to the spiritual is not the object of this kind of observation, which nevertheless can discover at the experimental level a series of very valuable signs indicating what is specific to the human being. But the experience of metaphysical knowledge, of self-reflection, of moral conscience, freedom, or again, of aesthetic and religious experience, falls within the competence of philosophical analysis and reflection, while theology brings out its ultimate meaning according to the Creator's plans.(nn. 2, 4 and 5-6)

Although Pope John Paul II was certainly aware of what popes Pius XII and Paul VI, as well as a number of theologians, have said with regard to monogenism, polygenism and original sin (he does treat original sin elsewhere as we will consider below), it is interesting that he does not mention these issues at all in his talk on evolution. Rather, he affirms the transcendental dignity of human beings, who are created in the image of God with spiritual souls and capable of a personal relationship with God. He thus indirectly points out the error of non-Christian reductionist, materialist and atheistic interpretations of evolutionary data which deny this transcendental dimension of reality.

Related to the views of theologians Grisez and Ashely, and popes Pius XII, Paul VI and John Paul II presented above, we can consider evolutionary biologist and Christian theologian

Denis Lamoureux (2008) speaking of a few options with regard to the origin of human persons in the evolution process. This includes human persons originating with a punctiliar event (i.e., suddenly in an instant), involving either monogenism (beginning with one person or couple) or polygenism (within a population), and gradual polygenism (over time within a hominid population) (287-91). Pope John Paul II's speaking of an "ontological leap," as well as the views presented in this section of popes Pius XII and Paul VI, and the theologians Grisez and Ashley, are in line with the "punctiliar event" view. Lamoureux himself favors gradual polygenism saying, "the Image of God and human sinfulness were gradually and mysteriously manifested through many generations of evolving ancestors."(291)

Pope John Paul II authorized and promulgated the Catechism of the Catholic Church in 1992 and its revision in 1997. With regard to the human person "being at once corporeal and spiritual" this Catechism says that the "biblical account expresses this reality in symbolic language when it affirms that 'then the LORD God formed man of dust from the ground, and breathed into his nostrils the breath of life; and man became a living being.'(Gen 2:7)."(CCC, n. 362)

With regard to original sin, the Catechism says:

The account of the Fall in Genesis 3 uses figurative language, but affirms a primeval event, a deed that took place *at the beginning of the history of man* .... "Although set by God in a state of rectitude, man, enticed by the evil one, abused his freedom at the very start of history. He lifted himself up against God and sought to attain his goal apart from him" (GS 13, 1). By his sin Adam, as the first man, lost the original holiness and justice he had received from God, not only for himself but for all human beings. Adam and Eve transmitted to their descendants human nature wounded by their own first sin and hence deprived of original holiness and justice; this deprivation is called "original sin." As a result of original sin, human nature is weakened in its powers; subject to ignorance, suffering, and the domination of death; and inclined to sin .... "We therefore hold, with the Council of Trent, that original sin is transmitted with human nature, 'by propagation, not by imitation' and that it is ... 'proper to each'" (Paul VI, CPG, n. 16). The victory that Christ won over sin has given us greater blessings than those which sin had taken from us: "where sin increased, grace abounded all the more" (Rom 5:20).(CCC, nn. 390 and 415-20)

Several years earlier, from 3 September to 8 October 1985, Pope John Paul II dedicated his weekly public audiences to a “Catechesis on Original Sin.” Among other things, he notes that the third chapter of Genesis “is to be interpreted by taking into account the character of the ancient text and especially its literary form.” Nevertheless, he affirms that the account “describes a primordial event,” a fact of a “moral nature,” which “according to Revelation took place at the beginning of human history” and which “gives rise to a fundamental change in the human condition.” Referring to a number of related texts from the Bible and Magisterial teaching, he speaks of the universality and hereditary nature of sin. Concerning the latter, he says:

It is especially in regard to original sin in this second meaning that modern culture raises such strong reservations. It cannot admit the idea of a hereditary sin connected with the decision of a progenitor and not with that of the person concerned. It holds that such a view runs counter to the personalistic vision of man and to the demands which derive from the full respect for his subjectivity. However, the Church’s teaching on original sin can be extremely valuable also for modern man who having rejected the data of faith in this matter, can no longer understand the mysterious and distressing aspects of evil which he daily experiences and he ends up by wavering between a hasty and unjustified optimism and a radical pessimism bereft of hope.(Sept. 10 and 24)

In the Encyclical *Centesimus Annus* in 1991 Pope John Paul II also stated the following with regard to original sin:

Moreover, man, who was created for freedom, bears within himself the wound of original sin, which constantly draws him towards evil and puts him in need of redemption. Not only is this doctrine an integral part of Christian revelation; it also has great hermeneutical value insofar as it helps one to understand human reality. Man tends towards good, but he is also capable of evil.(n. 25)

In 2008 Pope Benedict XVI addressed the Pontifical Academy of Sciences on Evolution and Creation. He said in part:

Thomas Aquinas [see ST, I, q. 45, a. 3] taught that the notion of creation must transcend the horizontal origin of the unfolding of events, which is history, and consequently all our purely naturalistic ways of thinking and speaking about the evolution of the world. Thomas

observed that creation is neither a movement nor a mutation. It is instead the foundational and continuing relationship that links the creature to the Creator, for he is the cause of every being and all becoming.... We may not at first be able to see the harmony both of the whole and of the relations of the individual parts, or their relationship to the whole. Yet, there always remains a broad range of intelligible events, and the process is rational in that it reveals an order of evident correspondences and undeniable finalities.... The distinction between a simple living being and a spiritual being that is *capax Dei*, points to the existence of the intellectual soul of a free transcendent subject. Thus the Magisterium of the Church has constantly affirmed that “every spiritual soul is created immediately by God—it is not ‘produced’ by the parents—and also that it is immortal.”(CCC, n. 366; see also Benedict XVI 2009)

Pope Francis (2014) has also briefly addressed the topic of evolution saying in part:

When we read the account of Creation in Genesis we risk imagining that God was a magician, complete with an all powerful magic wand. But that was not so. He created beings and he let them develop according to the internal laws with which He endowed each one, that they might develop, and reach their fullness. He gave autonomy to the beings of the universe at the same time in which He assured them of his continual presence, giving life to every reality. And thus Creation has been progressing for ... millennia and millennia, until becoming as we know it today ... The beginning of the world was not a work of chaos that owes its origin to another, but derives directly from a supreme Principle who creates out of love. The Big Bang theory, which is proposed today as the origin of the world, does not contradict the intervention of a divine creator but depends on it. Evolution in nature does not conflict with the notion of Creation, because evolution presupposes the creation of beings who evolve.

As for man, however, there is a change and a novelty. When, on the sixth day in the account of Genesis, comes the moment of the creation of man, God gives the human being another autonomy, an autonomy different from that of nature, which is freedom. And he tells man to give a name to all things and to go forth through history. He makes him the steward of Creation, even that he rule over Creation, that he develop it until the end of time....

This is in line with earlier Catholic teaching which among other things excludes materialism, emanationism—that everything emanated or is made out of God’s substance, pantheism—that everything is God, dualisms such as Gnosticism where matter is considered evil, and deism—the view that God is not involved at all with creation.

Let us consider a few more Christian theological views concerning the origins of our universe and human persons. Ian Barbour (1990), a physicist and liberal Protestant theologian, says that, “If a single, unique Big Bang continues to be the most convincing scientific theory”



regarding the origins of our universe, “the theist can indeed see it as an instant of divine origin.”(129) He says a “literal interpretation of the seven days [of creation in Gen 1] would conflict with many fields of science.... By treating ... [Genesis] as if it were a book of science ahead of its times, we tend to neglect both the human experiences that lie behind it and the theological affirmations it makes.”(133) He thinks that evolution “shows a subtle interplay of chance and law.” He says that, “Traditionally, *design* was equated with a detailed preexisting blueprint in the mind of God .... But evolution suggests another understanding of design in which there are general directions but no detailed plan.... Chance and law are complementary rather than conflicting features of nature.”(173-4) Barbour also provides an overview of several views of Creation and Evolution. Among others these include biblical literalism (a conflict view of the relationship of science and religion), neo-orthodoxy which emphasizes divine revelation rather than human reason and assigns science and religion separate spheres, and existentialism which considers God to act only in the life of persons and not in the impersonal sphere of nature (these consider science and religion to be independent), and neo-Thomism which views God as sustaining the whole natural sequence and the primary cause working through secondary causes which are complete on their own level and which science describes. Barbour considers this a dialogue approach to science and religion, evolution and Creation.(178-82) Barbour himself “has chosen process philosophy / theology as his interpretative conceptual framework, but in a qualified way, always aiming to interpret his concepts in congruence with the Christian tradition in the different churches.”(Javier Monserrat in Heller Del Riego 2008, 184) Barbour holds an evolutionary metaphysics, an emergent monist view “in which there are characteristics common to all levels, but novel kinds of organization and activity emerge at higher levels,”(Barbour 1990, 184) rather than a mind / body dualism including the “holistic dualism” of Thomism and

Catholicism. Related to emergent monism, consider also the view of non-reductive physicalism held by Christian authors such as Nancey Murphy. Emergent monism, non-reductive physicalism, Thomism, and a few other views will be discussed further in this book's last chapter related to mind-brain, body-soul questions.

With regard to the Neo-Thomist view which affirms that God conserves everything, and distinguishes God as primary cause of everything and the secondary causes of creatures including human free will, Catholic writer Ludwig Ott (1960) also explains God's ordinary and extraordinary (miracles) providence.(89-91) God does not will evil for its own sake but permits evils—physical (creation is in a state of journey towards perfection) and moral evil (created persons freely sinning).(45-46) Along similar lines, the *Catechism of the Catholic Church* (CCC 1997, nn. 309-14) speaks of God sustaining everything, and God giving creatures the dignity of acting on their own and being causes (secondary). God permits physical evils (creation is in a state of journey towards ultimate perfection) and moral evil (created persons freely choosing to sin)—a mystery illuminated by Jesus Christ who died and rose to vanquish evil. God is also capable of bringing good out of evil. God works everything for the good for those who love him.(see Rm 8:28)

With regard to Barbour and some others speaking of evolution involving both laws and chance (cf. genetic mutations), consider Victor Naumann in Brugger and Baker (1974) arguing that what seems to involve chance in the light of our limited human knowledge, is not purely random<sup>2</sup> from God's omnipotent view. For God who knows everything—past, present and future—there is no such thing as chance. This raises some interesting questions such as are we the way we are by God's design? (cf. Schonborn 2016). Was each of us an idea in God's mind

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<sup>2</sup> At a recent launch of his latest book, *The Bible and Ancient Science: Principles of Interpretation*, my colleague Dr. Denis Lamoureux, who is both an evolutionary biologist and a Christian theologian, said that scientists do not speak of "chance" but of "randomness" and laws concerning genetic mutations.

from all eternity? Consider, for example, the biblical prophet Jeremiah speaking of God knowing him before he was formed in the womb and appointing him a prophet before he was born (Jer 1:5).

With regard to human origins, physicist and Anglican theologian John Polkinghorne (1998, 36-40 and 72-76) and some others (see, e.g., Heller del Riego 2008) discuss the anthropic evolution of the universe or the “Anthropic Principle.” They speak of many “Anthropic” coincidences, including the laws of physics (e.g., the strength of gravity and electromagnetism) and delicately balanced homeostatic mechanisms (e.g., the earth’s temperature), which are finally tuned to enable the evolution of carbon based life including ourselves. One explanation of these many properties of our universe which are finally tuned so that complex life including ourselves could evolve is that they are part of the design of a highly intelligent Creator (i.e., God). An alternate explanation that some propose is that there could be many universes, perhaps even billions, other than our own each having its own set of properties. The vast majority of these would be unsuitable for complex life evolving but we happen to be in a universe that is suitable for life. Polkinghorne considers both of these explanations to be metascientific (they both go beyond scientific data per se). For him and for me it seems more plausible to believe in an intelligent Creator than to posit the existence of an enormous number of universes for which we have no evidence at all and which thus also requires a certain kind of “faith.”(cf., e.g., also Page 2018) Polkinghorne thinks it is also quite amazing that the universe is intelligible or rationally transparent to our minds. Again theism provides a coherent and persuasive interpretation:

If the world is the creation of the rational God, and if we are creatures made in the divine image, then it is entirely understandable that there is an order in the universe that is deeply accessible to our minds. ... [O]ne could say that science discerns a world which in its rational beauty and rational transparency is shot through with signs of mind, and the theist can understand this because it is indeed the Mind of God that is partially disclosed in this way.(73; cf., e.g., also Ward and Brownlee 2000, and Gonzalez and Richards 2004)

## **Paul Flaman's Hypothesis**

I (the author of this book) would now like to propose my own hypothesis regarding the origins of human persons on our planet:<sup>3</sup> In the long process of evolution, it seems to me that not only the emergence of moral and spiritual life would have involved an ontological leap (cf. Pope John Paul II above). The first emergence of psychological life, including consciousness, would also have involved a new kind of existence, or being, or an ontological leap.(cf. Eccles 1989, Ch. 8 regarding the evolution of animal consciousness) Among animals the degree of psychological life seems to vary significantly from simpler animals, who perhaps only experience a few qualia (subjective experiences such as how one experiences the color red or pain), to more complex animals such as dolphins, elephants, dogs and primates, who seem to experience many qualia or a whole range of psychological experiences. The amount and kinds of qualia that an individual animal experiences seems to be very much correlated to the kind, stage of development and present functioning abilities of its brain, as well as the rest of its body including its nervous system and sense organs. For example, it seems that complex mammals, including ourselves, first begin to experience qualia sometime during fetal development.(cf. Canadian Medical Association's Committee on Ethics 1991) As the individual develops into adulthood, its (his or her) developing brain allows it to experience more and more qualia. If, however, it experiences damage to certain parts of its brain, for example, due to a stroke, or an injury to a sense organ, for example, its eyes resulting in blindness, the individual will no longer be able to experience certain qualia that it once did. Or, if the individual has a brain injury that renders it completely unconscious, it then no longer experiences any qualia (in Ch. 6 below, however, we will consider certain "near death" experiences and the question of whether or not a person can continue to

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<sup>3</sup> This section follows closely part of a published article of mine (see Flaman 2016 May, 573-5). That article includes some more details and references.

exist after death), unless the brain heals enough to enable it to do so. Since psychological experiences seem to be closely correlated to the kind of brain and body an animal has, the psychological dimension of reality may have first emerged with a genetic mutation capable of producing that kind of brain in a single individual. If that mutation was dominant, this capacity would then also be present in that individual's offspring. Further genetic mutations over time could have produced more and more complex brains, and corresponding bodily organs, capable of more and more complex psychological experiences.

As far as we know, we are the only currently living animal species on earth that has not only biological and psychological dimensions, but also moral and spiritual dimensions. That is, we can exercise a kind of freedom that makes us personally responsible for our freely chosen actions and omissions, and we can have a personal relationship, involving knowledge and love, with God, who is Spirit (see Jn 4:24) and transcends the physical universe. Because we are embodied persons, each of us is only able to exercise our moral and spiritual capacities in this life when we have brains that enable us to be conscious. Although the human zygote, embryo, fetus, child and adult all share the same human nature, with moral and spiritual capacities being at least latent, we cannot consciously exercise these capacities in this life before a certain stage of brain and psychological development.(in Ch. 5 below we will consider the question of when an individual human person begins and ceases to exist in this world) Nor can we, if we have a brain injury that renders us comatose. Regarding the latter, if the brain heals enough to again enable consciousness and a certain level of psychological experiences, the person may again be able to exercise consciously his or her moral and spiritual capacities. Although the present ability to exercise moral and spiritual capacities, consciously in this life, seems to be related to a certain minimum level of present brain and psychological capacities, no "moral" or "God" spot

per se has been found in the human brain.(see Newberg, Aquili and Rause 2001; and Beauregard and O'Leary 2007)

As a Catholic theologian, I agree with Thomas Aquinas and Catholic teaching that the human being is a composite of a physical body and spiritual soul. Since I have defended this view in another paper, "The Human Soul" (Flaman 2008) on biblical, experiential, philosophical and theological grounds, I will not repeat all of my reasons here. Basically, I agree with Pope John Paul II, Grisez, and Ashley that our moral and spiritual capacities (these include our capacity of reason or intellect) would have involved an ontological leap during evolution, which involved and still involves God creating a spiritual soul for each new human person. Since even a normal human zygote already is a living human being, an organism of the human species with a human nature, it seems to me that the most likely time that God created one's spiritual soul was when one's body began to exist at fertilization.(see Aquinas, SCG, Bk. 2, n. 83; Gallagher 1985; and Sgreccia 2012, 422-41)

How and when might the first human persons, with spiritual souls, have emerged in the process of evolution? While I think that Ashley's proposals have some merit (see this section above), it seems that the emergence of the first human person or persons during evolution may not have required a specific genetic mutation. Consider the Incarnation as an analogy. Although Jesus Christ was fully human, with a human body and soul, he was also fully divine according to traditional Christian faith and Catholic teaching. With Jesus in human history there emerged within life in this world a new dimension or reality. This involved the union of the Word or Son, the second person of the Trinity, who was fully divine, with his human nature, body and soul. Although the Incarnation presumably began with Jesus' human conception, that is, when his human body began to exist, this would not have involved biological fertilization but a miraculous

intervention by God, since his mother Mary was a virgin (see Mt 1:18-25 and Lk 1:26-38). Since the Incarnation involved the full union of the divine and human, it required that there already were in existence human beings with a true human nature. It does not seem, however, that the Incarnation required any new specific genetic mutation. Rather, it occurred at the appropriate time in human history deemed best by God's infinite intelligence and wisdom, which is much greater than ours. Analogously, it seems that since the moral and spiritual dimensions of human persons require sufficient brain and psychological capacities to be consciously exercised in this world, God would have waited until these were present in a hominid population, in an adequate number of individuals during part of their lives, to create the first human person or persons. This may not have involved any new specific genetic mutation, but God making it happen at the most suitable time according to His wisdom.

It seems logical that the creation of the first human person (or persons) would have occurred, as most likely happens today, with God creating their spiritual soul(s) at their conception or fertilization, that is, when their body began to exist, as was concluded above (this would avoid the dualism of Grisez's proposal above). Related to Catholic faith concerning original sin having one human source, and transmitted by human generation, it seems that there are several possible variations including just one person who originally sinned, or two or more persons, including the possibility of a man-woman couple, who originally sinned. The one or more persons and their children (or the couple's children), and so forth, could then have interbred with other members of their biological species. These other members of their species would have been very similar to them biologically, psychologically, and culturally. The addition of the moral and spiritual dimensions, however, would have affected the psychological experiences of the individuals who possessed these. It would also have led to certain cultural

changes in the population. This would have continued until all members of the human species were persons and affected by original sin, as is the case today.

Before original sin the first human person or persons would have been conceived in the state of grace or friendship with God. Compare Jesus, who in his humanity, body and soul, was free from sin, beginning with his human conception. Unlike Jesus, who never committed sin, the first human person or persons did rebel against God or sin (i.e., original sin) before having children, who would not have been conceived without sin, and likewise their children, and so forth, down to us today. If more than one human person was conceived in the state of grace before sin, it is conceivable that one of these persons sinned and the other did not, which could have led to some of the human race being affected by original sin and others not. It thus seems that most likely there was only one initial human person who sinned, or perhaps only a man-woman couple who sinned together. If the latter were the case, both human sexes would have been involved in this original sin, with its devastating consequences for humanity. While this is possible from a metaphysical and theological perspective (not for biblical concordist reasons), it is also possible that there was only one human person before the first human sin. God, who is completely free and sovereign, could have initially created either a human soul for one human person, or he could have initially created souls for more than one human person, before he or she or they sinned and had children. In either case, this proposal seems to be in line with the official Catholic understanding of original sin which is communicated to all human persons “by propagation, not by imitation” (see this section above). By our personal sins we have all colluded with this original sin. From the perspective of Catholic faith, one exception to this was the mother of Jesus, Mary, who was immaculately conceived without sin, and never personally sinned, by a special privilege or grace of God, related to her role as the mother of our Savior.



It seems that such a possibility, as presented in this proposal, is in line with the essentials of Catholic doctrine on original sin, as well as what Pope John Paul II says about both physical continuity and an ontological leap. If the origin of human persons occurred along these lines, this would have involved a kind of “monogenism,” from a metaphysical / theological perspective, within a “gradual polygenism,” from a biological perspective. Thus, this proposal is also in line with current mainline science concerning human evolution.