

rejects the materialist interpretation of the theory of evolution, the idea that everything including the soul (or mind) of humans emerges from physical material.<sup>8</sup>

The Pontifical Biblical Commission affirmed that humans must be regarded as a "special creation by God." It is *de fide* dogma that the first man was created by God, and this question is outside the realm of science anyway. Regardless of any scientific discovery in the fossil record, genetics, or comparative anatomy, nothing can ever prove that man was not created by God. As Catholics, we hold this truth in faith, not just for humans but for all creatures, all things.

As I indicated before in chapter 3, Ludwig Ott's *Fundamentals of Catholic Dogma* is a good place to discover the historical development of doctrine. Ott noted that the biblical text does not exclude the theory of evolution because, regarding the "question as to the mode and manner of the formation of the human body," an interpretation divergent from the literal sense is permissible but only in limited ways.<sup>9</sup> We cannot deny that God created the first human immediately out of nothing and science does not contradict that dogma.<sup>10</sup> The word "immediately" does not necessarily refer to succession in time; it can refer to the relation of a person or thing to another. "Immediate" can mean that there was no intermediary or intervening member, medium, or agent in contact or direct personal relation.<sup>11</sup>

We also cannot deny that God "vivified" the first human body by "breathing into it a spiritual soul," which science cannot comment on.<sup>12</sup> That humans consist of a material body and a spiritual soul is also *de fide* dogma. Both the material and spiritual aspects are essential. Again, the Fourth Lateran Council defined this teaching of "the human creation, common as it were, composed of both spirit and body."<sup>13</sup> Every human person has an individual soul.

As to the origin of the human soul, different opinions have been advanced. Pope Pius XII's 1950 encyclical *Humani Generis* said that "the Catholic faith obliges us to hold that souls are immediately created by God."<sup>14</sup> Do human souls preexist the conception of the human body? Early Christian Fathers accepted that they do because Plato held that view, and many of them were Platonic scholars, but the

Synod of Constantinople (543) rejected that view because it implies the possibility that a fall from grace could occur before the human body exists.<sup>15</sup>

Some thought the human soul originates with conception and comes from the parents, particularly the semen of the father, but this idea was condemned by Pope Benedict XII and Pope Leo XIII as incompatible with the simplicity and spirituality of the soul.<sup>16</sup> The soul cannot come from corporeal matter; for the soul to be "created immediately by God," it must be created out of nothing. Most theologians take that to mean that each individual soul is created by God out of nothing at the moment of conception. This is not defined in scripture, but indirectly expressed: "And the dust return into its earth, from whence it was, and the spirit return to God, who gave it" (Eccl 12:7).

### POLYGENISM OR MONOGENISM

In *Humani Generis*, Pope Pius XII wrote that the question of the origin of the human body is open to careful research by scientists and theologians. He says 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—for the Catholic faith obliges us to hold that souls are immediately created by God."<sup>17</sup> According to Ott, the scripture that says "And the Lord God formed man out of the slime of the earth: and breathed into his face the breath of life, and man became a living soul" (Gn 2:7) does not exclude the theory of evolution, but neither should the faithful assume that scripture proves that the human body evolved either.<sup>18</sup> The full meaning of this scripture is still a mystery.

As Catholics, we maintain the unity of the whole human race. This is not a *de fide* dogma, but rather a necessary presupposition of the dogma of original sin and redemption.<sup>19</sup> Polygenism is the view that the different races of mankind arose independently of one another, and that seems to contradict the unity of the human race. Pope Pius XII

addressed polygenism, holding that "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" (*Humani Generis*, 37).

Pope Pius XII certainly argued against polygenism, but when *Humani Generis* was issued—three years before James Watson and Francis Crick reported that they had determined the helical structure of DNA in 1953—the understanding of the role genetics plays in evolution was only starting to develop. Sixty years later, Darwinian evolution has been reinterpreted in terms of molecular genetics, and the biological mechanism of evolution is better understood. Current scientific evidence points to a first population of humans rather than a single man and woman.

Later in the twentieth century, Fr. Karl Rahner explained that he did not take Pius XII's definition as an infallible rejection of polygenism.<sup>20</sup> Rahner argued that by using the words "in no way apparent," the pope seemed to be saying, very subtly, that it is not *plainly seen* how multiple first parents can be reconciled with the dogma of original sin. Rahner argued that those words leave the door cracked open for further development, that Pius was not declaring polygenism to be outright impossible. Therefore, polygenism might be possible if deeper insight were to be found, a way to understand polygenism without contradicting the doctrines of the fall, original sin, and the unity of the human race. Then monogenism (the view that all humans descend from one single human pair of parents) would not have to be defended. Here is the full quote from *Humani Generis*:

When, however, there is question of another conjectural opinion, namely polygenism, the children of the Church by no means enjoy such liberty. For the faithful 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. (*Humani Generis*, 37)

Today, theologians and Catholic biologists more and more agree that there is substance to Rahner's opinion. It is worth noting that documents since *Humani Generis*, such as Pope Paul VI's 1965 *Gaudium et Spes*, which addresses social evolution toward unity, and the *Catechism of the Catholic Church*, issued in 1992, do not mention monogenism or polygenism, quite possibly indicating that theological developments are moving away from these terms.

Did God miraculously create the adult man, body and soul, instantly out of nothing or out of slime? Did humanity begin with that kind of miracle? Possibly, but such an event is not an investigation for science, which can only form theories about physical laws. Was the first man a new conception that occurred in a highly evolved female primate womb, a zygote infused with the first rational human soul made in the image and likeness of God? Was the first woman, likewise, at some point later conceived in another female primate's womb as a soul mate for the man? Were they both born and both raised by non-human primates? And did they then mate after the fall? Whom did their children mate with? There are theological opinions that Adam and Eve's children mated with siblings. But how would they know not to mate with the other animals that looked like them but did not have rational souls? It seems unthinkable to say that the second generation of humans mated with nonhumans. Or is it?

Is, as some theologians suggest, the story in Genesis to be taken less literally, as a reality, but not a literal reality? Will there be theological

developments in the future that refer to the first species of true humans as the "first man"? Will it be understood that they as a population fell from grace? Will it be understood that the unity of the human race was preserved even if there were a number of lineages? We simply do not know at this point in history. This is a matter for the trained scientists and trained theologians who inform the Magisterium, and ultimately it is a decision for the Magisterium, which safeguards the truths of faith. There will not be any declarations as long as the understanding remains ambiguous.

St. Augustine in the fourth century showed an appreciation for scientific discovery, but he also thought that knowledge of the quantitative exactness of the natural world and cosmos could not help us much in understanding the biblical message. Nevertheless, Augustine rejected any biblical interpretation that denied or ignored the established conclusions of natural studies. He was explicit on this point:

It is often the case that a non-Christian happens to know something with absolute certainty and through experimental evidence about the earth, sky, and other elements of this world, about the motion, rotation, and even about the size and distances of stars, about certain defects [eclipses] of the sun and moon, about the cycles of years and epochs, about the nature of animals, fruits, stones, and the like. It is, therefore, very deplorable and harmful, and to be avoided at any cost that he should hear a Christian to give, so to speak, a 'Christian account' of these topics in such a way that he could hardly hold his laughter on seeing, as the saying goes, the error rise sky-high.<sup>21</sup>

My interpretation of this quote is that we should have faith in Christ before we ever get to science. My interpretation is also that Augustine realized when statements in the Bible conflict with hypotheses on the workings of nature, and when reason and observation provide no clear solution and decisive evidence, nor does scripture seem to

be explicitly literal, then the matter is open to further inquiry. Whenever scientific reasoning seemed to settle a matter, however, Augustine urged that scripture would have to be reinterpreted. When a matter could not be settled, he said that he had no time for questions that "require much subtle and laborious reasoning to perceive which is the actual case," because it is not needed by those whom he wished to instruct for their own salvation and for the benefit of the Church.<sup>22</sup> In other words, St. Augustine knew that salvation did not come from knowledge of the natural world.

For now, and possibly forever, we do not know the exact details relating to human origins—not scientifically, not theologically. In the entire scope of history, those primal events, which could have happened in a single day, were but a fraction of a blink on an evolutionary scale that deals with thousands and millions of years at a time. If the two stories can never be plainly woven together, the discrepancy may be in the gap where humans cannot measure, not unlike the inaccessibility of the quantum realm.

## **MICROEVOLUTION AND MACROEVOLUTION**

One fact about evolution that many people fail to understand is that microevolution and macroevolution are the same process at the molecular level. Microevolution refers to short times and small changes, and macroevolution refers to longer times and larger changes. It is the same kind of understanding when we note the difference in a stream and a canyon, the same process of change over longer times. If you have ever seen a puppy, you have witnessed a single step in microevolution. If you have ever seen a dog bred to desired traits, you have witnessed the results of a longer evolution in a population, albeit an artificial one because selection of parents for each generation of offspring was imposed by breeders.<sup>23</sup> The situations in different environments in nature can also cause "selection."

One may ask, "I have no trouble with microevolution among species, but how can macroevolution, where one species arises from another, occur?"