

## Between Evolution and Creation: A Forgotten Lesson

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**Abstract:** Heated debates stemming from the confrontation of scientific knowledge with the biblical picture of the creation of man, which had followed the publication of Darwin's theory of evolution, became far less prominent in the second half of the 20<sup>th</sup> century. This was due to two factors: first, the theory of evolution was partly accepted in theological circles and at the same time biologists showed a growing awareness of the limited epistemological scope of the competence of the natural sciences. This lesson from the history, however, seems to have been forgotten by many who now and again return to controversies which more often than not are caused by ideological quarrels over religion, with true scholarship being too easily lost from sight.

**Key Words:** Origin of Man, Evolution, Creation, Genesis, Original Sin, Monogenism.

### Introduction

Human beings as a species belong to the world of animate nature but we have always been convinced of our unique status in this world. The theory of the stability and invariability of species, accepted until the 19<sup>th</sup> century, placed humankind at the "top" of the animate world. The biological vision of the stability of species was perfectly compatible with the biblical image of the creation of the world. The Book of Genesis presents people as special creatures, made in the image and likeness of God. The second half of the 19<sup>th</sup> century saw the rise of Charles Darwin's theory of evolution. It is worth to note that Darwin himself had mixed

feelings about publishing his work. In a letter to Charles Lyell he wrote: "I treat you as the lord of natural sciences, therefore I beseech you to revise, after reading the whole text, the titles of the last section wherein I recapitulate. With great anxiety I am waiting for your judgement concerning the balance of arguments for and against my book" [back translation from the Polish edition].<sup>3</sup> Darwin's doubts resulted from his awareness of challenging the former vision of the human. In the light of his theory, human being was but one of the biological species which was subject to the same biological laws as other organisms. His anxiety about the possible conflict was then quite well-founded, but it is very unlikely that in his even most daring thoughts he could foresee the fact that the theory of evolution would be the proverbial bone of contention for the following 150 years. Time and again, natural scientists, theologians and philosophers engage in debates which take up the issues of evolution. Quite often, such discussions facilitate the casting of new light on some old problems. However, there are also many fruitless controversies, which not only fail to provide any new answers, but on the contrary, breed more confusion.

### 1. The Theory of Evolution and the Creation of the Human

Until the second half of the 19<sup>th</sup> century, the natural sciences accepted without any exceptions the theory of the fixity of species, which assumed the stability and invariability of all species. According to this theory, all living creatures, including human beings, have always existed in the same forms as the ones which were known at the given time. Any findings of extinct animals were instantly explained away as the evidence of great catastrophes and never led to the suspicion that the species could change over time.<sup>4</sup> The concept of the fixity of species allowed Linneus to classify all living organisms; the results of his taxonomic endeavours were published in his monumental work: *Systema naturae*. The scientific theory of the fixity of species co-existed then peacefully with the theological concept, according to which all creatures emerged in the act of divine creation. This creationist thought was founded, on the one hand, on the literal understanding of the first chapters of Genesis and, on the other, on the scholastic principle of causality (*nihil reducitur de potentia ad actum nisi per ens actu*); this principle took for granted such a relation between cause and effect which made it impossible to

conceive the rise of a more perfect ("greater") being from a lesser one. Both the scientific and theological view seemed so perfectly complementary that the theory of the fixity of species was for many centuries identified with the theory of creationism.<sup>5,6</sup> This seamless concordance ended in the second half of the 19<sup>th</sup> century.

The juxtaposition of the scientific theory of evolution with the theological concept of creation was one of the reasons for the heated controversy, raised by Darwin's famous *On the Origin of Species*, which was first published in 1859. The discussions between theologians and scientists, which immediately followed this publication, were all based on the false assumption that if the theory of evolution was true, then the biblical idea of creation had to be rejected. Nobody noticed that Darwin did *not* contest in his work the theological idea of the creation of the human, but only opposed the biological concept of the fixity of species. From what he claimed himself, it clearly follows that he did not intend to reject God as the creator of the humankind. He was only convinced that the scientific concept of the fixity of species was wrong.<sup>7</sup>

The theory of evolution gave an impulse for a revised scientific interpretation of the human fossils which had already been discovered at the beginning of the 19<sup>th</sup> century. In 1829 Phillipe Charles Schmerling excavated three human skulls at Engis (Belgium). The first was destroyed during exploration, the second one was huge and massive, it was similar to a skull of modern human. The third one, which once belonged to a child, was characterized by archaic features. Schmerling inferred that people had been undergoing a morphological transformation over centuries.<sup>8</sup> Charles Lyell, who visited Belgium in 1833, examined the child's skull, but completely rejected Schmerling's suggestions. In Lyell's opinion, the skull was ordinary. Under criticism, Schmerling then sold the Engis fossil to the University of Liège. Almost twenty years later, in 1848, another human skull was found in obscure circumstances in Forbes' Quarry (Gibraltar). It had a prominent brow ridge and a flat forehead. Unfortunately, the find from Gibraltar was treated only as a natural oddity and handed over to the Royal Museum of Surgery in London.<sup>9</sup> Potentially important findings were neglected because of the concept of the fixity of species. Biologists were unable to face the idea that the recovered fossils could belong to ancient people who should be assigned to a species

different from our own. Rather, they believed that the remains from Belgium and Gibraltar belonged to diseased or mentally handicapped people. By accident, in 1856, the next ancient human remains were found in Neandertal, Germany. Herman Schaaffhausen, an anatomy professor from Bonn, wanted to give the remains a new taxonomic name different from *Homo sapiens*,<sup>10</sup> because they displayed features significantly different from those of our species, and in his opinion they had to have belonged to a primitive pre-human being. His approach, however, was totally alien to the way of thinking of most anthropological authorities of the day. Carter Blake, an amateur-anthropologist, was convinced that the bones belonged to an idiot.<sup>11</sup> In the opinion of a physician, Bernard Davis, the big skull with prominent brow ridges bore traces of pathological changes.<sup>12</sup> Schaaffhausen's proposal to classify the Neandertal fossil as a new species was also criticized by August Franz Mayer, who came to the conclusion that the remains belonged to a Cossack who reached Germany in January 1814 when the Russian army was attacking Napoleons' troops. Also Rudolph Virchow, a famous German pathologist did not accept Schaaffhausen's thesis. In 1873, at the International Anthropological Congress in Wiesbaden, Virchow presented the results of his own research. In his opinion, the Neandertal remains belonged to a human being who had suffered in his/her childhood from rickets and certainly could not be remains of our ancestor! He repeated this opinion in Ulm in 1892. Furthermore, he claimed that the "cripple" from the Neandertal Valley could not have survived without help from his companions, and altruism is characteristic only of modern human beings. If, therefore, Neandertals were altruists, they had to belong to the species of *Homo sapiens*. Virchow was a pathologist so he often examined human bones affected by syphilis or rickets, and he knew the changes effected by these diseases. It is, therefore, surprising that he should have recognized symptoms of rickets in a fossil that did not show any signs of the disease! Virchow continued to defend the old concept of the fixity of species according to which modern man could not have primitive ancestors.<sup>13</sup>

He died in 1902, and until the end believed that the fossil from Neandertal belonged to an ill individual who certainly could not be classified as a separate species – *Homo neanderthalensis*. Only after Darwin's publication could all these findings be finally recognised as the

remains of some earlier forms of *Homo*. Darwin provided many examples which proved the fixity of species concept invalid. His thesis was that all forms of life were related by ancestry. This meant that all species, extinct and living, descended from a single ancient ancestor. Excavations carried out in Asia and Europe at the turn of the 19<sup>th</sup> and 20<sup>th</sup> centuries were in line with the theory of evolution and not that of the fixity of species. Paradoxically however, the fact that the re-interpretation of old discoveries corroborated Darwin's controversial hypothesis raised even more fear among theologians.

Many theologians saw Darwin's theory as a dangerous threat to the idea of divine creation. They maintained that evolutionism inevitably led to atheism, therefore they could not accept it. For example, Joseph Pohle insisted in his textbook on dogmatics that the description of creation in Genesis was a realistic and literally true story, and therefore he claimed that Darwinism offended God who created the body of the first human being.<sup>14</sup> Similar views were expressed by Cardinal Ernesto Ruffini, a very influential person in the Catholic Church of the time.<sup>15</sup> On the 30<sup>th</sup> June -1909, the Papal Biblical Council issued a special document which reminded Catholics that the basic truths of faith included the following concepts: 1. God is the direct creator of the first human; 2. Woman originates from man's body; 3. Humankind has one beginning.<sup>16</sup>

Scientists in turn, who were frequently accused of forging their evidence, tried to reinforce their claims by arguing that biblical statements contradicted scientific discoveries and inferring that the theological concept of the creation of human being was simply false.

However, it was already at the time of this bitter confrontation between theology and the sciences that the first attempts to formulate different views on the process of hominization appeared. For example, L. Janssens in his "Summa Theologica" stated that God was directly involved in the creation of human being, but he also argued that from the theological point of view it was not important how the human body was first made.<sup>17</sup> Likewise, Bernhard Bartmann did not reject the possibility of the evolutionary origin of human being, when he maintained that God created human soul from nothing and human body from existing matter.<sup>18</sup>

These lines of reasoning were pursued further by other theologians who, in the light of new discoveries (further evidence of the gradual development of human being were found in the meantime: *Pithecanthropus erectus* near Beijing in 1890/1891, *Neanderthal* in La Quina in 1908 and Saccopastore in 1929, *Australopithecus africanus* in Taung in 1924), could no longer reject the idea of evolution. It seems that the first theologian who tried to reconcile creationism with the natural sciences was Hubert Junker, according to whom the story of the creation of the First Parents was a narrative designed to illustrate the truth about human nature and dignity, rather than a historical report on the consecutive phases of the creation of humankind.<sup>19</sup>

In this way, Junker followed the directions included in Pope Leon XIII's encyclical *Providentissimus Deus* (published in 1893). The pope declared that the Bible was the source of infallible knowledge about salvation and no conclusions other than theological could be derived from the biblical stories. In this document we can read: "Now, the authority of the Fathers, by whom after the apostles, the growing Church was disseminated, watered, built, protected, and nurtured, is the highest authority, as often as they all in one and the same way interpret a Biblical text, as pertaining to the doctrine of faith and morals."<sup>20</sup>

Another attempt at reconciling the theory of evolution with the Christian vision of the origin of human being was undertaken in the 20<sup>th</sup> century by a French Jesuit, Pierre Teilhard de Chardin. As a theologian and a scientist he always supported the idea of evolution. In his opinion, the natural sciences did not have to conflict with theology because the former employed a different, that is *biological*, concept of causality, which simply defined a chain of subsequent events. Theology, on the other hand, deals with *ontological* causality, that is with the dependence of a lower being on a higher one. The creative act of God, which takes place beyond time, cannot be identified with temporal and immanent causes. One can therefore both accept the theory of evolution and believe in the idea of creation.<sup>21</sup>

The works of such thinkers as Junker and Teilhard de Chardin initiated the process of separating theology from natural anthropology. A possibility of solving the conflict between the idea of creation and the

theory of evolution appeared when theologians and the Church authorities accepted that scientific theories should not be evaluated according to the biblical texts or theological knowledge. In other words, the solution was found in the peaceful area of separation. It is quite another matter, however, if such a solution, although methodologically sound and correct, can also be genuinely satisfactory.<sup>22</sup>

Doctrine-wise, the conflict between the theory of evolution and creationism ended in the 1950s. In 1948 Cardinal Achille Lienart pronounced the view that God created the human when human body was connected with an immaterial soul. Theologians agreed that the Scriptures and theological knowledge cannot be used to question a scientific concept such as the theory of evolution.<sup>23</sup> In 1950, Pius XII, in his encyclical “*Humani generis*”, wrote: “For these reasons 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....”<sup>24</sup> These statements closed the debate on the agreement between the Revealed Truth and the theory of evolution, which eventually ceased to be perceived as a threat to faith.

The Church and theologians should remain interested in this theory, as it is advised in pope John Paul II’s address to The Pontifical Academy of Science: “Today, more than a half-century after the appearance of that encyclical [*Humani Generis*], some new findings lead us toward the recognition of evolution as more than an hypothesis. The magisterium of the Church takes direct interest in the question of evolution because it refers to man who, according to the Revelation, is created in the image and likeness of God.”<sup>25</sup> It appears, however, that the importance of ‘the question of evolution’ for theological thinking has yet to be discovered by many theologians, who either neglect this issue completely, or, when challenged, chose to reply the old and outdated tune of evolution being a ‘mere hypothesis’, or even go back in their thinking to the time when Darwinism was being perceived as the most hostile enemy of the true faith. One would wish that the history of the late 19<sup>th</sup> and early 20<sup>th</sup> century disputes had been learnt better.

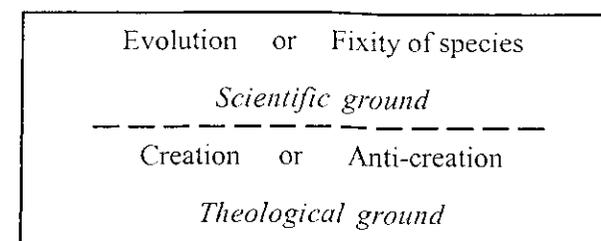


Fig.1: Scientific vs. theological approach to the problem of the origin of human being

## 2. Monogenism and Original Sin

The Book of Genesis presents in a very vivid way the sin of the First Parents. The consequences of their fall affect all humankind. This biblical image served as a basis for the assumption that all people have a single pair of ancestors: Adam and Eve.<sup>26</sup> The literal understanding of the Scripture resulted in linking the doctrine of Original Sin with the concept of monogenism. Up to the 1940s, nobody paid attention to the fact that the theological truth about Original Sin should not follow from any biological hypothesis. Many theological texts from the beginning of the 20<sup>th</sup> century still referred to the single ancestry of humankind, that is to a concept proper to natural sciences. For instance, Franz Diek-amp described monogenism as a necessary condition for accepting the doctrine of Original Sin.<sup>27</sup> Theology accepted then the following syllogism: if all people are burdened with the stigma of Original Sin, then all people must have one ancestor, i.e., an individual called Adam, whose story is narrated in the Book of Genesis.<sup>28</sup>

In 1941, Pope Pius XII issued an encyclical “*Divino afflante Spiritu*”, wherein he rejected the literal understanding of the narrative about the creation of human being, and recommended its re-interpretation.<sup>29</sup> One of the issues undertaken in the studies that followed the papal advice was the problem of Original Sin. It was pointed out that Original Sin was universal, i.e., every human being was subject to it. This conclusion bears special significance in theology because it accounts for the necessity of salvation. At the time when it was formulated, however, it also appeared that the belief in the existence of a unique

Adam and Eve, the very first and only pair of parents of all humans, was indispensable for sustaining this teaching. Looking for evidence to support this hypothesis, some theologians turned to the anthropological notion of monogenism as an opportune concept to suit their aims. They interpreted this notion in the way which answered their needs: it was assumed that at the very beginning of humankind there must have existed a single and unique pair of people who were “everybody’s parents.” This raised an obvious objection among scientists because paleoanthropology speaks about the beginnings of humankind only with regard to population, and therefore cannot accept a view that the entire species evolved from a single couple. What is a real scientific issue is the problem of mono- or polycentrism, i.e., the question if humankind could have evolved from one or many different populations. But even if this issue could be decided in favour of monocentrism, it still would not be the solution required by theologians. A population of people could not have committed a sin which, according to the traditional teaching, was committed by a single Adam and then was ‘inherited’ by his descendants.

Various attempts in the 1950s to reconcile the theological teaching on Original Sin with scientific findings prove this issue to be a difficult one. Vittorio Marcozzi, for instance, claims that biology cannot deal with the problem of monogenism.<sup>30</sup> M. Schmaus, in his textbook of “Dogmatics,” does not see the possibility of proving monogenism on the ground of natural sciences, either. At the same time, Schmaus proposes three theses: 1. The evolutionary process which resulted in the origin of human being was intended by God; 2. Evolution affected only the soul, not the body; 3. All humankind derives from one couple.<sup>31</sup> Similarly, Karl Rahner supported the explanation of the universality of Original Sin on the grounds of the monogenic origin of humankind, although he tried to prove it by means of metaphysical, not scientific concepts.<sup>32</sup> In his exegetical exposition of the Book of Genesis, Stanisław Styka writes that the biblical text cannot imply either the creation of one human couple or many couples, since the biblical word *Adam* simply denotes “a human being” in general.<sup>33</sup>

The problem became even more serious when not only anthropologists but also some theologians, like for instance P. Teilhard de Chardin, criticised the demand raised by the theologians that science

should support the idea of monogenism. Teilhard stressed the fact that the ‘hypothesis of monogenism’ was not scientific, and pointed out that whenever anthropology speaks about ‘the first man’ the concept should always be understood as referring to a population and not a single individual. As a scientist, Teilhard was well aware of the fact that all species originated in the process of speciation, which is always a group phenomenon, and this is why all mankind could not descend from one couple. In his opinion, monogeneity and polygeny were purely theological concepts and, as such, they remained scientifically unverifiable.<sup>34</sup>

An encyclical, “*Humani generis*”, issued by Pius XII in 1950, did not help much in this matter. The pope explicitly rejected the view that after Adam there could have existed some humans who did not descend from him as a common ancestor, nor did he accept the idea that the word *Adam* may refer to many ‘fathers’. The encyclical says: “When, however, there is a question of another conjectural opinion, namely polygenism, the children of the Church by no means enjoy the liberty [of opinion]. 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. We do not know 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 generations, is passed on to all and is in everyone as his own.”<sup>35</sup>

The issuing of the encyclical caused divergence of opinion among theologians who disagreed on the weight of the Pope’s pronouncement. Some, like Charles Boyer, were convinced that the encyclical contained a papal doctrinal statement which definitively solved the problem of the single origin of the human.<sup>36</sup> Others argued that the encyclical contained no definitive or irrevocable decision. A Jesuit priest, Leon Renwart, wrote that the form used by Pius XII did not imply a promulgated doctrinal definition. Moreover, he pointed to the lack of consistency in the interpretation of the biblical book of Genesis. On the one hand, theologians rejected the literal understanding of the text and unanimously accepted the possibility that the human body could undergo evolution as postulated

by the natural sciences. On the other hand, however, they still literally interpreted the same passages with regard to the existence of the single couple of the First Parents.<sup>37</sup> A similar objection was raised by A. Galin who asked if monogenism was really implied by faith.

However, both theologians and scientists who were involved in this debate on *Humani generis* failed to pay due attention to the fact that the Pope referred to monogenism in the context of a sin of a 'real human being' ("there existed on earth a true man"). Pius XII was then concerned with describing human being from the perspective of Christian anthropology, not that of the natural sciences, for the latter do not have any comprehensive or scientifically verifiable definition of human being, and therefore cannot identify the spatio-temporal point where the first "true man" appeared. We should remember that the picture of the past, drawn in contemporary paleoanthropology, is a joined effect of three different research methods: the morphological, the archaeological and the genetic. Each of these has produced its own definition of a 'human'. Different preliminaries of knowledge about contemporary human thus result in different scenarios of the *Homo sapiens*' history. For the proponents of the morphological method such criteria of belonging to the species of *Homo sapiens* as: the growth of the braincase accompanied by the evolution of its shape, the reduction of the facial part of the skull and the ever more gracile skeleton, remain crucial. Those who prefer this approach will seek the origins of our species in the past reaching the Middle Pleistocene.<sup>38,39</sup>

A different picture of our past emerges from the accounts proposed by the proponents of the archaeological approach who argue that the history of *Homo sapiens* is only about forty thousand years long. In this period, known as Upper Paleolithic, we come across such evident traces of human existence as cave paintings, decorations and quite sophisticated tools.<sup>40</sup> All such evidence clearly point to the development of abstract and symbolic thinking, which is of course unique for *Homo sapiens*. Last but not least, the genetic method places the origin of man in the past dating back to 200 Ka.<sup>41</sup> So the way in which the history of human evolution is presented clearly depends on the choice of a particular research method. Each of the above mentioned methods results in a different description of the beginnings of man.<sup>42</sup>

The controversy lasted until late 1950s because theology could not free itself from biological lines of reasoning. For quite a long time theologians remained anxious about the fact that a resignation from a biological support for monogenism would diminish the reality of Original Sin. It was believed that the biblical interpretation of Original Sin called for a complete rejection of scientific arguments which denied monogenistic origins of our species.

What eventually helped to reach a solution was the growing awareness of vital differences between scientific and theological discourse. The interpreting of the biblical texts largely depends on recognising their unique literary and narrative character. As Erich Auerbach once stressed, Hebrew prose is distinguished by the following features: first, clear emphasis falls on some parts of the narrative while others are left in the background; second, there are sudden interruptions or unexpected beginnings of new plots and, last but not least, one must take into account an exceptionally wide range of meanings and semantic nuances of terms used in biblical texts. This is why the exegetes' task consists mainly in retrieving those senses which the author of the text outlined or implied in a manner proper to him. Also, when biblical authors spoke about the universe and human being, they did not articulate a scientist's or a philosopher's point of view, but they spoke from the perspective of believers who wished to glorify the good and powerful hand of God, the Maker of all, by praising the beauty of the visible world.<sup>43</sup>

The aforementioned discussion, concerning the relation between monogenism and the truth about Original Sin, seems to have come to an end with majority of theologians recognizing and admitting that whenever natural sciences speak about "the first man" they always mean by this term a representative of an entire population.<sup>44</sup> In 1968, Pope Paul VI in his *Credimus*, defined monogenism as a theological truth without which the teaching about Original Sin would be hardly defensible, although at the same time he admitted that one should not demand from the natural sciences any evidence in favour of the theological concept, whose main task was to illustrate the claim of the universality of Original Sin.<sup>45</sup> In other words, monogenism is a theological thesis concerned with the origin of sin, and as such it cannot be referred to on the same grounds as

monocentrism, which is a scientific thesis concerned with the origins of *Homo sapiens*. The teaching about Original Sin does not explain how it first came into the world and how it is transmitted – this will always be a part of *mysterium iniquitatis* – but rather concentrates on the fact of human disobedience and, implied by it, the necessity of Redemption.<sup>46,47</sup>

Similarly, the teaching about the creation of the world should not be identified with a temporal moment of coming into existence. The main sense of the dogma is that the world *has been* created by God. In other words: whatever exists, is continually sustained by the Creator and owes to him its existence. What is at stake then, is not the temporal beginning of the world, but its continuous dependence on God with regard to its existence.

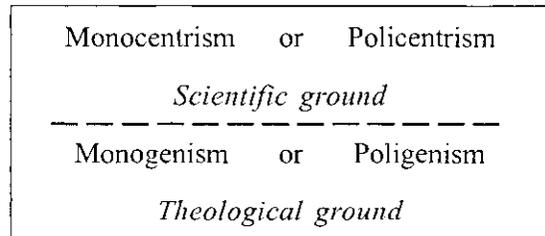


Fig.2: Scientific vs. theological approach to the problem of human roots

### Final Remarks

In the course of the last 150 years, discussions between proponents of the theory of evolution and advocates of the creationist view of the origin of human being have been frequently fraught with mutual hostility and accusations. Many theologians, who felt threatened by the scientific interpretation of human prehistory, rejected the theory of evolution, considering it a view which contradicted the biblical narrative and the principle of causality, and therefore was offensive both towards God and humankind. Natural scientists, on the other hand, frequently accused by theologians of forging the evidence, tried to turn the tables on their adversaries and were thus determined to prove that certain biblical statements contradicted the results of their research, and concluded therefore that the vision of the origins of human propagated by theologians was contrary to scientific truth. In brief: in their eyes it was false. Thus both theologians and scientists confused the spheres of their competence. Theologians formulated verdicts in matters of biology whereas natural

scientists deemed themselves competent to interpret the Book of Genesis. Viewing this period with hindsight, it becomes clear, however, that the theory of evolution prompted both scientists and theologians to address anew the phenomenon of the human. This challenge seems to remain actual still. Today, although an official statement of the Church voiced by John Paul II has finally put an end to some misunderstandings, it cannot be granted that all problems have been definitively solved.

### Notes

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