

Original Sin, Monogenesis and Human Origins

A Response to Kenneth W. Kemp

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ABSTRACT This paper focuses on the arguments presented by Kenneth W. Kemp in his two articles proposing a form of reconciliation between the evolutionary concept of human origins and polygenism. At the beginning, it is explained that Kemp's understanding of the relationship between science and faith strays from what Augustine (whom Kemp claims to follow) teaches. Then the current state of science is scrutinized with the conclusion that current scientific evidence does not exclude the belief in the traditional form of monogenism. After presenting Kemp's solution to the alleged conflict between science and Catholic dogma it is shown that Kemp's solution is based on some confusion in terms and it also encounters several metaphysical and biological difficulties.

KEYWORDS genetics; human evolution; monogenism; polygenism; transformism

In 2011, Kenneth W. Kemp published a paper “Science, Theology, and Monogenesis” in which he claimed to have offered a solution to the problem of polygenism (favored by the scientific community) on the one hand and monogenism (required by Catholic theology of original sin) on the other. Kemp returned to the topic of human origins in a 2020 paper in which he tried to establish the limits of evolution in the emergence of humanity (Kemp 2011, 217–36; 2020, 139–72). In what follows I will elucidate some problems with Kemp’s solution to original sin as well as some more general problems with his understanding of human origins.

THE LIMITS OF SCIENCE, THE LIMITS OF THEOLOGY

The implied assumption of Prof. Kemp throughout his articles is that if science presents a doctrine contrary to theology it is theology that needs to be reshaped in such a way as to fit the scientific account. Since he believes that “modern science suggests not a monogenetic, but a polygenetic, origin of man” (2011, 225) he attempts to show how there could be many people in the original human population, and yet original sin could still come from a single couple through generation. Even though he presents a rather inconclusive scientific case for polygenism, he nevertheless allows monogenism merely as a “logical possibility, though one that seems inconsistent with the scientific evidence” (2011, 225).

Kemp positions himself as following St. Augustine, when the holy Doctor warns Christians not to maintain foolish opinions about the elements of this world lest unbelievers reject Christian doctrines hearing Christians who hold the foolish opinions about this world (Kemp 2011, 225).¹ The problem with quoting this passage is that Augustine speaks about “facts learnt from experience” and things “certain from reason.” But the polygenetic origin of humanity is far from being a “fact,” let alone can it be “learnt from experience” or become “certain from reason,” which Kemp’s own account of the scientific evidence confirms. Augustine did not mean to say, what Kemp seems to adopt, namely, that whatever science proposes, no matter how well confirmed (or not) by evidence, should modify our understanding of the faith. Actually, Augustine explicitly proposes the opposite attitude:

1. “Usually even a non-Christian knows something about the earth, the heavens, and the other elements of this world ...and this knowledge he holds to be certain from reason and experience.... If [non-Christians] find a Christian mistaken in a field that they themselves know well and hear him maintaining foolish opinions about our books, how are they going to believe those books concerning the resurrection of the dead, the hope of eternal life and the kingdom of heaven, when they think that their pages are full of falsehoods on facts which they themselves have learnt from experience and the light of reason?” (*De Gen. ad Lit.*, I. 19, 39).

But more dangerous is the error of certain weak brethren who faint away when they hear these irreligious critics learnedly and eloquently discoursing on the theories of astronomy or on any of the questions relating to the elements of the universe.... When they produce from any of their books a theory contrary to Scripture, and therefore contrary to the Catholic faith, either we shall have some ability to demonstrate that it is absolutely false, or at least we ourselves will hold it so without any shadow of doubt. (*De Gen. ad Lit.*, I,20, 40; 21, 41)

Thus, according to Augustine, when a Christian is presented with a theory of nature that contradicts Christian doctrine he should not faint away but rather demonstrate it to be false—and even if this is not immediately possible, still adhere to the faith (without any shadow of a doubt) and hold the theory to be false. Had Prof. Kemp followed Augustine’s advice he would not modify theology by adopting a form of polygenism but defend monogenism along with the traditional teaching about the origin of man.

Unfortunately, the only other time when Kemp quotes Augustine is no less mistaken than the first one. In the context of the Synod of Cologne, which confirmed the direct creation of man by God, Kemp refers to the Doctor of Grace who “cautioned [Christians] against excessive anthropomorphism” (Kemp 2020, 142):

To think that God molded [*finxit*] man from the slime of the earth with bodily hands is childish.... Anyone in his right mind understands that the name of a bodily member [in passages in which one is found] is used for the power and might of God.... Man’s pre-eminence lies ... in the fact that God made him to His own image. (*De Gen. ad Lit.*, VI, 12, 20–21)

Clearly, Augustine speaks here against the idea that God has hands, and that He molded man using any bodily organ. Kemp immediately extends Augustine’s provision to clay (*limus*), out of which man was molded, suggesting that “clay” stands for “matter generally” or “animal body.” But this is not what Augustine means, which is evidenced by his other expositions of man’s origin. For instance, Augustine asks:

In what manner did God make him [Adam] from the mud of the earth? Was it straightaway as an adult, that is, as a young man in the prime of life? Or was it as he forms human beings from then until now in their mothers’ wombs?

And he immediately answers:

The only thing proper to Adam was that he was not born of parents but made from earth... Adam was not made otherwise when he was formed from mud already in adult manhood (*perfectae virilitatis*). (*De Gen. ad Lit.*, VI,13,23; VI,18,29)

Augustine maintains the literal understanding of clay (*limus*) and defends the direct creation of Adam by God in adult form, which alone excludes any kind of evolutionary origin. The Synod of Cologne confirms the same doctrine held also by other Church Fathers, Thomas Aquinas, and other holy Doctors.

Again, Kemp challenges the traditional doctrine of monogenesis and original sin, because he assumes that this is what “science” requires. In what follows, I will show that the defense of the traditional position is actually possible in the light of the latest scientific research.

WHAT DOES SCIENCE ACTUALLY TELL US?

As Prof. Kemp rightly observes, the studies on the so-called Mitochondrial Eve (and Y-chromosome Adam) do not tell us anything about mono- or polygenism, because they only indicate the existence of the most recent common ancestor of all women (or men for Y-chromosome Adam) without excluding a possibility of earlier, simultaneous or later existence of other, unrelated human lineages (which presumably died out).² It does not even exclude (in fact, implies) the existence of many Mitochondrial Eves and Y-chromosome Adams in history with the latest succeeding the previous one over time (Swamidass 2019, 45–50).

Nevertheless, these studies tell us at least two important things: First, they show how greatly disparate outcomes are obtained under different assumptions and that there is no universally accepted standard of assessing which assumptions are better justified. Second, such studies do not produce “evidence” in a strict scientific sense. Rather they give us probable estimates under a given set of assumptions, but these estimates become less reliable when they cover older and more diverse populations. When the entire history of the humankind is considered, they amount to learned speculations and by no means constitute the “hard facts” that should make Christians modify the doctrine of original sin.

2. For a good presentation of what those studies “prove” and what escapes them see (Swamidass 2019). Some studies allow for the common ancestor (that is a person who would belong to the genealogical tree of all living humans) as recently as 2–3 thousand years ago (Hein 2004).

Another reason for Prof. Kemp to adopt polygenism is his belief that population genetics excludes the very possibility of a single pair at the dawn of humanity. He readily quotes a study by Francisco Ayala even though it has been challenged by other scholars, mainly for the biased choice of the DNA fragment (DRB1 gene) known for being under strong positive selection (Kemp 2011, 224). But the challenge to monogenism from population genetics is rather elusive if we understand the “logic” behind such studies.

Genetic diversity of any given population will typically grow over time due to the accumulation of new variants (alleles) of genes caused by mutations. Applying a very simplified model we can imagine this process as a cone (see Figure 1).

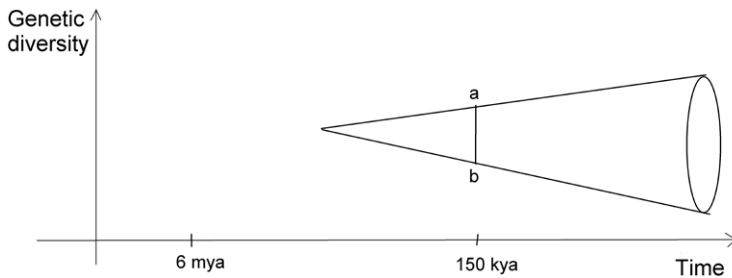


Fig. 1

The cross-section of the cone represents genetic diversity of a population in a given time. The length and shape of the cone depends on many assumptions, including how long a given population exists, mutation rate (how fast the diversity grows), whether there was interbreeding with other populations, selective pressures, the influence of genetic drift and many others. Obviously, the cone represents just the time from the last bottleneck. However, it does not tell us how many such bottlenecks took place in the population’s history. If we go back in time, the diversity will typically decline, especially if the population size declines as well. For instance, assuming that humanity is just 150 ky a the population needs to be at least as large as the section a-b indicates. But given enough time, any diversity could ultimately collapse to the bottleneck of two. There are several studies showing that such a case is possible even as recently as 0.5 mya while paleontological evidence suggests that humans could exist even 7 mya.³

3. Studies showing the possibility of a single couple include: (Hössjer and Gauger 2019; Nei et al. 1975). There are also empirical studies on populations we know underwent the short

Moreover, a short bottleneck of two followed by rapid expansion would not be even visible for population genetics (Buggs 18:10–18:30). We should also be aware that theoretically any human genetic diversity could be carried by just two individuals at any given time.⁴ So the question is, as geneticist Richard Buggs puts it, not *whether* humanity could be reduced to one pair, but rather *when* the pair existed (Buggs 19:20).

This recent research has ultimately dismissed the genetic challenge against the possibility of an historical Adam and Eve. Kemp, who published his paper in 2011, obviously could not have known about the incoming models, however, he ignores these results in his 2020 paper. Had he adopted a “healthy” science and faith relation, such as the one proposed by Augustine, he never would have had a need to challenge monogenism in the first place.

Having briefly shown that science does not exclude the belief in a single couple as the only origin of all of humanity I will now move on to present the philosophical and theological insufficiency of Kemp’s proposals. First I will deal with his concept of original sin and then with his idea of hominization.

THE THEOLOGICAL FOUNDATIONS FOR THE DOCTRINE OF ORIGINAL SIN

Prof. Kemp claims that the traditional Christian preference for monogenism has had two grounds: the Bible and the doctrine of original sin. In Catholic tradition, according to Kemp, “much more emphasis has been placed on monogenism as the only view consistent with the doctrine of Original Sin.” (Kemp 2011, 218). However, while he provides three Biblical passages to support the Biblical foundation for monogenism, he refers to just one Catholic document to support his thesis. The document is *Humani Generis*, the 1950 encyclical by Pius XII, which indeed forbade the teaching of polygenism, because it was not apparent, how it could be reconciled with the Catholic understanding of the propagation of original sin through biological generation. Nevertheless, this one document cannot represent the entire tradition, as Kemp suggests. The classic exposition of original sin, the one more representative of Catholic tradition, is found in the Council of Trent:

bottlenecks of two. For more information, see (Buggs 2021, 18:55). Humanity could be as old as 3–7 mln years which is evidenced from both fossils and the oldest artifacts. For a broader justification of this thesis see: (Chaberek and Carleial 2022, 249–87).

4. The reason for that is that every human inherits two copies of the genome (one from each parent). But there are only four “letters” (A,G,T,C) in the genetic alphabet. So there can be no more than four variants for each nucleotide and those four variants can be carried by one couple (2x2). (See Buggs 2021, 8:00–9:00).

If any one does not confess that the first man, Adam, when he had transgressed the commandment of God in Paradise, immediately lost the holiness and justice wherein he had been constituted; and that he incurred, through the offence of that prevarication, the wrath and indignation of God, and consequently death... let him be anathema. (The Council of Trent, Session V, 1).

We see that the Council adopted a broader and more fundamental perspective than the one adopted by Pius XII. Original sin must propagate from Adam not because it is hard to see how it could be otherwise propagated, but rather because Adam was “the first man” who “transgressed the commandment of God.” So, the need for a single pair in the beginning is not just the consequence of the sin. On the contrary, the existence of Adam and Eve is the reason (the cause) why sin has propagated through generation to all subsequent humans. Wherever we look into Catholic tradition we see the same perspective—real existence of Adam and Eve as the exclusive origin of humanity whose sin is the cause of original sin in each human.⁵ Pius XII’s tying of monogenism exclusively with original sin, with the omission of the biblical and other reasons for believing in monogenism, is by no means representative of Catholic tradition.

THE EXPLANATION OF ORIGINAL SIN

Prof. Kemp proposes to “make a distinction when faced with contradiction” and so he claims that polygenism can be reconciled with the doctrine of original sin by distinguishing three understandings of species:

The biological species is the population of interbreeding individuals.

The philosophical species is the rational animal, i.e., a natural kind characterized by the capacity for conceptual thought, judgment, reasoning, and free choice....

The theological species is, extensionally, the collection of individuals that have an eternal destiny (Kemp 2011, 217).

According to Kemp, from a population of about 5000 biological hominids who lacked “intellectual thought,” God selected two individuals whom he

5. Among the documents confirming this perspective we should mention Pope Pelagius I’s Confession of Faith (587), the Decree on Original Sin issued by the Council of Trent, The Synod of Cologne (1860), Leo XIII’s Encyclical *Arcanum Divinae Sapientiae* (1880), The 1909 Decree by Pontifical Biblical Commission concerning the historicity of Genesis 1–3. For a presentation of these documents as well as additional evidence (from Church Fathers, Augustine and Aquinas) see (Chaberek 2015).

endowed with intellects by infusing into them rational souls and preternatural gifts. Only these two were “truly human,” and the ones who committed original sin, but they remained theological/philosophical humans. Their descendants continued to propagate and interbreed to some extent with the “non-intellectual hominids.” Kemp believes, however, that “if God endows each individual that has even a single human ancestor with an intellect of its own... [they] would easily replace a non-intellectual hominid population” so that after just three centuries there would remain only the theological humans, who all descended from a single couple (Kemp, 2011, 232).

Kemp’s account supposedly preserves both the purported “scientific evidence” from population genetics and the Catholic tenet regarding the propagation of original sin by means of biological generation. Nevertheless, this solution, besides the problems already mentioned, contains several other difficulties that Prof. Kemp does not address.

PROBLEMS WITH THE PROPOSED EXPLANATION

Even though Kemp offers the three definitions, nevertheless he confounds the reader by introducing several other terms that he does not define. For example, he refers to a “truly human” which supposedly stands for a “theological human.” But if only a theological human is “truly human” then what would be a “biological human”—is it “human,” but not “truly human,” or is it not human at all? This confusion stems from the fact that Kemp calls human (even if a merely biological one) a non-rational creature whereas the very notion of humanity entails rationality. That a creature with the human body deprived of reason (i.e. a rational soul) cannot exist will be explained later.

Kemp also seems to use synonymously concepts such as “theological species” or “theological men/humans” on the one hand and “biological species,” “biologically human,” “genetically human-like,” “genetically human,” “non-intellectual human,” etc. on the other. If his solution were to resolve the apparent contradiction by proposing a distinction then, at a minimum, all these terms and the relations between them should be clearly defined.

The fundamental problem for the entire Kemp’s argument is his category mistake in defining species. The first definition, “biological species,” refers to a species in general while the following two are definitions of humans. “Biological species” defined as “a population of interbreeding individuals” may refer equally well to humans, dogs, cats, horses and any other interbreeding population. Therefore “philosophical/theological humans” are just a sub-group of “biological species.” Kemp seems to confirm it: “Two individuals, one theologically human and the other not, would remain members

of the same biological species as long as they were capable of producing fertile offspring” (Kemp, 2011, 230). It follows that his “biological species” is just an indication of a genus (in philosophical terms) and “theological/philosophical” is the indication of “specific difference” (*differentia specifica*). His definitions do not introduce any other distinction than just the one between non-rational animals on the one hand and rational animals on the other, which means that his entire concept boils down to saying that the first humans initially interbred with non-humans.

Kemp’s divergence from the classic Christian position is logically a two-step process. At the first step he abandons “special creation” for “special transformism”⁶ and then he modifies the concept of “special transformism” in the way I explain below. Since “special transformism” as such is not a unique idea of Kemp and it would require a broader explanation, I will focus on just his second step, i.e., his peculiar form of poly/monogenism.

MONOGENETIC VS. POLYGENETIC “SPECIAL TRANSFORMISM”

The “classic” type of “special transformism” holds that humanity began with God electing two individuals of a sub-human population whom He endowed with rational souls. They committed original sin, but they did not interbreed with any non-humans, instead they continued to increase the human population independently from other animals. This form of special transformism, therefore, preserves traditional Catholic monogenism. Kemp’s proposal simply adds to special transformism the idea of early humans interbreeding with non-humans and this is how he attempts to harmonize it with the alleged “scientific evidence.” The apparent contradiction, therefore, is not resolved by a distinction, as Kemp puts it, but rather by proposing a somewhat bizarre development of “special transformism” in which the alleged “genetic problem” is resolved by proposing bestiality in the early human population. His claim that “this theory is monogenetic with respect to theologically human beings but polygenetic with respect to the biological species” (Kemp 2011, 232) might be true, but we must keep in mind that the “biological species” here is not human but animal.

Now, whether it is actually true or not depends on how one defines monogenism. For Kemp, “monogenetic” means that all human genealogical lineages may be traced back to a single couple, but other animals may

6. In special creation the dust or clay that God used to form Adam is nothing else but dead matter (dust, clay or slime). In special transformism “clay” or “dust” may stand for “living matter” such as an imaginative “hominid” that God transformed into the first human. Hence, special transformism implies biological continuity of generation between non-human and human ancestors.

contribute to the growth of the human population. In the traditional Catholic perspective, however, “monogenetic” means that there were not any other humans, let alone beasts (or the imagined “hominids”) before, during or after Adam and Eve, who would not be genealogically descended from them (Pelagius I, DS 443, 228a). Nominally therefore, Kemp’s solution may be deemed monogenetic, even though monogenism is not understood there the way Catholic tradition holds. Nevertheless, his solution leads to a much greater problem: namely, the possibility of humans entering sexual relations with non-humans and producing fertile offspring. There are reasons to doubt that such a thing is biologically or metaphysically possible.

CAN A RATIONAL ANIMAL INTERBREED WITH A NON-RATIONAL ANIMAL?

In order to clarify what Kemp’s solution entails we need to refer to clearer definitions that would allow us to separate and compare the biological and the philosophical planes.

From the biological perspective we can have narrower as well as broader categories of “species.” According to the classic biological taxonomy, biological species includes races, varieties, breeds or strains while the broader categories are genera, families, orders, classes, etc.

From the philosophical standpoint we can distinguish non-living and living material beings and among the living—the vegetative, the sensory and the rational. Here “living” designates genus and vegetative, sensory or rational designates specific difference. If we translate this philosophical division of species into biological terms, “living vegetative” are plants and mushrooms, “living sensory” are bacteria, insects and animals, and “living rational” are humans.

Consequently at a high level of philosophical abstraction humans would be further away from apes than, for example, apes from insects, which does not seem biologically accurate. In order to make sense of biology-philosophy comparisons (on which Kemp’s argument also rests) we need to draw on a more specific philosophical concept of species, however, one that remains philosophically distinguishable. This concept is “natural species,” i.e., a group of individuals that share the same nature. For instance, we can speak of “horse nature” that in biological terms would include all members of the *Equidae* family, or “dog nature” that includes the members of the *Canidae* family, or “cat nature” that includes the *Felidae* family, etc.

We see, therefore, that the most specific definition of species that maintains philosophical meaning corresponds to the biological level of genus or family. And this is why Kemp’s solution fails: According to the biological evidence, only the members of the same biological species can interbreed,

but the difference between his philosophical/theological human (rational animal which he also calls “natural kind”) and the closest biological species (sub-human) is at least at the biological level of genus, which means that the interbreeding of what Kemp calls “truly human” and “biological species” (i.e., non-rational animal) is physically impossible. The taxonomical gap between “biological species” (whatever it would be) and philosophical human is simply too large to allow interbreeding.

Surely, Prof. Kemp believes in the past existence of some “intermediate” creatures between apes and humans, who were genetically close enough to allow interbreeding, but at the same time different enough to account for the difference between the intellectual and the non-intellectual animal. However, Kemp’s imaginative “intermediate” form between “true” humans and non-humans encounters either biological or philosophical obstacles (or both). The reason is that humans and non-humans differ not just by the ability for intellectual thought (as Kemp suggests, 2011, 231) but by the substantial form of their bodies. The human soul is not just a faculty of thinking added to an animal. Rather it is a completely new form that also requires an entirely new disposition in matter.⁷ The human soul requires a body that is completely different from any other body we see in the animal kingdom—it is *universal*, i.e., not limited to any set of biological functions and behaviors, and *unadapted*, i.e., deprived of features that promote survival capability (horns, claws, fangs, fur, etc.). We survive and thrive, because reason allows us to overcome the relative “deficiencies” of our bodies. At the same time the universality of the human body allows us to actualize the unlimited amount of ideas coming from the mind, which would not be possible through an animal body.

Therefore, Kemp’s alleged solution encounters a problem: an animal could not evolve toward the human (unspecified) body because this would make it incapable of survival—the human body without the human rational soul is a biological dead end. But imagining that the animal body could evolve toward human by losing the animal features, had it possessed the rational soul in the first place, also fails, because this means that the human soul would initially animate a non-human body which is impossible for

7. The Council of Vienne (1311–1312) stated against the errors of Pietro Olivi: “We define that anyone who presumes henceforth to assert, defend, or hold stubbornly that the rational or intellectual soul is not the form of the human body of itself and essentially, is to be considered a heretic.”

The definition of the Fifth Lateran Council reads: “The soul not only truly exists of itself and essentially as the form of the human body,...but it is also immortal”(The Fifth Lateran Council, Session 8).

metaphysical reasons. Thus, Kemp's "non-rational animal with the human body" is a contradiction in terms. The very existence of what Kemp calls "biological species" (meaning *biological* but not *philosophical/theological* human) is biologically and metaphysically impossible.

CONCLUSION

Catholic dogma might require some modification in understanding if it clashed with hard facts. However, this hypothetical situation does not apply to polygenism. Prof. Kemp takes learned speculations of population genetics as "hard facts," and this confusion leads him to attempt to solve a problem that might be nonexistent in the first place, had he thoroughly evaluated the current state of science.

Prof. Kemp tries to resolve the problem of polygenism and original sin, but even his understanding of monogenism as a mere collapse of genealogical lines of all currently living humans to one couple strays from Catholic tradition which holds that the historical Adam and Eve were the exclusive origin of humanity, genealogically disconnected from any other living beings.

His solution to the alleged contradiction between science and Catholic faith rests on the category mistake by which "biological species" means "biological human," which is also confused, because biological human is simply a non-rational animal and philosophical/theological human is a rational animal. According to this explanation, the "biological species" would be an imaginative creature which has the human body animated by a non-human soul—a creature both biologically and metaphysically excluded.

His solution also implies that the human soul is just a faculty of intellectual thought rather than the substantial form of the human body (which contradicts the teachings of two councils). Kemp's solution therefore is not based on a "distinction that resolves contradiction" but on confusion in terms and the postulation of metaphysically impossible entities.

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