

Lecture 2: Thomas Aquinas and Theistic Evolution

S3. Yesterday I presented the three levels of human knowledge – science, philosophy and theology. The problem of evolution may be discussed on each of these levels: We can ask, is evolution justified theologically? Is it justified scientifically or philosophically? I also said that the three levels, according to the Catholic teaching must be entirely compatible. This means that theology cannot contradict science and philosophy and science cannot contradict theology. Therefore, if evolution is compatible with the Catholic faith (as many scholars claim) it must be compatible not just with Catholic theology, but also with philosophy and natural science. And conversely, we cannot accept evolution if it is incompatible with either science, or theology or Christian philosophy. Today I will try to show some problems in harmonizing evolution with Christian philosophy. First, however, we need to define what we mean by philosophy and what we mean by evolution. I admit that assuming some definition of philosophy and some definition of evolution they are fully compatible. For example, if we define evolution as simply „change over time” it is not a controversial theory. We see that everything changes over time. We see that the cosmos and the living beings and all nature changes each day, therefore we can say that the whole world is in constant evolution. Such idea of evolution is compatible with what we read in the Bible (because the Bible speaks about changes in nature) it is also compatible with classical Christian philosophy which admits that time passes and things grow towards their ultimate fulfilment. But this is not how we understand “evolution” in the controversial debate about the origin of species.

S4. First I want to explain that by “philosophy” I mean a philosophical tradition sometimes called the “sound philosophy” or the “perennial philosophy”. The names “sound” and “perennial” mean that it is universal, it doesn’t change over the ages, it is always actual. This kind of philosophy was primarily created by Aristotle (IV c. BC) and then adapted to and harmonized with Christianity by St. Thomas Aquinas (XIII c. AD). The main part of the *sana philosophia* (sound philosophy) is called “classical metaphysics”.

Classical metaphysics has been used by the Church to formulate and explain many fundamental Church teachings, such as the Trinity, Christ, the sacraments, etc. For example, what do we mean when we say that in the Trinity there are three Persons and one Nature? When we speak about the Eucharist, we say that in the Eucharist the substance of bread is replaced with the substance of Christ’s body, but we still see bread because the accidents of bread remain unchanged. Where do all these notions come from? All these seemingly complicated notions, such as substance, nature, accidents and the similar, come from classical metaphysics. Classical metaphysics is the basis of our understanding of the faith. Without classical metaphysics Christian doctrine turns into fideism, it cannot be properly formulated or taught. This is why classical metaphysics is so important. If evolution contradicts classical metaphysics, it also contradicts the Christian explanation of faith.

S5. Now let’s explain the second crucial term – “evolution”. By evolution I mean biological macroevolution. Biological means that I do not refer to cosmic, chemical, biochemical or cultural evolution. Each of these concepts refers to different reality. Cosmic evolution speaks about the evolution of stars, planetary systems, galaxies and the cosmos as a whole. This is evolution in nature. Another type of evolution refers to culture, that is the entirety of the typically human products. Thus we speak about the evolution of languages, laws, civilizations, technology, customs, etc. Evolution in nature follows different laws than the evolution in culture. And even within the evolution in nature each of these types of evolution follow different patterns and laws and for this reason they must be clearly distinguished. An evidence for one type of evolution is not an evidence for another type. For example, the fact

that we see that stars grow over millions of years, then they turn into red giants, burn out and explode (this is commonly called the evolution of stars) doesn't mean that a similar process must be taking place among the living beings, or in human culture. And vice versa – for example, evidence for the evolution of human languages does not constitute evidence for biological or chemical evolution. Here I limit the word evolution just to biology. We are concerned with the changes in the realm of living beings (plants and animals). We will talk about biological evolution.

The second word – “macro-evolution” – means that we are not concerned with minor biological changes within the limits of the so-called “natural species”. (Natural species contain all living beings sharing the same nature. They do not go beyond genera or families according to the classic taxonomy). We are talking about the origin of new natural species. In biological terms it means the origin of new families, classes, types and kingdoms (i.e., higher taxonomical levels). Microevolution is not controversial, virtually everybody agrees that there are some changes in living beings. We see random mutations and natural selection producing bacterial resistance to antibiotics. We see the adaptations of organisms to different environments. But none of these changes produce any significant biological novelties. These changes do not create new “natural species”.

The important and the controversial debate over evolution takes place when we mean not just evolution as such, in some undefined or vague meaning, but when we mean the origin of species, that is, biological macroevolution. This is how I understand evolution in the following parts of my talk.

S6. Biological macroevolution consists of the three grand claims:

1. *Universal Common Ancestry* - all living beings share common ancestry, i.e., if we went back in time tracing all of the ancestral lineages we would ultimately come to one organism who is a natural progenitor of all living beings (LUCA).
2. *Transformation of species* – one species can transform into another through natural generation.
3. *Evolution is natural* – this process does not require any supernatural (direct or mediated) work of God.

S7.

S8. God can work in the universe either directly, when He causes something without using any other creatures or indirectly, when He uses other creatures to work. (Example: I can push this sheet with my fingers, or I can use the pen to push the sheet. In the latter case the pen becomes the secondary cause of me pushing the sheet). Secondary causation can be *natural* (like when God uses nature to do something in nature) or *supernatural* (when God uses angels, souls or even demons to achieve some effects in nature). An example of the supernatural secondary causation is the Annunciation, when the Angel is sent to Mary to proclaim the message about her becoming the Mother of Christ. God used a supernatural secondary cause to announce the good news about the Incarnation. An example of the natural secondary causation is when God uses a thunder to make someone convert. God also uses the entire nature to bring humans to the completion of their lives, for example by providing them food he enables them to live, and this in turn enables them to fulfill all other goals of their lives.

S9. Theistic evolutionists say that evolution is the natural secondary cause of creation. According to theistic evolution, God used evolution to create all species. Evolution is like a tool of divine work in the universe. Different authors have different ideas about how it is

supposed to work. Some say that God just set up the evolutionary process by creating the “initial conditions”, or that he front-loaded the genetic information in the first living being, other say that God is constantly present in the evolutionary process, or that nature co-creates the universe together with God. Some other say that God works as a final cause (like a magnet attracting the evolutionary process).

S10. However, according to classical metaphysics (and more generally according to the traditional Catholic doctrine on creation), there was no, and cannot be, in principle, any secondary causes in creation. We see it in the fresco by Michelangelo from the Sistine Chapel. Everybody knows it, many people like it, but few understand its entire meaning. There is no secondary cause in the creation of Adam, because there is no secondary cause in any creative act of God.

This is because every secondary cause works according to what it is (according to its nature). A pen writes, because it is in the nature of a pen to write. A hammer drives the nails, because it is in the nature of a hammer to bit the nails and so on. In an act of creation, however, a new being is brought to existence and no created thing is apt to bring a new being to existence. No created thing has a capacity to create anything. This is why creature cannot create even as a secondary cause.

Thomas Aquinas explains it in the *Summa*:

It happens, that something participates in the proper action of another, not by its own power, but instrumentally, inasmuch as it acts by the power of another; as air can heat and ignite by the power of fire. And so some have supposed that although creation is the proper act of the universal cause, still some inferior cause acting by the power of the first cause, can create. [And thus Avicenna and the Master say] that God can communicate to a creature the power of creating, so that the latter can create ministerially, not by its own power. But such a thing cannot be, because the secondary instrumental cause does not participate in the action of the superior cause, except inasmuch as by something proper to itself it acts dispositively to the effect of the principal agent. If therefore it effects nothing, according to what is proper to itself, it is used to no purpose; nor would there be any need of certain instruments for certain actions. Thus we see that a saw, in cutting wood, which it does by the property of its own form, produces the form of a bench, which is the proper effect of the principal agent. Now the proper effect of God creating is what is presupposed to all other effects, and that is absolute being. Hence nothing else can act dispositively and instrumentally to this effect, since creation is not from anything presupposed, which can be disposed by the action of the instrumental agent. So therefore it is impossible for any creature to create, either by its own power or instrumentally—that is, ministerially (S.Th. I,45,5 co).

S11. The second philosophical problem of biological macroevolution is that the accidental change cannot produce the substantial change. This problem requires more explanation.

First I need to introduce two metaphysical notions. They are somewhat difficult, so I need your complete attention. The first of them is the notion of „substance”. Substance generally tells us what a thing is. This is a horse, this is a cat, this is a car. We say this is something because we recognize the substance of the thing, i.e., we recognize what it is. But each of these things has also something like features. We can ask, what is it like? The features are accidents. So, for example, we can say that this is a horse (horse is the substance of this thing), and then add that the horse is brown, slim or skinny, it has a long mane, short tail, it is fast or robust. These are all accidents. Accidents do not change the substance. No matter what color a horse has, no matter how long or short its mane or tail, no matter whether fast or slow, sick or healthy, robust or fragile, it is a horse in each case. Of course accidents are in the horse and outside of it (its position, temperature, even relation to other objects, like

a rider sitting on the horse – these are all accidents). But changing the accidents of a substance does not change the substance. Substance is what remains even when accidents change.

S12. This picture represents in a graphic form the difference between the substance (or a nature of a thing) and the accidents. In the first row you can see a cow (or a bull). Cows can differ in their color and many other features, but they are still cows, because they share the same nature of a cow (cowness) and they remain the same substance. The same with fish. You can have vary many various species of fish, but they all remain fish, because they share the same nature – fish nature, or “fishness”. They all have the same substance – fish. The same about flowers and other plants and animals. Each species (natural species) constitutes its own nature. You may have many different dogs, but they are all dogs, because they all belong to one substance of a dog (dogness). There are many different cats, but they belong to one cat nature, they are all of a cat substance.

S13. Now, in biological macroevolution one substance is supposed to change into another. An amphibian is supposed to evolve into a reptile, a reptile into a bird, a reptile into a mammal. This kind of a change is substantial because a reptile (like a lizard) is clearly a different substance than a bird (like a parrot) or a mammal (like a coyote). Therefore, biological macroevolution postulates substantial changes. But in the evolutionary process there are only accidental changes. Genetic mutations, natural selection, even guided selection, environmental adaptations are all just accidental changes because they change only the accidents of the substance. This is why the evolutionary process will never produce a new substance.

A good example are the experiments conducted recently by my co-friar fr. Nicanor Austriaco at Providence College. Fr. Austriaco wants to transform a lizard into a snake. According to him, a snake is just a lizard without legs. So by genetically manipulating the embryo of a lizard they managed to grow a lizard with just two limbs, and then a lizard without limbs at all. But do they get a snake? No. The reason is that a snake is not just a lizard without legs. Many other organs and systems of organs need to be modified. The skeleton, the length of the body, the shape of the head, etc. In fact, what they get is just a lizard without legs, not a snake. Such lizard could not even survive outside of the laboratory (whereas healthy snakes do survive).

Those who believe in biological macroevolution think that an accumulation of multiple accidental changes over time will ultimately produce one substantial change that will bring about a new substance, a new species. But according to the classical metaphysics, it will never happen. The accumulation of the accidental changes will only yield the same animal (the same substance) with so many accidental changes. If there are too many changes, the animal will die. Fr. Austriaco and his team do not obtain a snake from a lizard. What they get is just a lame lizard or a dead lizard.

We see the same problem in nature. Animals can adapt to changing environments to some degree, but if the changes are too drastic the animals either migrate or die out. They do not transform into any other animals. Substance is what remains, accidents change. But if there are too many the so called „essential accidents” changed the animal will become sick, lame, and finally it will die.

S14. The third problem is that biological macroevolution excludes the order from creation.

Let's look into one fragment from Aquinas:

“It belongs to the best agent [God] to produce an effect which is best in its entirety; but this does not mean that He makes every part of the whole the best absolutely, but in proportion to

the whole; Thus, therefore, God also made the universe to be best as a whole, according to the mode of a creature; whereas He did not make each single creature best, but one better than another” (S.Th. I,47,2, co).

Thomas says that in creation God established some order of beings in which some creatures are better than others. Humans are better than animals, animals than plants, plants are better than inanimate beings. This is an objective hierarchy of beings. And even among the animals one is better than the other and among plants some are nobler than others. God in creation wanted to communicate His wisdom and power. One creature could never represent the divine excellency. This is why God created many diverse creatures. Surely no creation represents the power and wisdom of God in a complete way, because God is always more excellent than we can think or imagine. Nevertheless, God wanted to communicate as much of his perfectness as possible. And this is why we find so many different creatures which differ in their natures and degrees of perfection. Biological macroevolution does not allow for the established order of creation. It says that God created only one being (let’s say, the first living cell) which then evolved through the struggle for life and the survival of the fittest into different cells, and then different plants and animals. But none of them represents any complete degree of perfectness, because all of them constantly evolve. They become more and more “perfect” through evolution. They are supposed to constantly acquire the new levels of being, which means that they are not good as they are, but they need to become something else. They need to exceed their own natures by becoming some other nature. Therefore, there is no room in the evolutionary account of life for the initial state of perfectness that consists of the diversity of beings and their different perfections. In biological macroevolution there is nothing like the order of nature established by God in the creation of life to represent His beauty and perfectness.

Another problem that falls into the same category is that according to Aquinas, there are two perfections in each created thing. Aquinas says:

“The perfection of a thing is twofold, the first perfection and the second perfection. The 'first' perfection is that according to which a thing is substantially perfect, and this perfection is the form of the whole; which form results from the whole having its parts complete. But the 'second' perfection is the end, which is either an operation, as the end of the harpist is to play the harp; or something that is attained by an operation, as the end of the builder is the house that he makes by building. But the first perfection is the cause of the second, because the form is the principle of operation. Now the final perfection, which is the end of the whole universe, is the perfect beatitude of the Saints at the consummation of the world; and the first perfection is the completeness of the universe at its first founding, and this is what is ascribed to the seventh day” (S.Th. I,73,1 co).

In biological macroevolution the first perfection was not established in creation. Moreover, it has never been achieved by any creature, because every species is supposed to evolve and thus transcend its own nature. Therefore, biological macroevolution contradicts Aquinas’ metaphysical teachings on the completeness and perfection of the universe at its creation.

S15. A summary of the three arguments.