

Rebuttal to Gerard Keane on Mary Daly's review of Creation Rediscovered

Dear Mr. Gerard Keane,

I see three main issues. You say that:

- 1) I did not read your book thoroughly.
- 2) I do not have a sufficient theory for all aspects of creation by something other than God's direct action.
- 3) I do not sufficiently cite tradition.

My response in brief is this:

1) On whether I read your book thoroughly:

My original review of your book was completely personal. A friend was persuaded that you had advanced some very important arguments; I read enough to show her that the main arguments from the natural sciences were not new, and that the theology was flawed.

When I read more, for a more public review, I found more of the same. Still, it was very difficult because you covered so many topics in physics and the biological sciences, and to study and respond to each one was not possible. I asked the help of a close friend whose knowledge really is encyclopedic, and he glanced at the book, then turned away without a word. I knew him. He thought it a waste of his time, and perhaps also a source of anger and discouragement because he has so long suffered being a Catholic scientist in the secular world.

Let me give an example of the scientific material that is so irritating.

You have a section about the orbits of the planets, whose intricacy includes an exchange of place between two of the moons of Saturn. You also note

that Pluto and its moon Charon orbit about a common center between them, rather than one around the other. These planetary and moon dances, in your view, are such a stunningly original display as to be evidence of special creation.

They are not.

In fact, both are due to the normal action of gravity, completely in harmony with what is well-known and well-understood in physics essentially since the days of Newton and Kepler, and they are neither more nor less miraculous than the fall of a spoon.

I do not like to be unpoetic about this; God made everything, and it is amazing and full of beauty and surprises, but let us not give the impression that things are evidence of design when they belong to the most basic and ordinary functions of the universe. People will feel betrayed when they discover that what they had been told, late 20th century, was too intricate to be an accident has, in principle, been understood for 300 years and is bound to be happening all over the universe. Whole galaxies are doing these amazing dances, just based on the laws of gravity and momentum. I won't say it's not designed; I should think that each snowflake is, from a certain perspective, designed. But there's no miraculous intervention; flakes fall; they have their histories; they grow into the shapes that their physics calls for; and orbits are incredibly individual within their specific limits.

When I saw this topic in your book, I did not want to read through it, because I knew so little about gravity: I had never looked at Newton's equations or studied gravity. Nevertheless, I was sure that the orbital exchange was a commonplace matter of physics, and I vaguely remembered hearing about it because I do hang around physicists. I have studied the matter somewhat since then and can say that Newton's third law is the relevant one, and even the orbit of the Earth around the Sun is actually centered on their common center of gravity, not actually on the center of the Sun itself. The case of Janus and Epimetheus is a little more complex (actually a lot more complex) because three bodies are involved: Janus, Epimetheus, and Saturn. Nevertheless, there is nothing miraculous about them, and many other gravitational systems in the universe are equally or more complex.

There were other topics like that. In the last six years, I have had time to pursue many of them. In each case, my original opinion has held up: your opinions are helpful for teaching me what sorts of ideas Catholic creationists are likely to have, but they are not useful for a better understanding of creation. Instead, they are full of confusion.

2) On having a sufficient alternative cosmology

This was a review, not a book. In this review, it was my responsibility to tell potential readers whether the book would be useful or not, and it was my responsibility to indicate why I had my opinion. It was not my responsibility as a reviewer to display my full cosmology or even to have a full cosmology.

Furthermore, based on your rebuttal, I must conclude that you believe that I hold great many opinions which are common to theological evolutionists, but which I do not actually hold. I have published my opinions, see below. Although our disagreements are quite strong, it would change the conversation somewhat if you knew my thinking.

3) On the citation of tradition.

Suggesting that I do not sufficiently cite tradition is begging the question. In a Church which has traditionally taught the unity of truth, I do not have to appeal to tradition for my opposition to bad science and poor theology. The rediscovery of the majesty of creation depends on portraying the religious teaching in harmony with scientific truth, and I do not think you are a reliable guide in this matter. That is my point.

Let me, however, make this appeal to tradition:

St. Augustine said that we should not say things that would subject the gospel to ridicule. To express even the slightest uncertainty about geocentrism, particularly as if it were related to a point of faith, does invite ridicule. In fact, Cardinal Schönborn thinks it invites ridicule to express the opinion that the earth is 6,000 years old. So the major editor of the Catechism, who can hardly be accused of failing to recognize tradition, has completely dropped the 24-hour reading of the six days, which you so strongly advocate.

St. Albertus Magnus said that in the physical realm, we had to be guided by experiment not by authority, and he further wrote in (*De Coelo et Mundo*, I, tr. iv, x) that "In studying nature we have not to inquire how God the Creator may, as He freely wills, use His creatures to work miracles and thereby show forth His power: we have rather to inquire what Nature with its immanent causes can naturally bring to pass." You write as if so much astronomy and historical geology were no more than ignorant theorizing opposed to the authority of tradition. In fact, these and other sciences are rich with observations which your mentors have ignored, in favor of inquiring after miracles. This causes the natural scientist who inquires into immanent causes to seem irreligious, and indeed to become increasingly irreligious as religion is proposed in opposition to this honest thinking.

St. Thomas Aquinas discusses Genesis 1 at some length without feeling obliged to see it as a specific historical sequence and he offers philosophical and entirely spiritual considerations, partly in review of St. Augustine's thoughts (which you have mentioned). These considerations, while suggesting a shorter rather than a longer period of time than 24 hour days, make it clear that taking Genesis literally was not a definitive consideration with either St. Augustine or St. Thomas. An interesting website on this topic is: http://www.catholic.com/library/Creation_and_Genesis.asp
The fathers were not unanimous.

St. Robert Bellarmine said, during the Galileo discussions, that if heliocentrism could be proved (which he did not imagine to be possible) then we would have to adjust the way we read those passages which imply geocentrism. This is one expression of an old principle: that scientific findings may require us to adjust our understanding of revelation -- not revelation itself, but our understanding of it. This is not a modernist idea. You say that: "By definition, if theology and science clash on a particular point, then it is Theology which trumps Science; never the other way around;" but this is not a traditional or a good teaching. Galileo, in the letter to the Grand Duchess Christina, has a very careful discussion of the right understanding of the primacy of theology, and since this is a letter that Pope John Paul II recommended as a model of hermeneutics, you might read it. It's available online, and I made a special copy for my students because I thought it so important.

It is interesting that you quote Leo XIII (1893) who urged in

Providentissimus Deus that we "carefully observe the rule so wisely laid down by St. Augustine "not to depart from the literal and obvious sense, except only where reason makes it untenable or necessity permits". I suppose part of the difference between us is a difference of opinion regarding what is "untenable" at this point in our understanding of the natural sciences. But before turning to those details, let us attend to this rule: if reason makes a position untenable, then theology must consider whether it has misunderstood its charge. This was certainly the case when theologians attacked Galileo's assertion that the Moon must be a reflector, not a "light".

Pope John Paul II said that evolution was more than a hypothesis: that it was a theory. Whatever else that means, it certainly means that dismissal of evolution in favor of literalist readings of Genesis 1 did not seem to him to be appropriate. It would be an odd thing to quote the magisterium against a pope of such acumen.

In fact, I have considerable sympathy for your concerns about evolution as most commonly understood, and as it has been related, historically, to things like Nazism. It may be that we could find more common ground sometime in the future. But I cannot say that there is wisdom in the way you would like to work out your concerns.

Dinobones:

A note on the dinosaur femur: The dinosaur tissue that you mention was only flexible after a long chemical bath in which its minerals were washed out. It is a very exciting and quite unexpected find, but it is not fresh meat, and I have not found a description that says it smelled like a cadaver unless by cadaver one means an embalmed cadaver. Here is Rich Deem's description:

*Normally, bacteria enter into the center of bones through breaks or through the holes through which blood vessels and nerves pass. The soft tissue is usually destroyed within a short period of time. In this instance, the soft tissue seems to have been preserved through dehydration and sealed from the presence of water and further decomposition. **Contrary to the claims of some young earth creationists, the tissue is obviously not fresh, since it exhibits coloring that is not characteristic of fresh tissue. Fresh blood vessels and connective tissue are nearly transparent (except the blood cells***

themselves), which is why the ostrich tissue had to be chemically stained to produce the pictures used in the article. Another difference between the ostrich tissue and T rex material was the requirement to use collagenase to release blood vessels from ostrich bone matrix. This fact indicates that much of the collagen from the T rex sample was already degraded. The primary author indicated that the bones have a distinct odor, characteristic of "embalming fluids." Therefore, it is possible that the bones landed in some chemical stew that preserved the soft tissue inside from decomposition. For example, peat bogs produce chemicals that have preserved human bodies for thousands of years. It is likely that some similar rare process has preserved the soft tissue inside some T. rex bones.

<http://www.godandscience.org/youngearth/dinoblood.html>

Point of theology; point of humility

In your rebuttal, I would expect you to address the most trenchant criticisms I have made. Doubtless we disagree about which are most important. Beyond what I have already said above, I will just mention once more what I found most disturbing, theologically, as soon as I began to read your work. It was the claim that the evolution of the human body from the animal realm was contrary to our human dignity and to the teaching that we are made in the image of God.

This is not a theologically viable critique. Our likeness to God is not specifically in our body except to the extent that our souls need a body that can house them and give them a voice in the material world.

From my perspective, since Our Lord was born in a manger where we constantly picture him with animals' breath by his infant face, we ought not be troubled if the infancy of the human race was also started in the presence of beasts. The angels were there too, rejoicing; that is enough.

There is a tradition that for some of the angels, the birth of Jesus seemed contrary to his dignity as a divine person. We who see it as the revelation of his sweet and transcendent humility can afford to be humble about our own bodily origin, whatever that may be.

However, it is clear that if this point of theology were as you understand it,

then your position on evolution would follow.

An alternative cosmology

About the same time that you were writing your original book, I also wrote a book about my cosmological understanding; it is titled Creator and Creation. It was this book that put me in the position of being asked to comment on your work. More recently, I have written a book explaining some elementary things about geology; it was written in part to prevent my Catholic friends from committing themselves to flawed arguments about Noah. It is called A Doorway of Amethyst and has a Nihil Obstat. If you would like a better understanding of my overall cosmology, you might read one or both of these, and I have also written some about Galileo, though the best book is undoubtedly Stillman Drake's *Galileo, A [Very] Short Introduction*.

On the topic of evolution, the New Jersey conference notes, recently posted on my web site will give you an idea of my thinking. Go to Hedgeschool.com if you are interested. Actually, some details are not yet posted; I am very busy with a local "brush fire." But it is an interesting and important topic.

I wish you the deepest blessings of our faith.

Mary Daly