

Review of and Response to “Faith, Form and Time: What the Bible Teaches and Science Confirms about Creation and the Age of the Universe”

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Kurt Wise has impressive credentials, both from the perspective of Bible-believing Christians and from those who respect scientific credentials. He is known for his outspoken faith as a Christian and he is also known for his degrees in paleontology from Harvard, having studied under renowned scientist and author Stephen Jay Gould. This gives him a platform to be taken seriously in his approach to science and faith. And despite my profound disagreements with him, I respect his intellect, his faith, and his strong desire to integrate those.

Regardless of how much respect I have for Kurt Wise, it is best to approach his writings with a skeptical eye and mind. Every human is fallible and Wise is no exception. Although well-intentioned, as many others who have joined in the science and faith discussions, Wise should be subject to critical review. No matter how much reverence he claims to have for the authority and inspiration of the scriptures, the actual test of this is in how he handles the scriptures and the very points he attempts to draw out of them. True reverence for the authority and inspiration of scripture will respect the intent of the scriptures, both from the human author and that of God’s divine inspiration, as well as we can discern it.

The book is divided into 5 parts. Wise calls these 1: God’s Word on the Matter, 2: The Dating Game, 3: Creation Week, 4: From the Garden to the Grave, and 5: From Noah to the New Earth. The very fact that there does not seem to be clear divisions between discussions of science and discussions of scripture raises concerns for me. It is my firm belief that honest integration of science and faith must allow initially for independence before we can make any honest claims of how their testimonies align. Nevertheless, not wanting to prematurely judge Wise solely on the structure of his book, it is best to look at his specific claims. And it is these very points that I find serious problems with.

An example of his approach to scripture is found in page 45 with his statement, “The most straight forward understanding of Genesis 1 is that the days of creation were twenty-four-hour-long, earth-rotation days.” This might sound reasonable at first glance, but it is precisely right here that we need to exercise skepticism. In examining this statement more carefully, we find that it is a classic mistake of what is called scriptural eisegesis, the taking of perspectives from outside of scripture and imposing them onto the scriptures, rather than scriptural exegesis, the process of drawing out the meaning from the text in accordance with the context and intended meaning of the author. Eisegesis runs the risk of forcing the scriptures to fit our preconceived notions of what the text should be telling us, and these very notions could be mistaken.

Genesis 1 has no suggestion whatsoever of earth-rotation, what Wise claims is the most straight forward understanding of the Genesis 1 days of creation. This is imposed upon the text by Wise, given his 21st century accepted understanding of how the world works. Wise apparently feels justified making this kind of eisegesis, for it reveals his underlying assumption that what the Genesis 1 account describes must agree or be in accordance with our presently accepted understanding of the world. But Wise may not be keen in acknowledging this assumption or admit that he is doing scriptural eisegesis rather than scriptural exegesis. To admit this and to reject this approach, one may very well come to very different conclusions than those reached by the author.

Rather than exploring a true exegesis of the Genesis 1 text first, it is better to digress here to make a very important point. The very thing that Wise has done in trying to show what the scriptures mean, can and should be turned around and applied to our understanding of what creation itself is telling us. In other words, use our presently accepted understanding of how the world works to understand more of what creation itself reveals. This seems much more appropriate than trusting in a scriptural eisegesis. And what it reveals to us is a beautiful history of the universe.

Today we know the earth is rotating on its axis and revolving about the Sun. Wise uses this to explain what a creation day is in Genesis 1, even though was not common knowledge to the ancient Hebrew. It did not become common knowledge until a couple thousand years later. Isaac Newton showed that this is a natural consequence of the three laws of motion and Universal Gravity. Using these laws, we find that the orbital period of the earth is due to the mass of the Sun exerting its gravitational influence on the Earth. Taking these same laws and applying them to our Sun's orbital motion about the center of the galaxy, we find that it has a 220 million year orbital period. And this period implies a collective galactic mass of about 200 billion solar masses. This is how we estimate the number of stars in the Milky Way. Everything seems quite consistent so far.

But then we examine the motion of stars in the outer reaches of the galaxy and find they are moving much too fast on the basis of 200 billion solar masses near the center of the galaxy. Something is making them move faster than expected based solely on Universal Gravity and the observed mass of the galaxy. While many ideas were put forward to explain this, only one idea has survived all of the observed observational tests. There must be a lot more mass present and spread out than what we can observe. This is called dark matter. It has mass, but does not interact with light. It is too spread out to notice the effect on our Sun's orbital period, but it greatly affects the orbital periods of stars on the distant edges of our galaxy. Is it real? Yes!

We observe a similar feature of galactic groups such as the Virgo Cluster of galaxies, around 60 million light years from us. The galaxies are orbiting each other too fast to be explained on the basis of the observed mass in the galaxies alone. Again, there must be much more dark matter present than ordinary matter. To test this idea, we have examined images of very distant galaxies, near the limit of the visible universe. We find distortions in the images called Gravitational lensing that are well explained by the presence of matter in between us. Now we must use Einstein's General Relativity, the generalization of Newton's Universal Gravity to understand this effect. Light has no mass, but it does respond to the distortions of space-time caused by the presence of matter. And the distorted images of distant galaxies infer that much more dark matter is present than the ordinary matter we can see. Thus, dark matter is real and its influence in this universe is far reaching, not just on our Milky Way or nearby galactic groups, but throughout the billions of galaxies we can observe, all the way back to the earliest galaxies formed, over 13 billion years ago.

This takes us all the way back to the very beginning of the universe, 13.7 billion years ago, when the universe was extremely small, dense and hot. Physics cannot be used to extrapolate back to the very beginning itself, only to within a moment after it begins. Indeed, the ultimate cause is not explained by the physics, but lies outside of its domain. During the first few minutes of the universal expansion, the lightest elements Hydrogen and Helium are synthesized, but that is not the only matter created. For if we accept that there is about 5 times more dark matter than ordinary matter, it explains how galaxies eventually formed. One of the most important tests of the Big Bang Theory was finding the small variations in temperature of the radiation left over from the initial expansion of the universe. These small ripples in the radiation temperature were preferential places for gravity to begin pulling in cold dark matter, but not sufficient to pull in the hot ordinary matter of the early universe. The radiation had been in thermal equilibrium with ordinary matter until the universe expanded and cooled sufficiently to decouple from each other around 380,000 years after the expansion began. This left ordinary matter too hot and too uniform to respond to very weak gravity wells. Continued expansion and cooling stretched this radiation out to microwaves at just a few degrees above absolute zero temperature today. Imprinted in the radiation are the small fluctuations that were necessary to seed the growth of galaxies.

The cosmic microwave radiation background itself was a key prediction of the Big Bang theory and it was discovered by accident in 1965. But the small variations in its temperature would not be detected until 1992. Once dark matter began to fall into these slight gravity wells, ordinary matter could be much more efficiently drawn in. Then ordinary matter can do something dark matter cannot - it can radiate away energy and begin the collapse into galaxies and stars. What a beautiful story emerges when applying these laws to understanding our universe's history! And the wonderful aspect of it is that it can be understood on the basis of fundamental laws that govern our universe and put to the test by observations. One can appreciate this whether

one is a person of faith or not, whether one believes the scriptures or not. It is an independent testimony to a marvelous creation.

Wise finds this history unacceptable. In his *Creation Week*, page 89, he states “The most popular atheistic theory for the origin of the universe is the Big Bang theory, which leaves God totally out of the picture.” It’s ironic that Wise feels God is left out of the picture. It has many of the same premises as in Genesis 1, as an exegesis will show. Both indicate there is a beginning to the universe with a cause outside of it. Both indicate the universe is governed by laws and order. Both suggest a detailed design revealing elegance and beauty. And remarkably, both result in a universe that seems exquisitely fine-tuned for human life. And finally, since humans have been able to comprehend much of how this unfolded, this suggests an important role for humans, a role that Genesis 1 highlights. How is God left out of the picture?

Wise concedes the many compelling evidences supporting the Big Bang, “Because each of these expectations are known to be true of our universe, the Big Bang theory is well-evidenced...Yet the Big Bang theory cannot be true for the following reasons.” Wise gives three reasons, of which the first two are simply that the Big Bang requires billions of years, rather than fitting into a young earth time frame, which he feels scripture demands. The third critique he offers is a scientific one, that the microwave background radiation is too uniform to be consistent with the distribution of matter in the universe. Yet as we have already noted, dark matter answers this objection. This leaves only a scriptural objection to the Big Bang.

We see that by applying scientific laws of how our world works to understanding the details of our cosmos reveals to us a history of the universe that makes sense and fits the observations we see today. This is an entirely appropriate way to use our understanding of how the world works. However, Wise objects to this on the basis of scripture. Yet he does so by imposing his modern understanding of how the world works to interpret scripture, indeed a scriptural eisegesis. Let us look at Genesis 1 doing an exegesis instead. Let us not force it to fit with our present modern understanding of the world. Rather, let the scriptures speak for themselves as an independent claim on the beginnings of the universe. We have already mentioned several things that both testimonies agree on. But since Wise is convinced the scriptures demand a young earth, it is best to look carefully at the account to see if this is warranted.

An exegesis of Genesis 1 must begin with observations of the text, unguided by preconceived notions of what the text must mean. We cannot use our modern notions of how the world works to guide us. That may not have been the perspective of the author at all. Let us use the “historico – grammatical” hermeneutic that Wise describes and gives lip service to, but does not seem to practice. Theologian John Walton describes this approach in his commentaries of the Old Testament.

“In the same way, if we are going to comprehend communication that took place between members of an ancient culture, we are going to have to adjust our thinking to be able to sit in the circle of communication with the ancient audience. ...When we study an ancient text, we cannot make words mean whatever we want them to, or assume that they meant the same to the ancient audience that they do to a modern audience.”

– **John H. Walton, Ancient Near Eastern Thought and the Old Testament: Introducing the Conceptual World of the Hebrew Bible**

Walton stresses that if we can find the message that was being conveyed from the ancient author to his ancient audience, then that is the message we should take away from the text. There is no need to look for hints of modern science in the text. That would not have been part of the communication of the ancient author to his audience, and we should not try to impose that on the text. True reverence for the authority and inspiration of scripture will honor this and seek after the messages intended in the scriptures. The NIV version of Genesis 1 follows.

1 In the beginning God created the heavens and the earth. **2** Now the earth was formless and empty, darkness was over the surface of the deep, and the Spirit of God was hovering over the waters.

3 And God said, “Let there be light,” and there was light. **4** God saw that the light was good, and he separated the light from the darkness. **5** God called the light “day,” and the darkness he called “night.” And there was evening, and there was morning—the first day.

6 And God said, “Let there be a vault between the waters to separate water from water.” **7** So God made the vault and separated the water under the vault from the water above it. And it was so. **8** God called the vault “sky.” And there was evening, and there was morning—the second day.

9 And God said, “Let the water under the sky be gathered to one place, and let dry ground appear.” And it was so. **10** God called the dry ground “land,” and the gathered waters he called “seas.” And God saw that it was good.

11 Then God said, “Let the land produce vegetation: seed-bearing plants and trees on the land that bear fruit with seed in it, according to their various kinds.” And it was so. **12** The land produced vegetation: plants bearing seed according to their kinds and trees bearing fruit with seed in it according to their kinds. And God saw that it was good. **13** And there was evening, and there was morning—the third day.

14 And God said, “Let there be lights in the vault of the sky to separate the day from the night, and let them serve as signs to mark sacred times, and days and years, **15** and let them be lights in the vault of the sky to give light on the earth.” And it was

so. ¹⁶ God made two great lights—the greater light to govern the day and the lesser light to govern the night. He also made the stars. ¹⁷ God set them in the vault of the sky to give light on the earth, ¹⁸ to govern the day and the night, and to separate light from darkness. And God saw that it was good. ¹⁹ And there was evening, and there was morning—the fourth day.

²⁰ And God said, “Let the water teem with living creatures, and let birds fly above the earth across the vault of the sky.” ²¹ So God created the great creatures of the sea and every living thing with which the water teems and that moves about in it, according to their kinds, and every winged bird according to its kind. And God saw that it was good. ²² God blessed them and said, “Be fruitful and increase in number and fill the water in the seas, and let the birds increase on the earth.” ²³ And there was evening, and there was morning—the fifth day.

²⁴ And God said, “Let the land produce living creatures according to their kinds: the livestock, the creatures that move along the ground, and the wild animals, each according to its kind.” And it was so. ²⁵ God made the wild animals according to their kinds, the livestock according to their kinds, and all the creatures that move along the ground according to their kinds. And God saw that it was good.

²⁶ Then God said, “Let us make mankind in our image, in our likeness, so that they may rule over the fish in the sea and the birds in the sky, over the livestock and all the wild animals,^[a] and over all the creatures that move along the ground.”

²⁷ So God created mankind in his own image,
in the image of God he created them;
male and female he created them.

²⁸ God blessed them and said to them, “Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish in the sea and the birds in the sky and over every living creature that moves on the ground.”

²⁹ Then God said, “I give you every seed-bearing plant on the face of the whole earth and every tree that has fruit with seed in it. They will be yours for food. ³⁰ And to all the beasts of the earth and all the birds in the sky and all the creatures that move along the ground—everything that has the breath of life in it—I give every green plant for food.” And it was so.

³¹ God saw all that he had made, and it was very good. And there was evening, and there was morning—the sixth day.

We note that this is not a journalistic account, but rather a unique genre, neither narrative nor poetry, but filled with repetitive expressions such as “Then God said...”, “God blessed...”, “God called...”, “and it was good”, “And there was evening, and there was morning – the ____ day”. This should already be telling us something. The primary focus is on God, His purposes, His words, His perspective on creation. It is not a focus on how, the normal focus of science.

The earth begins in a formless and empty state and it ends in a well-ordered, filled state, something described by God as very good. We find many patterns in the text. Each day has a similar order and the days themselves have a mirrored structure between the first three days and the last three days. It looks like this:

Day 1 Light - Day, Darkness - Night	Day 4 Greater Light, Lesser Light
Day 2 Waters Above, Waters Below	Day 5 Birds, Fish
Day 3 Dry Land	Day 6 Land Creatures, Man

This seems to suggest days 1,2,3 are days in which the formless earth is being given form or order, and the days 4,5,6 are days in which the ordered realms are being filled. However, it is clear from the text that God reserves his greatest act of creation to that of creating man in the image of God. This must be the most important message of the creation account from the emphasis given.

What should we make of the creation days? For one, they appear to serve as a literary tool, separating the acts of creation. Is there more to this? Yes, the start of chapter 2 describes briefly the seventh day of creation in which God rests from His work of creation. This creation week is referred to in later biblical texts as the pattern for man to follow, six days of work and one day of rest. Is there any more meaning to take away from the creation days? Is it meant to be a chronology of events in time? Is it meant to describe the duration of the creation week? These are good questions and jumping to conclusions of what seems to be the most “straight forward” meaning does not appear to be a reverential approach. Certainly, I would not force these days to mean an earth-rotation, even though that is what my modern 21st century mind pictures. Christian scholars differ on the meaning of these days and this should give us caution.

Wise chooses to jump to this conclusion, and it then determines the direction of where he goes thereafter. Unfortunately, it leads him ultimately into conflict with science. Then he must spend the remainder of the book attacking what he perceives to be weaknesses in science. How sad! It certainly doesn’t give a sense of fulfillment or wonder, which is what I get from studying science. It only seems to paint a rather dark view, that science really cannot be trusted. And all those beautiful things scientific investigation has revealed must be disbelieved. What a tragic ending! I suggest that it doesn’t have to be this way. Reverence for God’s Word certainly does not demand it, and I would think just the opposite. Reverence for God’s Word would not impose upon the ancient text a meaning that might not be there at all. Focusing instead on the clear messages given reveals a creation story quite compatible with modern science.