

(My book covers the period from the Second Day of Creation through the Flood and its aftermath. Chapter 1 presents an overview of the Creation event. It contains the seeds of a Creation model, one that I have since developed more fully. The results of my follow-on work are presented below. Readers of my book will note that many of my earlier ideas are included in what follows even though some have undergone revision.)

UPDATES TO CHAPTER 1

Abstract: A scientific model of the Creation event is presented, one that is shown to remain true to the biblical account as recorded in the book of Genesis. The Milky Way (the galaxy in which our solar system resides) is assumed to lie at the center of the universe. In the beginning, God created the mass of the universe at this central location. From there, the mass expanded outward. Albert Einstein's Theory of General Relativity is used to model the expansion process. Day One dawned when darkness no longer covered the face of the deep, when God said, "Let there be light".

Introduction

A table is presented on page 10 of my book, similar to the one shown below. Its format was chosen to emphasize the symmetry of the six-day account of Creation as found in the first chapter of Genesis, verses 3 through 31.

Day Number	Verses in Genesis	Abbreviated text of the day's events
1	1:3-5	<i>And God said, "Let there be light . . . And there was evening, and there was morning - the first day.</i>
2	1:6-8	<i>And God said, "Let there be an expanse . . . And there was evening, and there was morning - the second day.</i>
3	1:9-13	<i>And God said, "Let the water under the . . . And there was evening, and there was morning - the third day.</i>
4	1:14-19	<i>And God said, "Let there be lights in . . . And there was evening, and there was morning - the fourth day.</i>
5	1:20-23	<i>And God said, "Let the water teem with . . . And there was evening, and there was morning - the fifth day.</i>
6	1:24-31	<i>And God said, "Let the land produce . . . And there was evening, and there was morning - the sixth day.</i>

I believe the table begs the question, “What about verses 1 and 2?” These two preceding verses read as follows:

In the beginning God created the heavens and the earth. Now the earth was formless and empty, darkness was over the face of the deep, and the Spirit of God was hovering over the waters. Genesis 1:1-2

According to my Creation model, these two verses describe the origin of the materials that God used in verses 3 through 31 to give form to the earth and all that surrounds it. In order to remain true to the biblical account, three important conditions must be met throughout the two-verse period. They are:

1. The earth must have remained formless and empty
2. Darkness must have prevailed over the face of the deep
3. The Spirit of God must have been hovering over the waters

It will be shown that my Creation model fulfills all three requirements. Notice that the text says nothing about the length of time that elapsed during the two-verse period. More will be said later concerning this omission.

In order to explain the meaning of the words “*darkness prevailed over the face of the deep*”, it is first necessary to understand what took place prior to the onset of Day One. Jeremiah speaks of that understanding when he writes about the expansion (or stretching) of the universe:

He made the earth by his power; he founded the world by his wisdom and stretched out the heavens by his understanding. Jeremiah 51:15

Expansion of the Universe

I have developed a computer model of the expansion of the universe, one that incorporates the work of Albert Einstein in which he defines the complex relationship between space and time in the presence of a gravitational field. In Einstein’s world of relativity, one concept that may be difficult for some to grasp is that clocks at different locations in the universe run at different speeds. For example, as will be shown, if a clock could have been placed at the center of the Milky Way, it would have remained stopped while a clock riding aboard an outermost galaxy would have read nearly 10 billion years.

Soon after Einstein published the results of his work, a German physicist by the name of Karl Schwarzschild developed a simplified solution to Einstein’s complex equation, one that limits the theory’s application to the motion of a body under the influence of a spherically-symmetric mass. Physicists agree that the mass of the universe can be thought of as being spherically symmetric if the mass of its hundreds of billions of galaxies is averaged over large-enough distances. My computer model incorporates this simplification. In what follows, I have omitted a discussion of the details of the model,

focusing mainly on its results. In general, I attempt to explain the results in layman's terms.

Perhaps the most famous result of Schwarzschild's work is that it correctly predicts the presence of a black hole in space. A black hole is formed whenever light from a sufficiently massive galaxy is prevented from escaping the galaxy's gravitational pull. Outbound light is eventually stopped so that distant observers see what appears to be a black hole in space. The boundary across which no light can pass is referred to as an event horizon. In my book, I recommend reading *Black Holes and Time Warps* by Kip S. Thorne to anyone interested in knowing more about the strange behavior of bodies in the vicinity of a black hole.

A little-known feature of the Schwarzschild equation is that it can also be used to model the behavior of a white hole. A white hole is a black hole running in reverse. Whereas a black hole attracts nearby mass, drawing it into its center where energy is dissipated, energy addition is required to expel mass from the center of a white hole. At the moment of Creation, not only did God create the mass of the universe but he also provided sufficient energy to propel it away from the center of the Milky Way. A NASA-generated image of the Milky Way galaxy is shown [HERE](#). The sun's position is labeled in the image.

For the following reasons, I like to think of the expanding universe as a perfectly round onion that grew bigger and bigger over time. One reason is that, just as an onion is made up of numerous shells that surround its center, my computer model simulates the outward expansion of specific shells. Another reason is that, while each shell of an onion is homogeneous, the density of each shell need not be equal. Later I discuss the non-average mass density of one specific shell.

In the development of my model, I have made two fundamental assumptions that have allowed me to remain true to the Genesis account. The first has already been cited; namely, it has been assumed that the universe is centered about the Milky Way galaxy. The second assumption is that an event horizon had to be located 14 billion light years away from the galaxy's center, at the edge of today's visible universe. In order for this second assumption to be true, the mass of the universe must be 8.9×10^{52} kilograms. Estimates of universal mass vary, but it was reassuring to read in Wikipedia that Sir Fred Hoyle, a respected English astronomer and mathematician, calculated the mass of the universe to be "approximately 8×10^{52} kg":

http://en.wikipedia.org/wiki/Observable_universe#Estimation_based_on_the_measured_stellar_density .

An output listing from my computer program is presented below for the Outermost Shell (or the outside shell of the onion) along with a graphical presentation of the results. The first column of the listing shows that the shell expanded from zero to 14.00 billion light years away from the galactic center of the Milky Way. Although the listing's starting value of 0.00 billion light years may suggest the universe originated at a central point as proponents of the Big Bang theory suggest, my model allows for the starting mass to

have been created as a ball whose starting diameter may have measured several light years across.

The final value shown in the first column of the listing is actually only 99.999999999% of 14 billion light years, just shy of the event horizon, for reasons that will soon become clear.

OUTERMOST SHELL EXPANSION,
FROM ZERO TO 14 BILLION LIGHT YEARS

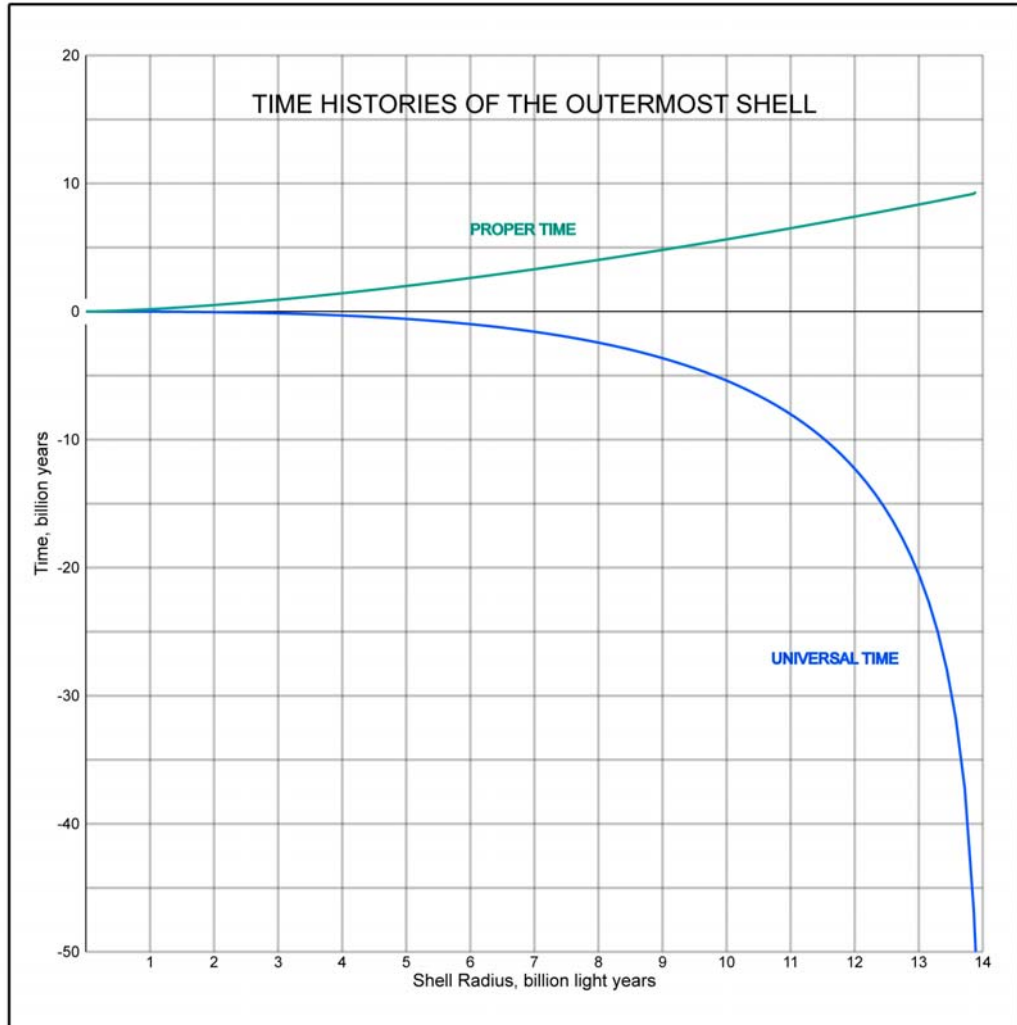
DISTANCE FROM THE MILKY WAY (billion lt yrs)	UNIVERSAL TIME (billion years)	PROPER TIME (billion years)
0.00	0.00	0.00
1.40	-0.02	0.30
2.80	-0.12	0.83
4.20	-0.35	1.53
5.60	-0.80	2.36
7.00	-1.58	3.30
8.40	-2.86	4.34
9.80	-4.99	5.47
11.20	-8.70	6.68
12.60	-16.38	7.97
14.00	-280.28	9.33

Column two, universal time, is the time that would have been displayed on a clock that was free from the gravitational attraction of the universe and that remained motionless relative to the galactic center of the Milky Way. Some Christian writers refer to universal time as the reading on “God’s clock”. There exists only one such point inside the universe, the galactic center of the Milky Way. By definition, the point is at rest. Also, it is free from gravitational attraction because the net attraction of the spherically-symmetric surrounding universe is zero.

Surprisingly, column two begins with increasingly negative entries as the outermost galaxy began to expand. God’s clock didn’t really move backwards. Instead, the negative values paradoxically mean that the events occurred prior to the starting value of zero. People who are familiar with the theory of relativity refer to the events of column two as “past events”. The same information appears as a blue line on the graph below in which the vertical axis represents time (in billions of years) and the horizontal axis is the position of the Outermost Shell as it expands from zero to 14 billion light years.

In the listing, column two shows a final universal time of -280.28 billion years, just shy of the event horizon located at 14 billion light years. At the horizon itself where photons (packets of light) are stopped, the time on God’s clock approached minus infinity. It is a fact that the first event to occur on God’s clock was when the Outermost Shell reached the event horizon. This is just one of the many paradoxes that arise when dealing with

the subject of relativity.



The above graph also shows a green line labeled “proper time”. Proper time is the time that would have been displayed on a clock that rode along with the Outermost Shell. Column three of the preceding listing shows this same information at discrete positions throughout the expansion process. The second row of the listing suggests that 1.4 billion light years were traversed in 0.30 billion years for an apparent average speed during the initial period of 4.67 times the speed of light. However, this cannot be the case because it is known that nothing can travel faster than the speed of light. The solution to this paradox lies in the fact that the shell was indeed traveling at the speed of light, but it was traveling through space that was being stretched by a factor of 4.67 during the period. Many people think of space as being the absence of anything. That is not true because space has properties, one of which is that it can be stretched (thereby giving even deeper meaning to the Jeremiah passage quoted above).

Referring again to the third column of the listing, by the time the Outermost Shell approached the event horizon, 9.33 billion years had elapsed on the clock riding along with the shell. The shell’s apparent speed during the final period had dropped to 1.03 times the speed of light, computed as $(14.00-12.60)/(9.33-7.97)$. If the instantaneous speed is calculated at the event horizon itself rather than an average over the period, it would be found that the Outermost Shell was traveling at exactly the speed of light. Later, when the subject of Hubble’s Law is discussed, I will refer once again to the fact that at a distance of 14.00 billion light years the Outermost Shell was moving away from the galactic center of the Milky Way at the speed of light.

This concludes my discussion of the Outermost Shell. What follows next is a discussion of several intermediate shells. But before discussing other shells, a point of clarification is in order. Many physicists are familiar with the idea of using the Schwarzschild equation to analyze the motion of a body located some positive distance beyond a massive galaxy. However, some may not realize that the equation may also be applied to the interior of the galaxy. It thus becomes necessary to determine the interior density of each intermediate shell when applying the Schwarzschild equation to the expanding universe. A shell’s interior density is defined as the mass that is interior to the shell divided by the interior volume of the shell. Keep in mind that although the interior mass of each shell remained constant during the expansion process, the shell’s interior volume increased so that its density decreased. As will be shown in the examples that follow, this change in density results in each intermediate shell crossing beyond its own event horizon

The first intermediate shell to be discussed is one whose position remained halfway between the Outermost Shell and the galactic center of the Milky Way throughout the expansion process. It is referred to here as the Midpoint Shell. The shell’s interior mass is calculated as the overall mass of the universe, 8.9×10^{52} kilograms, times the volume ratio $(\frac{1}{2})^3$.

Both the following listing and the subsequent graph refer to the Midpoint Shell. It is noted that there are three entries in the first column of the listing, all of which read 1.75

billion light years. Too few digits beyond their decimal points could be included to distinguish between the three entries. Similar to before, the first entry corresponds to 99.999999999% of the distance to the shell's event horizon, the second corresponds to 100.000000000% of the distance (exactly 1.75 billion light years), and the third corresponds to 100.000000001% of the distance. The expanding shell eventually moved beyond its own event horizon and continued to expand until it reached a distance of 7.00 billion light years away from the galactic center of the Milky Way, half the final distance of the Outermost Shell.

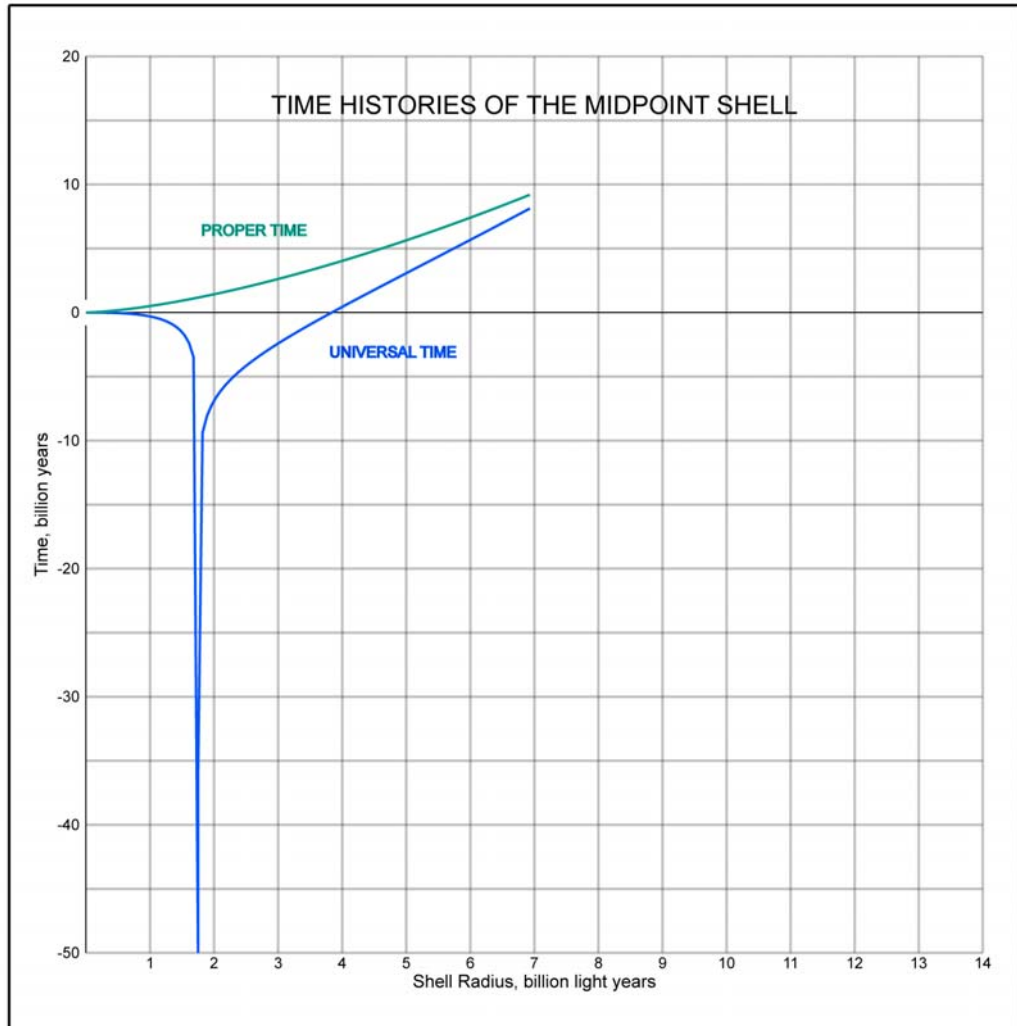
MIDPOINT SHELL EXPANSION,
FROM ZERO TO 7 BILLION LIGHT YEARS

DISTANCE FROM THE MILKY WAY (billion lt yrs)	UNIVERSAL TIME (billion years)	PROPER TIME (billion years)
0.00	0.00	0.00
0.70	-0.10	0.30
1.40	-1.09	0.83
1.75	-32.61	1.17
1.75		
1.75	-36.96	1.17
2.10	-6.14	1.53
2.80	-3.07	2.36
3.50	-0.94	3.30
4.20	0.97	4.34
4.90	2.81	5.47
5.60	4.63	6.68
6.30	6.46	7.97
7.00	8.31	9.33

It may seem strange to some that more than one event horizon was present within the universe because a single event horizon is generally thought of as existing beyond a central galaxy. Nevertheless, because Schwarzschild's equation can also be applied to the interior of a spherically-symmetric star, an event horizon existed for each shell of the onion. As a matter of fact, if intermediate shells are thought of as being infinitely thin, then there existed an infinity of event horizons.

Prior to the Midpoint Shell reaching its own event horizon, there are similarities between the Outermost and Midpoint Shells. As shown on the listing and on the graph below, negative values of universal time signify past events. The blue line of the graph shows that universal time approached minus infinity as the shell approached its own event horizon.

Unlike the Outermost Shell, a short distance beyond the point at which the Midpoint Shell crossed its own event horizon universal time increased by tens of billions of years. It is during this period that light from the expanding shell had ample time to shine backwards onto our planet.



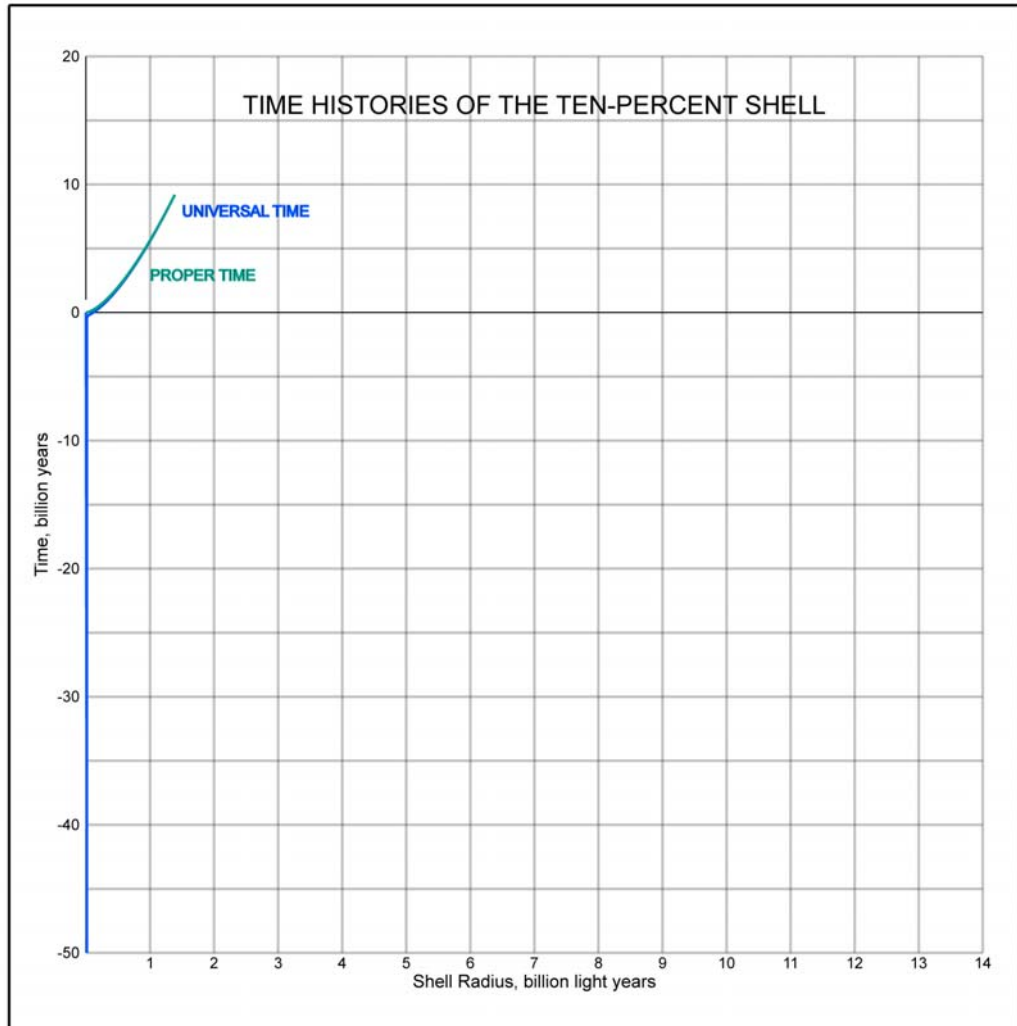
The third column of the above listing and the green line of the above graph both show that the proper time of the Midpoint Shell gradually increased from zero to 9.33 billion years. This result is the same as the Outermost Shell and is due to the fact that a constant-density universe is assumed. Referring to the second row of the listing, the shell began its journey at an apparent average speed of 2.33 times the speed of light (computed as $0.70/0.30$), half the previously-cited apparent initial speed of the Outermost Shell. Here again, the true interpretation of this result is that the space into which the shell expanded was stretched by a factor of 2.33 during the period, only half as much as the Outermost Shell. The shell's apparent speed during the final period, 0.51 times the speed of light, is computed as $(7.00-6.30)/(9.33-7.97)$, half that of the Outermost Shell. At a distance of exactly 7.00 billion light years, the proper speed of the Midpoint Shell was exactly one half the speed of light. This value will also be mentioned later under the discussion of Hubble's Law.

The next intermediate shell position to be discussed is one labeled the Ten-Percent Shell located 10% of the distance between the galactic center of the Milky Way and the Outermost Shell throughout the expansion process. It is the last shell to be analyzed in which the mass of the universe is assumed to be uniformly distributed.

TEN-PERCENT SHELL EXPANSION,
FROM ZERO TO 1.4 BILLION LIGHT YEARS

DISTANCE FROM THE MILKY WAY (billion lt yrs)	UNIVERSAL TIME (billion years)	PROPER TIME (billion years)
0.00	0.00	0.00
0.01	-0.22	0.01
0.01		
0.01	-0.49	0.01
0.14	0.09	0.30
0.28	0.67	0.83
0.42	1.39	1.53
0.56	2.25	2.36
0.70	3.21	3.30
0.84	4.26	4.34
0.98	5.41	5.47
1.12	6.64	6.68
1.26	7.94	7.97
1.40	9.32	9.33

Little is new here. The expanding shell crossed its own event horizon at 0.01 billion light years (actually, 140 million light years), very close to the y-axis as shown on the following graph. The universal times and proper times are nearly identical for the Ten-Percent Shell.



My principal reason for including this third shell position is to show that the shell's apparent speed during the final period was 0.103 times the speed of light, computed as $(1.40-1.26)/(9.33-7.97)$. At the shell's fully-expanded distance of 1.4 billion light years, the speed was exactly one-tenth the speed of light.

The fourth and final intermediate shell position to be presented is the one in which our solar system lies. Labeled the Solar System Shell, its fully-expanded position is only 25,000 light years away from the galactic center of the Milky Way. Here, the average mass density of the universe cannot be used because much of the galaxy itself lies inside the Solar System Shell. Its interior mass is more than one million times greater than that which would be computed if the average mass density of the universe were to be used. It is assumed that only one-half of the galaxy's total mass lies inside the shell because the sun lies in-between the outer reaches of the galaxy and its center.

SOLAR SYSTEM SHELL EXPANSION,
FROM ZERO TO 25 THOUSAND LIGHT YEARS

DISTANCE FROM THE MILKY WAY (thousand lt yrs)	UNIVERSAL TIME (million years)	PROPER TIME (million years)
0.00	0.00	0.00
0.00	0.00	0.00
0.00		
0.00	0.00	0.00
2.50	0.28	0.28
5.00	0.78	0.78
7.50	1.44	1.44
10.00	2.22	2.22
12.50	3.10	3.10
15.00	4.07	4.07
17.50	5.13	5.13
20.00	6.27	6.27
22.50	7.48	7.48
25.00	8.76	8.76

As the Solar System Shell began to expand, an event horizon was formed 0.0001 thousand light years away from the galaxy's center (0.1 light years). The shell almost immediately crossed over its own event horizon on its way to a distance of 25,000 light years away from the galaxy's center, a position where it exists today. Perhaps the most interesting aspect of the listing is the third column in which the solar system's fully-expanded proper time (its current age) is shown. The earth has had only 8.76 million years to form, making it one of the most immature bodies in the universe.

According to Genesis 1:2, the earth was "*formless and empty*" prior to Day One. Stars, planets and moons were formed as passing meteoroids were drawn into the gravitational fields of these bodies and eventually captured. One reason why the earth may have been formless and empty is that, after only 8.76 million years, too little time had elapsed for the accretion process to run its course. But I believe the true meaning of the words refer

to the fact that none of the work of Days Two through Six had as yet been undertaken. God had not yet given final form to the Milky Way until Day Four.

The Hubble Effect

I have been steadily moving toward being able to present what I believe to be strong evidence that the Creation model I propose here is the correct one. The evidence has to do with what has come to be known as Hubble's Law. Edwin Hubble was an astronomer who in 1920 began measuring the speeds and distances of numerous galaxies in the universe using the Hooker telescope at the Mount Wilson Observatory near Pasadena, California. In 1929, he concluded that the distant galaxies are receding (moving away) from the earth at speeds that are proportional to their distances from the earth (a phenomenon that has come to be known as the Hubble Effect). The constant of proportionality is known as the Hubble Constant. It has been refined over the years since his death in 1953 and, according to the following source, the currently-accepted value is: 70.6 ± 3.1 kilometers per second per 3.26 million light years:

http://en.wikipedia.org/wiki/Hubble's_law#Redshift_velocity_and_recessional_velocity . The following table summarizes the recession speeds predicted by Hubble's Law vs. those predicted by my model.

Predicted Receding Velocities relative to the Speed of Light

	Hubble's Prediction	My Model
Outermost Shell	0.96 to 1.06	1.00
Midpoint Shell	0.48 to 0.53	0.50
Ten-Percent Shell	0.09 to 0.11	0.10

I believe the fact that my relatively simple model correctly predicts such a fundamental aspect of astrophysics is strong evidence that the model is correct. No "fudge factor" had to be applied in order to achieve correlation as some say Big Bang proponents have done in order for their model to achieve correlation. The Big Bang model requires the assumed existence of dark energy (energy that cannot be detected, even with sophisticated instrumentation) and dark matter (matter that cannot be seen using the Hubble Telescope or any other instrument).

It is noted that perfect correlation with Hubble's Law could have been achieved if I had initially assumed the outer extent of the universe to lay 13.68 rather than 14.00 billion light years away from the galactic center of the Milky Way.

Throughout his work, Hubble was troubled by a lack of correlation for near-earth distances. Similarly, my model fails to correlate for the Solar System shell because of its larger interior density. For example, whereas the Hubble constant predicts a recession speed of 0.0000018 times the speed of light, my model predicts a speed of 0.0020, computed as $(25,000 - 22,500) / (8,760,000 - 7,480,000)$. The correlation of nearby galaxies may also have been affected for the same reason.

Darkness Prevailed Over the Face of the Deep

Having discussed what took place during the expansion of the universe, it is now possible to explain what the Bible means when it says “*darkness prevailed over the face of the deep*” and why it prevailed throughout the period of Genesis 1, verses 1 and 2. To begin with, I believe the Bible draws a distinction between what I refer to as “the waters of the earth” and “the waters of the universe”. According to my definitions, the waters of the earth are its oceans and the waters of the universe are its galaxies and the space in which they reside. In my book, while explaining the meaning of the Flood-related term “*springs of the great deep*” as found in Genesis 7:11, I suggested that the word “*deep*” refers to the waters of the earth (the oceans) because of its usage in relation to the story of Jonah:

You hurled me into the deep, into the very heart of the seas, and the currents swirled about me; . . . Jonah 2:3

However, in relation to the Creation account, I believe the word “*deep*” refers to the waters of the universe. As a matter of fact, we often refer to the outer bounds of the universe as “*deep space*”. In Genesis 1:2 we are told “*the Spirit of God was hovering over the waters.*” I never understood the meaning of the phrase until I realized that the waters over which the Spirit hovered were the waters of the universe. David explained the Spirit’s work in this way:

He determines the number of the stars and calls them each by name.
[Psalms 147:4](#)

If the “*deep*” of Genesis 1:2 refers to the waters of the universe, then the phrase “*face of the deep*” refers to the outer face of the Outermost Shell. Darkness prevailed over this outer face until Day One arrived. Recall that the Outermost Shell moved at the speed of light. Therefore, light from galaxies inside the Outermost Shell could not have shone forward at a speed faster than the speed of light. The expanding onion could not have been seen by an observer (God) located beyond the universe. To Him, darkness prevailed until the Outermost Shell arrived at its event horizon.

Epilog

As a point of interest, the time displayed on a clock located at the center of the Milky Way remained at zero throughout the expansion of the universe. Currently, it reads approximately 6,000 years based on the genealogies of the Bible. So the age of a celestial body can vary anywhere from 6,000 years (the center of the Milky Way) to 9.33 billion years (a galaxy in the Outermost Shell) depending upon its position in the universe. I believe this difficult-to-comprehend fact is why the Bible says nothing about the time that elapsed during the first two verses of Genesis. The concept gives new meaning to the following Bible verse:

But do not forget this one thing, dear friends: With the Lord a day is like a thousand years, and a thousand years like a day. 2 Peter 3:8

And lastly, I would like to present one final thought. As pointed out earlier, the first event recorded on God's clock occurred when the Outermost Shell reached the event horizon. I believe it is fitting that the first words recorded in the Bible are: "*In the beginning God created the heavens and the earth*". "In the beginning" occurred at a universal time of minus infinity as shown by the blue line of the earlier-presented graph for the Outermost Shell.

The Six Days of Construction

The following is a framework for additional Chapter 1 ideas that slot into what my book refers to as the Six Days of Construction, a calendar week in which God formed everything we see today using the mass of the universe he had just created. I believe each of the six days were 24 hour days because of the emphasis on evening and morning, one revolution of the earth about its axis.

Day One - On Day One, the Outermost Shell reached its event horizon. Light from the galaxies of the universe washed over the face of the deep.

And God said, "Let there be light", and there was light. God saw that the light was good, and he separated the light from the darkness. God called the light "day", and the darkness he called "night". And there was evening, and there was morning – the first day. Genesis 1:3-5

Once light appeared, the focus of Genesis 1 shifts from the universe to the stars of the Milky Way and, in particular, to its solar system in which planet Earth resides.

Day Two - My book provides a very detailed description of the water that God miraculously placed above the sky on Day Two.

And God said, "Let there be an expanse between the waters to separate water from water." So God made the expanse and separated the water under the expanse from the water above it. And it was so. God called the expanse "sky." And there was evening and there was morning – the second day. Genesis 1:6-8

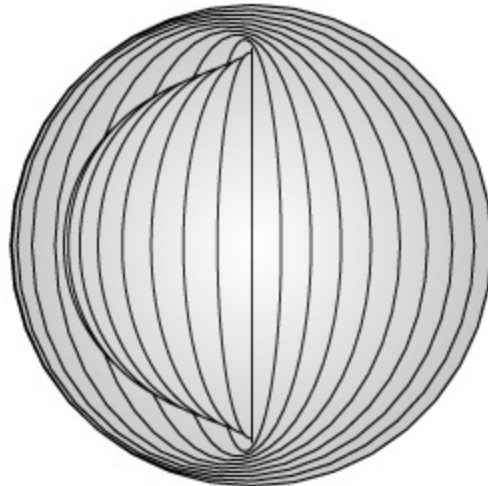
One verse that I wish I would have come across before my book was published is found in the book of Ezekiel. It reads:

Spread out above the heads of the living creatures was what looked like an expanse, sparkling like ice, and awesome. Ezekiel 1:22

The passage brings to mind the snowballs that my book describes. It is noted that the word “expanse” used here is the same Hebrew word used to describe the events of Day Two. Also, I believe the four “wheels” referred to in Ezekiel 1 are analogous to the “circular orbits” of the snowballs that were intermeshed at the Springs of the Great Deep, spread out around the earth to the north, south, east and west. Verses 16 to 18 are especially interesting:

This was the appearance and structure of the wheels: They sparkled like chrysolite, and all four looked alike. Each appeared to be made like a wheel intersecting a wheel. As they moved, they would go in any of the four directions the creatures faced; the wheels did not turn about as the creatures went. Their rims were high and awesome, and all four rims were full of eyes all around.
Ezekiel 1: 16-18

Of particular interest to me was the phrase “like a wheel intersecting a wheel. I think Ezekiel aptly described the rendering that appears on page 34 of my book. The rendering is meant to show the complex set of planetary rings (made up of snowball “eyes”) that I believe circled above the earth prior to the Flood.



Day Three - Like all the other days, God was very busy on Day Three. He started with a formless and empty earth, one that was young in relation to the ages of other galaxies, and crafted it into one with mountains and ocean basins. Into the land he placed rich minerals, plants and trees

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

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. 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. And there was evening, and there was morning – the third day.
Genesis 1:9-13

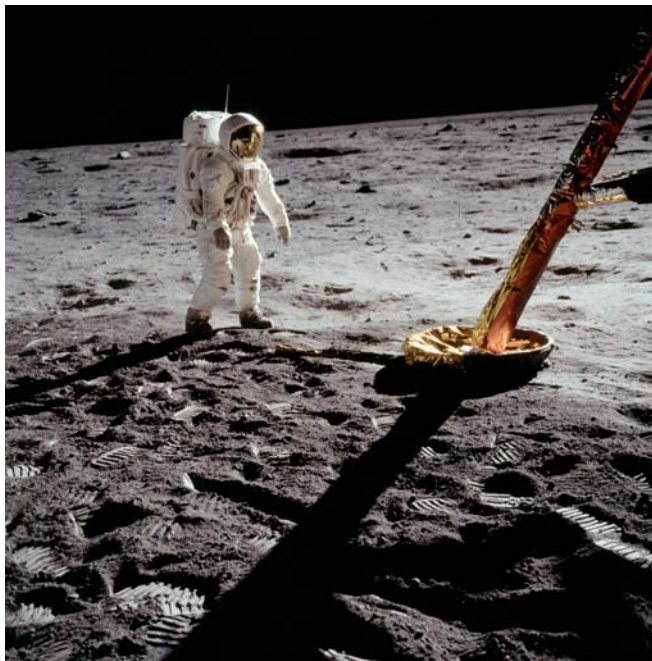
Of course, all of this was miraculous just as when Jesus changed water into wine or when he twice multiplied some loaves of bread and fishes, feeding thousands.

Day Four - Just as God formed the surface of the relatively young earth on Day Three, on Day Four he miraculously formed the other bodies of our Milky Way galaxy including the sun, moon its stars.

And God said, “Let there be lights in the expanse of the sky to separate the day from the night, and let them serve as signs to mark seasons and days and years, and let them be lights in the expanse of the sky to give light on the earth.” And it was so. 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. God set them in the expanse of the sky to give light on the earth, to govern the day and the night, and to separate light from darkness. And God saw that it was good. And there was evening, and there was morning – the fourth day. Genesis 1:14-19

I found it interesting to learn that virtually all of the distant galaxies cannot be seen with the naked eye. The stars we see in the sky belong to our own Milky Way galaxy.

One piece of physical evidence that suggests God formed the moon 6,000 years ago was presented on page 9 of my book. It involves the fact that when the Apollo 11 astronauts landed on the Moon they found far less space dust than what had been feared would exist from billions of years of dust accumulation. The following NASA photograph shows that a trivial amount of dust was found, not the 50 to 180 feet that had been predicted. The photograph can be found at http://nssdc.gsfc.nasa.gov/planetary/lunar/images/as11_40_5902.jpg .



Day Five - In verse 21 of Genesis 1, the word “create” is used instead of “made” when referring to the water-origin of fish and birds. (Please see my comments under “Update to Day Six” below)

And God said, “Let the water teem with living creatures, and let birds fly above the earth across the expanse of the sky.” So God created the great creatures of the sea and every living and moving thing with which the waters teem, according to their kinds, and every winged bird according to its kind. And God saw that it was good. 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. And there was evening, and there was morning – the fifth day. Genesis 1:20-23

Day Six - Here we get a mixture of “made” and “create”. Verse 25 says God made the wild animals. And in verse 26, God said “Let us make man in our image . . .” But then in verse 27 Moses writes, “So God created man in his own image . . .”

And God said, “Let the land produce living creatures according to their kinds: livestock, creatures that move along the ground, and wild animals, each according to its kind.” And it was so. 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. Then God said, “Let us make man in our image, in our likeness, and let them rule over the fish of the sea and the birds of the air, over the livestock, over all the earth, and over all creatures that move along the ground.”

So God created man in his own image, in the image of God he created him; male and female he created them. God blessed them and said to them, “Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground.” 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. And to all the beasts of the earth and all the birds of the air and all the creatures that move on the ground – everything that has the breath of life in it – I give every green plant for food.” And it was so.

God saw all that he had made, and it was very good. And there was evening, and there was morning – the sixth day. Genesis 1:24-31

However, in Genesis 2:7, Moses writes, “*the Lord God formed the man from the dust of the ground and breathed into his nostrils the breath of life, and the man became a living being.*”

So from all of this I am forced to conclude that the strict division between the words “create” and “make” that I refer to in my book is not quite as clear cut as I would like it to be.

On another Day Six matter, Christian authors Young and Stearley in their book *The Bible, Rocks and Time* suggest the "days" of Genesis 1 may have been considerably longer than 24 hours. One of the arguments they use is that on Day Six Adam could not possibly have accomplished all the tasks spelled out in detail in Genesis 2. One of those tasks was that Adam named all the animals. Afterward, God caused Adam to fall into a deep sleep, removing a rib from his side. God used the rib to make Eve.

I re-read the events of Day 6 in verses 24 to 31 of Genesis 1 in order to see what they had to say about Eve being present. Verse 27 reads:

"So God created man in his own image, in the image of God he created him; male and female he created them." Genesis 1:27

The thought occurred to me that Eve was present on Day Six in the form of Adam's rib. If that is the true interpretation of the verse, then I believe it underscores the oneness with which God views a man and his wife.

Accordingly, I believe the events of Genesis 2 (including the making of Eve from Adam's rib) occurred after Day Seven and that Days One through Six were all 24-hour days.

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This concludes my update to Chapter 1. I invite your feedback. You may contact me with your comments, questions and ideas at Bob@Noahs-Flood.com.