

Does the Bible really describe expansion of the universe?

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Biblical texts which have been used by some creationists to argue that Scripture supports expansion of the universe were reviewed. To suggest that these texts describe cosmological expansion of space, with galaxies being spread out like the often quoted rubber sheet analogy, is not justifiable and is pure eisegesis. The straightforward meaning is God constructing the heavens above and the earth below as a description of His preparation of a habitat for man. Once the stars were placed in the heavens they were to remain as a constant for all time.

We have been told, since Hubble's discovery in the late 1920s, that the universe is expanding. Hubble found a proportionality between the redshift in the light coming from relatively nearby galaxies and their distance from Earth. This relationship has since been strengthened and extended to very great distances in the cosmos. This has been interpreted to mean that the space that contains the galaxies is expanding and that the galaxies are essentially stationary in that space, but being dragged apart as the universe expands. Often, the rubber balloon analogy is used—galaxies stuck on the surface as the balloon is blown up—which illustrates space expanding and the galaxies being pushed apart from each other (and also that there is no centre, no special place uniquely for us in the universe; figure 1). Nowadays, the expanding big bang universe is considered to be established dogma.

Hubble initially interpreted his redshifts as a Doppler effect, due to the motion of the galaxies as they rushed

away from our location in the universe. Later he became disillusioned with the recession interpretation: "... it seems likely that red-shifts may not be due to an expanding Universe, and much of the speculation on the structure of the universe may require re-examination."² He said that what became known as the Hubble Law could also be due to "some hitherto unknown principle of nature",² but not due to expansion of space—now called cosmological expansion.

After 1994, creationists have developed their own cosmologies, which remain faithful to Scripture but which also try to solve the creationist 'starlight-travel-time' problem in a vast universe.³

In support of those creationist cosmologies it has been sometimes contended that the Hebrew text in a range of biblical passages supports the idea that space, or the heavens, are some material substance and that it was stretched out when God created the universe on Day 4 of Creation Week. And then, as a consequence of the physics of this process, theoretical solutions were found to the creationist starlight-travel-time problem.

No centre on big-bang hypersphere

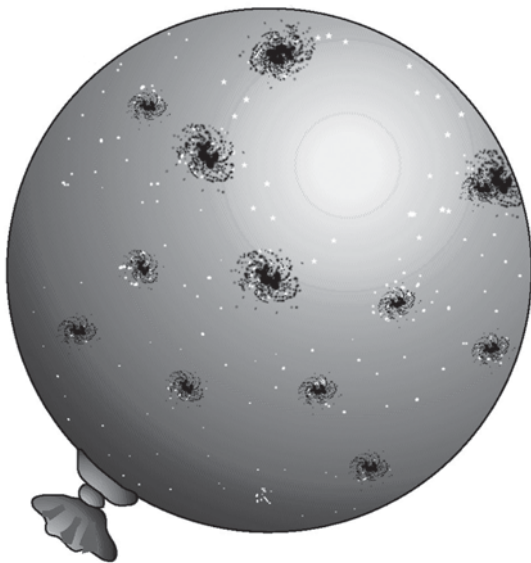


Figure 1. Rubber sheet, or in this case rubber balloon, analogy of the expansion of the universe. The idea describes a universe that expanded by at least a factor of 1,000 since creation. Some misguided Christians have even accepted the big bang dogma as a description of the Genesis Creation.¹

Direct experimental evidence?

However, to date there is no direct experimental evidence, from any local laboratory experiment, that establishes cosmological expansion as a real phenomenon of nature. Though it can be derived as a consequence of Einstein's general relativity theory,⁴ it has been claimed by some as another fudge factor⁵ to prop up the ailing standard Lambda cold dark matter (ΛCDM) big bang model for the origin and structure of the universe.

All evidence for cosmological expansion comes from the cosmos itself. Supernovae (exploding stars) are among the brightest light sources in the sky. Astrophysicists believe that they have successfully understood their origin using general relativity theory, where a white dwarf star catastrophically collapses in on itself under its own gravity and explodes in a blinding flash of light, leaving behind a neutron star. The luminosity of the explosion rapidly increases, peaks, and then slowly decreases over days and months. By modelling this, it is believed that one can understand what the intrinsic brightness at the peak of the explosion was and hence one can establish, for a certain class of these supernovae, a 'standard candle'. This means

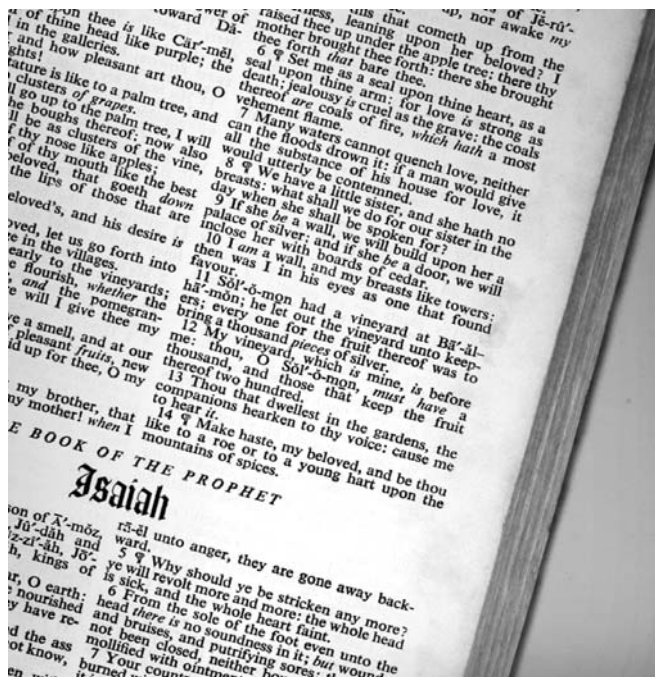


Figure 2. What do the Scriptures say?

if you know their intrinsic brightness you can determine their distance in the cosmos. The type Ia supernovae have been used for this purpose and, using the redshifts of their host galaxies, distances are determined from the Hubble law when applied to the standard cosmology. From this, astronomers claim not only that the universe is expanding but also that the expansion is accelerating. However, in order to make their observations fit the standard cosmology, they have had to add two more fudge factors: dark energy and dark matter.⁶ Without these additions, the model seriously fails to describe the observed luminosities.

So what is the first question we should really ask? Is there any suggestion in Scripture that the universe is expanding or has expanded? From a review of this question I have come to the position that *it is not possible* to categorically state that Scripture requires that the universe is expanding at all.

What do the Scriptures say?

Psalms 104, in somewhat metaphorical language (after all, it is a song of praise), is describing the Creator and his work of creation of this world. There we read,

“Which covereth himself with light, as with a garment, and spreadeth the heavens like a curtain”
(Psa 104:2; Geneva Bible).

The straightforward interpretation from the context is God created the starry heavens and put them up like you might erect a canopy or a tent. The Hebrew word rendered in English here is *natah*, meaning to stretch out or incline. For example, in Exodus 10:22 the same Hebrew word is rendered ‘stretched forth’,

“Then Moses stretched forth his hand toward heaven . . .”

Also we read in Isaiah 40:22,

“He sitteth upon the circle of the earth, and the inhabitants thereof are as grasshoppers, he stretcheth out the heavens as a curtain, and spreadeth them out, as a tent to dwell in” (Geneva Bible).

Here the Lord is seen from the perspective of the earth. Clearly it is spherical (‘circle’ comes from the Hebrew word *chug*, which more correctly means ‘sphere’). And then He describes the creation of the starry heavens. They are stretched out (Hebrew word, *natah*) as a curtain. Curtains are made of a fabric that is constant in size but erected across the windows—they do not expand, nor stretch out like a rubber sheet. The verse goes on to say that the heavens are *spread out* (Hebrew, *raqa*) as a tent. Once a tent is erected it remains the same size. Its material does not stretch nor expand, not very much anyway. The Hebrew here has the meaning ‘to spread out or over’ as is the case with beaten metal. This may mean that space has some substance to it, but again once it has been erected it is fixed. It is not a stretchy material like a rubber balloon.

Isaiah 42:5 describes God’s creative act:

“Thus saith God the Lord (he that created the heavens and spread them abroad: he that stretched forth the earth, and the buds thereof: he that giveth breath unto the people upon it, and spirit to them that walk therein)” (Geneva Bible).

And Isaiah 40:22 may also be translated,

“It is he who sits above the circle of the earth, and its inhabitants are like grasshoppers; who stretches out the heavens like a curtain, and spreads them like a tent to dwell in” (ESV).

The expression ‘stretches out’ and ‘spreads’ are rendered from the same Hebrew words, *natah* and *raqa*, respectively. The clear meaning of this and earlier passages is that God created the earth for humans to dwell on and created the heavens with the stars in them. There is no inference of stretching or expanding space here. God was simply providing a habitat designed and ready for human habitation. The tent can also refer to the atmospheric heavens that support life. To read any more into it is unjustifiable eisegesis.

We read in Job,

“He himself alone spreadeth out the heavens . . .” (Job 9:8; Geneva Bible).

Which describes God creating the starry heavens as the next verse describes some of the constellations He created. The same Hebrew word, *natah*, is rendered ‘spread’ here also. Some translations render it as ‘stretch’. But clearly these verses have no more intent than suggesting that when Moses stretched out his hand, his arm did not lengthen beyond its fixed length.

And,

“Hast thou stretched out the heavens, which are strong, and as a molten glass?” (Job 37:18; Geneva Bible).

Which is also translated,

“Can you, like him, spread out the skies, hard as a cast metal mirror?” (ESV).

Here the Hebrew *raqa* is rendered ‘stretch’ or ‘spread’. The context seems to be only referring to the atmosphere. God erected the habitat on Earth for man to live in. The KJV uses the expression “spread out the sky”. The molten glass or cast metal mirror is consistent with the meaning of *raqa*, but really seems to refer to the transparent nature of the sky and nothing more—not the starry heavens of the cosmos. Other verses sometimes quoted to support the hypothesis that God stretched out the space with the stars and galaxies in it are Jeremiah 10:12 and Zechariah 12:1. Both of these verses use the Hebrew word *natah*, rendering it as ‘stretch’ in English.

Let’s now read from Psalms 148:

“3 Praise him, sun and moon, praise him, all you shining stars!

4 Praise him, you highest heavens, and you waters above the heavens!

5 Let them praise the name of the LORD! For he commanded and they were created.

6 And he established them forever and ever; he gave a decree, and it shall not pass away” (ESV).

A straightforward reading of this passage is that God created the lights in the sky (sun, moon and stars) and possibly this is what the *highest heavens* refers to. Certainly this is what the reformers thought (from the footnotes in the Geneva Bible), but also they thought the waters above referred to the rain. The suggestion is there also that the highest heavens God refers to here will not pass away, hence this could be the spiritual heavens, since verses 1 and 2 refer to such places. The Geneva Bible translators used the expression ‘*heavens of heavens*’. So if God in the Day of the Lord, is going to roll up the heavens, it could mean either the atmosphere or the whole starry cosmos.

“And all the host of heaven shall be dissolved, and the heavens shall be rolled together as a scroll: and all their host shall fall down ...” (Isaiah 34:4; KJV).

“And the heaven departed as a scroll when it is rolled together; and every mountain and island were moved out of their places” (Revelations 6:14; KJV).

But an interpretation more consistent with these latter two verses is that when God remakes the earth to bring his heavenly city down on it, He remakes the atmospheric heavens. The cosmos *endures forever*. The meaning of Psa 148:6 is then that He has established the starry cosmos forever. It is part of His enduring creation. The implication, therefore, is that it is a constant (i.e. something that we can always depend upon), like the Creator Himself.

Conclusion

From a review of the above scriptures, which are the main ones used by some creationists to justify expansion in cosmological models, it is not possible to conclude other than that God’s plain, straightforward meaning is that He created the universe with all its stars and galaxies. No stretching out by 10 fold or 1,000 fold is implied, like in the often cited rubber sheet analogy in general relativity for the fabric of space being stretched. There is not a single verse in the Bible applied to *the cosmos* with the meaning of a rubber sheet, where space might have been stretched by some enormous factor. To suggest otherwise is to read more into Scripture than the Author intended.

References

1. Both Humphreys’ and my models reject the godless notion of no special place in the universe for man. It is possible to construct from General Relativity a finite universe with a centre—a special place—where our galaxy is cosmologically near—and fit to the same observational data that the big bang adherents use, but without dark matter and dark energy.
2. Hubble, E.P., The 200-inch telescope and some problems it may solve, *Publications of the Astronomical Society of the Pacific* **59**:153–167, 1947.
3. For examples see: Humphreys, D.R., *Starlight and Time*, Master Books, Colorado Springs, CO, 1994; Hartnett, J.G., *Starlight, Time and the New Physics*, Creation Book Publishers, creationbookpublishers.com, 2007.
4. It is not sufficient that a theory permits something to exist. Only experimental verification can establish some aspect of a theory to be correct. We are told that the experimental method looks to falsify a theory, but in reality a successful prediction establishes the idea. In cosmology this is not even possible, since we cannot interact with the only universe we have to experiment on. All we can do is provide a model and judge it by the statistics of how often the phenomena is seen to occur etc.
5. Lieu, R., *ΛCDM cosmology: how much suppression of credible evidence, and does the model really lead its competitors, using all evidence?* 17 May 2007, arxiv.org/abs/0705.2462v1.
6. Hartnett, J.G., *Cosmology is not even astrophysics*, 2008, creation.com/cosmology-is-not-even-astrophysics.

John G. Hartnett received his B.Sc. (hons.) and his Ph.D. with distinction from the School of Physics at the University of Western Australia (UWA). He currently works as a research professor with the Frequency Standards and Metrology research group there. His research interests include ultra-stable microwave and optical clocks, tests of fundamental theories of physics, such as special and general relativity, and their cosmological implications. He is developing new cosmological models and has an interest in explaining the universe without dark matter and dark energy. He has published more than 100 papers in peer-reviewed scientific journals and books and has authored *Starlight, Time and the New Physics* and co-authored *Dismantling the Big Bang*. The ideas expressed in this work are those of the author and do not necessarily represent those of UWA or any UWA research.