SIL Global
Language and Culture Archives

Journal of Translation
ISSN 1558-7282 (online)
https://siljot.org

Biblical Cosmology: The Implications for Bible Translation

John R. Roberts

Journal of Translation 9 (2), 2013: 1–53.
https://doi.org/10.54395/JOT-583N6

License

©2013, SIL Global

Made available under Creative Commons Attribution-NonCommercial-ShareAlike 4.0

More resources available at:
https://sil.org/resources/language-culture-archives

Biblical Cosmology: The Implications for Bible Translation

John R. Roberts

John Roberts is a Senior Linguistics Consultant with SIL International. He has a Ph.D. in Linguistics from University College London. From 1978 to 1998 John supervised the Amele language project in Papua New Guinea during which time translations of Genesis and the New Testament were completed. John has taught graduate level linguistics courses in the UK, USA, Sweden, S. Korea and W. Asia. He has published many articles in the domains of descriptive linguistics and Bible translation and several linguistics books. His current research interest is to understand Genesis 1–11 in an ancient Near East context.

Abstract

We show that the creation account in Genesis 1.1–2.3 refers to a worldview of the cosmos as the ancient Mesopotamians and ancient Egyptians understood it to be. These civilisations left behind documents, maps and iconography which describe the cosmological beliefs they had. The differences between the biblical cosmology and ancient Near East cosmologies are observed to be mainly theological in nature rather than cosmological. However, the biblical cosmology is conceptually different to a modern view of the cosmos in significant ways. We examine how a range of terms are translated in English Bible translations, including *ḥōšeḵ*, *təhôm*, *rāqîᵃʿ*, *hammayim ʾăšer mēʿal lārāqîᵃʿ*, and *mayim mittaḥaṯ lāʾāreṣ*, and show that if the denotation of these terms is in accordance with a modern worldview then this results in a text that has incongruities and is incoherent in the nature of the cosmos it depicts. We therefore recommend that the translation should denote a biblical cosmology.

1. Introduction

In this article[1] we show that the creation account in Gen 1.1–2.3 depicts a conceptual metaphor of the cosmos that is largely concordant with the cosmologies of ancient Mesopotamia and ancient Egypt. In this biblical view the cosmos comprises the heavens above and the earth below surrounded on all sides by the cosmic waters. The heavens are a vaulted dome and above the dome of heaven are the waters above. The earth is a flat circular disk and below the foundations of the earth are the waters below. The earth is fixed and the sun and moon move across the sky. The light of day is independent of the sun. We also show that other Scripture passages support this biblical cosmology depiction.

We examine nearly 70 English translations of the Bible from the John Wycliffe translation (ca. 1395) to the Expanded Bible (2011). Up until about 1900 these versions translated the Hebrew fairly literally into English and therefore reflect the same cosmology that the Hebrew text depicts. However, in the 20th century a trend developed to concord the text to a modern cosmological view through the translation. We examine how a range of terms are translated, including *ḥōšeḵ*, *təhôm*, *rāqîᵃʿ*, *hammayim ʾăšer mēʿal lārāqîᵃʿ*, and *mayim mittaḥaṯ lāʾāreṣ*, and show that if the denotation of these terms is concorded to a modern worldview then this results in incongruities and an incoherent description of the nature of the cosmos depicted.

We establish in section 2 what is the temporal and cultural setting for Gen 1.1–2.3. Based on the testimony of Scripture, and linguistic and archaeological evidence we adopt the traditional view that these Scriptures were written substantially by Moses during the time the Israelites wandered in the wilderness (ca. 1446–1406 BCE). In section 3 we deal with some interpretation questions regarding the creation account in Gen 1. First, there are patterns of textual structure which indicate that Gen 1.1–2.3 is a unitary account.

[1] This article is a revision of a paper presented at the BT2011 Conference, 14–18 October 2011, GIAL, Dallas, Texas.

Second, we interpret Gen 1.1 as describing the first act of creation as only this interpretation implies creation *ex nihilo*. In section 4 we follow the UBS translators' handbook on Genesis to carefully examine what Bible dictionaries say about biblical cosmology. In section 5 we compare biblical cosmology with the cosmologies of ancient Mesopotamia and ancient Egypt. We find the main differences between ancient Near East (ANE)[2] cosmologies and the biblical cosmology are theological in nature rather than cosmological. In ANE cosmologies the world is created through the activities of multiple deities whereas the biblical account of creation only involves the one God, Elohim. Section 6 is the heart of the article. Here we examine what a number of key terms in the creation account denote. We show that in each case the Hebrew term denotes an entity that is consistent with a biblical cosmology. We also show that other Scriptures support this denotation. In section 7 we argue that if a translation is concordant with the biblical worldview it will be a coherent account, but if a translation seeks to be concordant with a modern view of the world then the resultant account will be incoherent with that view. We therefore recommend that the translation should denote a biblical cosmology and not be concorded to a modern cosmological denotation.

2. Author and date of writing of Genesis

Traditionally and historically, both Jews and Christians have held that Moses was the author or compiler of the first five books of the OT. These books, known as the Pentateuch, were referred to in Jewish tradition as five fifths of the law (of Moses). The Bible itself suggests Mosaic authorship of Genesis, as Acts 15.1 refers to circumcision as "the custom taught by Moses" (NIV),[3] an allusion to Gen 17. Also Exo 24.4 says "Moses wrote down all the words of the LORD," which suggests that Moses is the author of the Torah which includes the book of Genesis.

The Bible also testifies with respect to when Genesis was written. 1 Kgs 6.1 says that "the fourth year of Solomon's reign over Israel" was the same as "the four hundred and eightieth year after the Israelites had come out of Egypt." Since the former was *circa* 966 BC, the latter, and thus the date of the exodus, must be *circa* 1446–1406 BCE. This assumes the 480 in 1 Kgs 6.1 is to be taken literally. On this basis the 40-year period of Israel's wanderings in the desert, which lasted from *circa* 1446 to *circa* 1406 BCE, would have been the most likely time for Moses to write the bulk of what is today known as the Pentateuch.

Against this traditional and biblical view of who wrote Genesis and when it was written many scholars have claimed over the past two centuries to have found that the Pentateuch is a composite work based on four underlying sources. This approach is known as the documentary hypothesis (DH). It is alleged that the Pentateuch was written over a period of time from the tenth to the fifth centuries BCE by different authors as a composite of the source documents known as [J] (for *Jahweh/Yahweh*, the personal OT name for God), [E] (for Elohim, a generic name for God), [D] (for Deuteronomic) and [P] (for Priestly). It is further claimed that each of these documents has its own characteristics and theology which often contradicts that of the other documents. The Pentateuch is thus depicted as a patchwork of stories, poems and laws written by different authors for different purposes. However, the DH is not supported by conclusive evidence and remains speculative. Also, more recent archaeological and literary research has tended to undermine many of the arguments in favour of the DH.

Cassuto (2006) presents an exposition of the DH and subjects its exegetical methods and conclusions to a critical review. He argues that when YHWH is used in the Pentateuch the text reflects the Israelite conception of God and his attributes and when Elohim[4] is used the text implies the abstract idea of God conceived as the Creator of the universe, as the Ruler of nature, and as the Source of life. Thus the use of different names for God reflects different contexts of use rather than a composition from variant source documents. Davis (2007:128–172) presents a range of cultural and linguistic arguments that Genesis (as part of the Torah) was written primarily in the period immediately following the exodus rather than much later in the kingdom period. Lawrence (2011) compares the covenants in the Pentateuch with ancient Near

[2] For subsequent abbreviations see Appendix A.
[3] Scriptural quotes are from the ESV unless otherwise indicated.
[4] The plural form *ʾĕlōhîm* is used uniquely in biblical Hebrew in the grammatically singular construction to refer to the God of Israel as opposed to the god(s) of other nations.

East (ANE) treaties and law collections. He finds that the Pentateuchal documents have far more similarities with material of the second millennium than with material of the first millennium BCE. The significance of this finding is that the DH maintains that the Pentateuch was written by multiple authors called J, E, D, and P in the first millennium BCE. But there was a major historical change in how laws and treaties were drafted in ANE cultures between the second and first millennium and hypothetical authors in the first millennium, such as J, E, D, and P, would not have followed the patterns of legal documents of the second millennium. Therefore, we take the traditional and biblical position that Gen 1.1–2.3 was primarily written by Moses sometime during the 40 years that the Israelites wandered in the wilderness.

3. Some preliminary interpretative issues with Genesis 1.1–2.3

Before we examine the biblical cosmology depicted in Gen 1.1–2.3 we need to deal with some interpretive issues. More specifically, we need to establish what is the object text under scrutiny.

The first creation account has traditionally been taken to be Gen 1.1–2.3 but proponents of the DH maintain that *ʾēlleh* [these] *ṯôlə̲ḏôṯ* [genealogies.of] *haššāmayim* [the-heavens] *wəhāʾāreṣ* [and-the-earth] *bəhibārəʾām* [in-to.be.created.of-them] (Gen 2.4a) concludes the first creation account. In favour of the traditional interpretation, *The Jewish Study Bible* note against Gen 2.4 says:

> The Jewish textual tradition places a major break between 2.3 and 2.4, rather than in the middle of v. 4, where many modern interpreters put it, and for good reason. If the latter verse, or even its first half (2.4a), is read with 1.1–2.3, then several of the multiples of seven in 1.1–2.3...disappear. Most likely, 2.4a is an editorial linkage between the two accounts of creation. (1999:15)

The *Jewish Study Bible* makes a significant point here. The number seven is an important number in the Bible and indicates perfection and completion. The creation account in Gen 1.1–2.3 relates six days of creation activity which are completed on the seventh day as its primary numerical ordering principle. It is easy to forget that seven days is not a naturally marked cycle of time like the lunar month and the solar year. Instead, it is a religiously ordained cycle of time and therefore more important than any natural cycle. It is also the case that the number seven dominates Gen 1.1–2.3 in multiple ways: The Hebrew sentence in Gen 1.1 has seven words and 28 (4 × 7) letters. Gen 1.2 has 14 (2 × 7) words and Gen 2.1–3 has 35 (5 × 7) words. Elohim is mentioned 35 (5 × 7) times and Elohim is referred to 49 (7 × 7) times. "Earth is mentioned 21 (3 × 7) times and "heaven, firmament" 21 (3 × 7) times. The phrases "and it was so" and "God saw that it was good" occur 7 times. So, for the author of Gen 1.1–2.3 these patterns of seven are clearly an important part of the structure of the text. But if the text is extended beyond Gen 2.3 to include v. 4a then a number of these patterns of seven are lost. For example, the closing section of Gen 2.1–4a would comprise 40 words and not 35 and no longer be a multiple of 7, and mentions of "earth" and mentions of "heaven, firmament" would be 22 instead of 21.

Also in favour of the traditional interpretation, Wenham (1987:5–6) observes that Gen 1.1 and Gen 2.3 form a chiastic structure which marks the beginning and end of the text. In Gen 1.1 the phrases *bārāʾ* 'he created', *ʾĕlōhîm* 'Elohim' and *haššāmayim wəhāʾāreṣ* 'heavens and earth' are introduced in that order. Whereas in Gen 1.1–2.3 these phrases occur in reverse order: "heavens and earth" (2.1), "Elohim" (2.2), "created" (2.3).

However, Wenham (6) says the majority of modern scholars hold that the opening section of Genesis ends with 2.4a and not 2.3. The reason being that according to the DH, Gen 1.1–2.3 uses Elohim for God and therefore belongs to the Priestly source. Since the vocabulary of 2.4a is typical of P this must also be from this source and belong to what precedes. But again, this analysis contradicts the structure of the Hebrew text. Elsewhere in Genesis (e.g., 5.1, 11.27) where *ʾēlleh ṯôlə̲ḏôṯ* "this is the account of" is used, it introduces a major new development in the story. It is therefore anomalous for this formulaic expression to conclude a section in the narrative. Even so, many modern English translations follow the DH interpretation:

> Alter (1997) has Gen 2.4a at the end of the paragraph of Gen 2.1–3 with a new paragraph beginning with Gen 2.4b following.

The NEB (1970) has Gen 2.4a as a separate paragraph at the end of the first creation account with a new section headed "The beginnings of history" and beginning with Gen 2.4b following.

The NLT (2004) has Gen 2.4a at the end of the section after Gen 2.1–3 with a new section headed "The Man and Woman in Eden" and beginning with Gen 2.4b following.

The Message Remix (2005) has Gen 2.4a at the end of the section after Gen 2.1–3 with a new section headed "Adam and Eve" and beginning with Gen 2.4b following.

The CEB (2011) has Gen 2.4a at the end of the section after Gen 2.1–3 with a new section headed "World's creation in the garden" and beginning with Gen 2.4b following.

The TfT has Gen 2.4a at the end of the section after Gen 2.1–3 with a new section headed "God made the garden of Eden" and beginning with Gen 2.4b following.

Moffatt (1924) places Gen 2.4a at the beginning of Genesis preceding Gen 1.1 and therefore radically restructures the text according to the requirements of the DH.

However, since there are three pieces of textual evidence that support the traditional interpretation—the patterns of number seven, the chiastic structure in Gen 1.1 and Gen 2.1–3, and the anomalous use of *ṯôlədôṯ* as an ending rather than an introduction—and these contradict the DH interpretation we assume the traditional interpretation that Gen 1.1–2.3 is the object text.

A second interpretive issue is to understand how Gen 1.1 relates to Gen 1.2–3. Scholars have proposed two basic approaches. The first (and most traditional) interpretation is that Gen 1.1 is a main clause which makes an independent statement. The second interpretation is to understand Gen 1.1 to be a dependent clause that is connected to v. 2 to form a complete sentence. Wenham (1987:11) says four possible understandings of the syntax of Gen 1.1–3 have been proposed:

1. Verse 1 is a temporal clause subordinate to the main clause in v. 2: "In the beginning when God created..., the earth was without form..."
2. Verse 1 is a temporal clause subordinate to the main clause in v. 3 and v. 2 is a parenthetical comment: "In the beginning when God created...(now the earth was formless) God said..."
3. Verse 1 is a main clause, summarising all the events described in vv. 2–31. It is a title to the chapter as a whole, and could be rendered: "In the beginning God was the creator of heaven and earth." What being creator of heaven and earth means is then explained in vv. 2–31.
4. Verse 1 is a main clause describing the first act of creation. Verses 2 and 3 describe subsequent phases in God's creative activity. This is the traditional and oldest understanding of the text.

Wenham points out these different interpretations have theological consequences, for all except (4) presuppose the existence of chaotic pre-existent matter before the work of creation began. He then reviews each approach. He finds option (1) the least likely interpretation because v. 2 is a circumstantial clause giving additional background information necessary to understanding v. 1 or v. 3 and therefore either v. 1 or v. 3 must contain the main clause upon which v. 1 is dependent. Nevertheless, a number of modern English translations follow option (1). The NEB, NAB, LB, TEV, NRSV, Alter, and CEB translations all have Gen 1.1 as a "when..." clause dependent on v. 2.

Option (2) is proposed on the basis that in the phrase *bərēʾšîṯ* 'in the beginning' *rēʾšîṯ* does not have a definite article. It may therefore be construed as a construct and the whole clause interpreted as "In the beginning of God's creation of heaven and earth...." Against this interpretation is the fact that the verb in a construct is usually in the infinitive form and here it is perfect, "he created." Also the absence of the article in *bərēʾšîṯ* does not necessarily imply that it is in the construct state. Temporal phrases elsewhere in the OT often lack the article and some may be understood as having an absolute sense. Wenham also argues that it would be highly appropriate for *bərēʾšîṯ* to have an absolute sense at the very beginning of the creation narrative. No English translation appears to follow option (2) as such. But some represent v. 2 as a subordinate clause. For example, the Shocken translation subordinates v. 2 to v. 3 in a "when..." clause and

the Message and Remix versions subordinate v. 2 to v. 1 in this rendering: "First this: God created the Heavens and the Earth—all you see, all you don't see."

Option (3) treats Gen 1.1 as a title and not as a description of an event. This means that the creative events begin from Gen 1.2 onwards. However, this would mean that the primeval entities of *ḥōšeḵ* "darkness" and *təhôm* "deep" mentioned in Gen 1.2 existed before the first creation event in Gen 1.3 "Let there be light." This would then contradict Isa 44.24: "I am the LORD, who has made all things, who alone stretched out the heavens, who spread out the earth by myself," as the "all things" (lit. *kōl* 'all') would not include *ḥōšeḵ* and *təhôm*. No English translation presents Gen 1.1 as a mere title to what follows. The GW translation has a title "The Creation" preceding Gen 1.1. However, this verse is set off as a paragraph separate from v. 2. Verse 2 begins: "The earth was formless and empty,..." with no overt connection to v. 1. Thus v. 2 can be construed as the beginning of the creation account. The EVD has the title "The First Day—Light" preceding Gen 1.1. But then it transposes *bərēʾšîṯ* to v. 2 as "at first": "[1] God made the sky and earth. At first, [2] the earth was completely empty; nothing was on the earth." This makes Gen 1.1 into a header statement and what follows into an elaboration on that statement. The ERB has the same construction.

Option (4), the traditional interpretation, understands Gen 1.1 to say that God created the heavens and the earth "in the beginning" and then what follows describes subsequent phases in God's creative activity. Wenham says the antiquity of this interpretation is the greatest argument in its favour and it is the one he adopts. The problem with this interpretation is in what way did God create the heavens and the earth in Gen 1.1 when Gen 1.2–31 goes on to describe the creation of the heavens and the earth? The answer lies in understanding what *haššāmayim wəhāʾāreṣ* refers to. Keil and Delitzsch (1986:29) say this expression is frequently employed to denote the world, or universe, for which there was no single word in the Hebrew language; the universe consisting of a twofold whole (a merism), and the distinction between heaven and earth being essentially connected with the notion of the world and the fundamental condition of its historical development (e.g., Exo 20.11, 31.17; Deu 4.26, 30.19, 31.28; Pss 115.15, 121.2, 124.8, 134.3, 146.6; Isa 37.16; Jer 32.17, 51.48; Luk 16.17; Acts 4.24, 14.15; Rev 14.7). On this understanding Gen 1.1 could be paraphrased as "In the beginning, God created everything," with Gen 1.2–31 focussing on the creation of the earth. This interpretation is also supported by Gen 2.1: "Thus the heavens and the earth were completed in all their vast array." (NIV) Only when the creation of the earth is finished is the creation of the heavens and the earth considered to be complete. Thus *haššāmayim wəhāʾāreṣ* refers to the totality of the universe and not necessarily to an organised, fully functional and complete universe. The way God goes from chaos (disorganised) to cosmos (organised) in Gen 1.2–31 is primarily through the process of separation. Light is separated from darkness in Gen 1.3–5 to create day and night, the waters above are separated from the waters below in Gen 1.6–8 to create the source of rain in the heavens, and in Gen 1.9–10 the dry ground (*hayyabāšâ*) is separated from the waters below to provide a place to live and food plants (Gen 1.11–12) for animals and mankind (Gen 1.29–30).

Most English translations allow for interpretation (4) as they translate Gen 1.1 and v. 2 as consecutive events. Some make this interpretation more explicit. The Fenton translation renders Gen 1.1 as: "By Periods God created that which produced the Solar Systems; then that which produced the Earth," and makes interpretation (4) explicit. Knox makes interpretation (4) explicit with: [1] "God, at the beginning of time, created heaven and earth. [2] Earth was still an empty waste, and darkness hung over the deep; but already, over its waters, stirred the breath of God." The NET has a title "The Creation of the World" preceding Gen 1.1 and this verse is set off as a paragraph separate from vv. 2–5 following. Verse 2 begins: "Now the earth was without shape and empty,..." and the *now* links v. 2 to v. 1. In English discourse structure *now* is used at the beginning of a sentence to introduce information which is relevant to the part of the story or account that has been reached and which needs to be known before the story continues. Thus the NET makes it explicit that Gen 1.1 is a creation event and not a title. The NIV, NJB, NET, WEB, and Lexham versions also translate Gen 1.2 with a "Now..." clause. The NLF makes creation *ex nihilo* explicit with its translation of Gen 1.1: "In the beginning God made from nothing the heavens and the earth." Following Wenham we adopt the traditional interpretation that Gen 1.1 describes God creating everything in the beginning.

4. Biblical cosmology and Bible translation

For those who want to translate Gen 1.1–2.3 from the Hebrew into another language the UBS *Translators' Handbook on Genesis* (Reyburn and Fry 1998:27) says translators are advised to study carefully the picture of the universe given in Figure 1 as it was understood by the ancient Hebrew authors. This may be done by reading the relevant articles in a Bible dictionary, along with such passages as Pss 104.2–3, 5–9, 148.4; Job 26.11, 37.18, 38.4–11; Pro 8.28–29; and Amos 9.6.

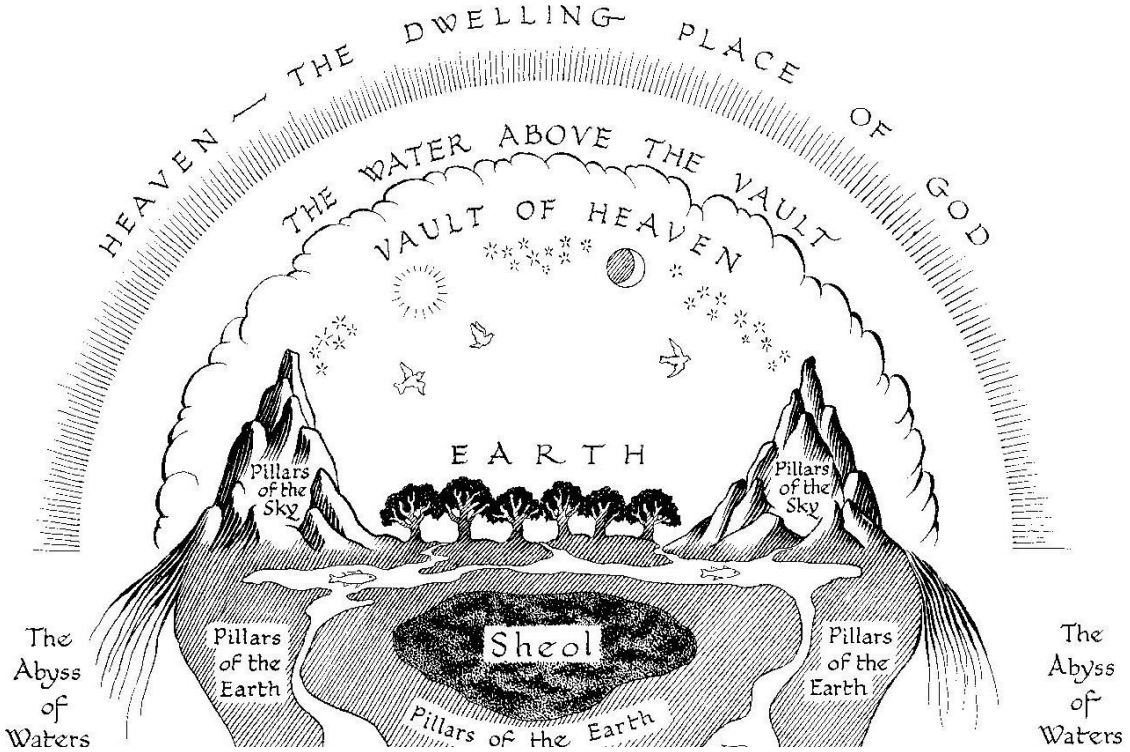


Figure 1: A picture of biblical cosmology (Reyburn and Fry 1998:27).

There are a range of Bible dictionary/encyclopedia/atlas types of works that discuss and describe the cosmology of Gen 1. The *Illustrated Bible Dictionary, Part 1* says the creation account in Gen 1.1–2.4a is a simple eyewitness account from a human and earthly perspective. It is a phenomenological account based on the common experience of how an ancient Hebrew person would have viewed the world. The day and night cycle is the most fundamental component of God's creation and that is created first. Then another basic component, the source of rain from heaven, is created second. Finally, the earth is separated from the waters below to provide a place where mankind can live. Denizens of the earth, sea and sky are then created to fill these domains, and this culminates in the creation of mankind in God's own image and likeness. This work suggests that the creation account is given in simple observational and pre-scientific terms as the ancient Hebrew would not have known what we now know about the heavens and the earth.

> The form of the creation account in Gen 1.1–2.4a is of a simple eyewitness account and no attempt is made to introduce subtleties of a kind which would be appreciated by modern scientific knowledge. Even granting the fact of revelation, a simple phenomenological creation story would describe the origin of only those elements in the world around that were visible to the naked eye. To the degree that Genesis 1 deals with simple observable phenomena, it is parallel to many other creation stories, for all such stories will have to deal with the earth, sea, sky, sun, moon and stars, animals and man....
>
> Taking Genesis 1 as a simple phenomenological account, then, the first item concerns the creation of light. It must be one of the simplest of all human observations that day and night occur in regular sequence, and that light is an indispensable necessity for all life and growth.... A second simple observation is that not merely are there waters below, which form the seas and the underground springs, but there are waters above which provide the source of rain. Between the two is the

> firmament (*rāqîʿ*, something beaten out).... Again, it is a matter of common experience that seas and land-masses are distributed in specific areas of the earth's surface (Gen 1.9–10).... Then, the earth has produced vegetation of many kinds (Gen 1.11–13).... There are no subtleties of botanical distinction, but the writer knows only three broad groupings of plant life, grass (*dešeʾ*, young, new, vegetation), herb (*ʿēśeḇ*, plants) yielding seeds after its kind, and trees (*ʿēṣ*) yielding fruit whose seed is in itself. Presumably the writer felt that this simple classification covered all cases. The next observation is that heavenly bodies are set in the firmament, sun, moon, stars (Gen 1.14–19). It was God who placed them there to mark off times and seasons. It would be altogether too subtle to expect the writer to distinguish meteors, planets, nebulae, etc.
>
> Turning to the spheres in which living creatures are to be found, the writer observes that the waters brought forth "the moving creature that hath life" Gen 1.20 (*šereṣ*, swarming things, small animals to be found in large numbers, and great whales (sea monsters) and every living creature that moves [Gen 1.21] and *tannîn*, sea monster, serpent). There is no attempt to make fine distinctions between the various species of sea animals in the zoological sense.... God also made the birds that fly in the firmament (Gen 1.20–22, *ʿôp̄*). The term *ʿôp̄* covers all varieties of birds.... Then again, the earth brought forth living creatures (Gen 1.24–25, *nepēš ḥayyâ*), which are classified by the writer as cattle (*bəhēmâ*, animals), creeping things (Gen 1.24–25, *remeś*) and beasts of the earth (Gen 1.24–25, *ḥayyâ*). Zoological distinctions are not to be found here either. The writer was evidently persuaded that his simple classification covered all the main types of terrestrial life sufficiently for his purpose. Finally, God made man (Gen 1.26–27, *ʾāḏām*) in his own image (*ṣaləm*) and likeness (*ḏəmûṯ*), a phrase that is immediately defined as having dominion over the denizens of earth, sea and firmament (Gen 1.26, 28). And God created (*bārāʾ*) man composite, male and female (Gen 1.27, *zāḵār* and *nəqēḇâ*). (*The Illustrated Bible Dictionary, Part 1* 1980:333)

Lawrence (2006) describes the creation account in Gen 1.1–2.3. He suggests this is God's own account as there would clearly have been no human present to witness these events. This raises the interesting question of how did the author of Gen 1.1–2.3 therefore acquire this account? Yet Lawrence also says this creation account is earth-centred and viewed from the perspective of someone on earth. However, the only cosmological issue he mentions is the creation of light on day one before the creation of the sun, moon and stars on day four. Most of his observations concern theological issues in Gen 1.1–2.3.

> "In the beginning God created the heavens and the earth." So begins the book of Genesis, the first book of the Bible. The Bible nowhere attempts to prove the existence of God; it simply states that he was there "In the beginning." Incidentally, the title of the Bible's first book, Genesis, comes from its title in Greek meaning "origin." The words "the heavens and the earth" mean the universe. For the Bible writers nothing (except God) existed before, so everything in the universe was created out of nothing by God.
>
> Although the Bible tells us that God made the heavens and the earth it does not give precise details of *how* he did it. The Lord's question to Job "Where were you when I laid the earth's foundation? Tell me if you understand." (Job 38.4) applies just as much to modern people with all their scientific knowledge as it did to Job perhaps 3,500 years ago. We have to face the fact that no human being was a witness to creation. Whether we accept it or not, Genesis claims to be God's own account. It is this account that gave birth to the biblical world-view, a view we must attempt to understand if we are to understand the Bible.
>
> The account of creation in Genesis 1.1–2.3 enables us to make the following observations:
>
> 1. The Genesis 1 account is structured in terms of six days, which are further defined by the oft repeated phrase "and there was evening, and there was morning." The pattern of six days of work followed by a day of rest was to provide a model for the Sabbath principle later to be taught in Exodus 20.8–11.
>
> 2. The account was not written by someone with modern scientific understanding. Light is called into being on the first day (Gen 1.3), yet the sun, moon and stars which give light to our planet are not made until the fourth day. The moon is called the "lesser light." That it simply reflects the sun's light was almost certainly unknown to the author.
>
> 3. The Bible's account of creation is earth-centred; the emphasis is not on space. Indeed the creation of the stars is dismissed with less than half a verse in Genesis 1.16 ("and also the stars"). Some six

> thousand stars are visible to the naked eye, yet within the observable universe, according to modern estimates, there are some 100 billion stars in our galaxy alone, and 100 billion galaxies.
>
> 4. The writer avoids mentioning the sun and moon by name, maybe because of the widespread worship of celestial bodies in the nations around.
>
> 5. God was pleased with his creation. Six times we read "God saw that it was good." Genesis 1 concludes: "God saw all that he had made and it was very good."
>
> 6. God is the creator. He is separated from his creation, not part of it.
>
> 7. Human beings are viewed as the climax of God's creation. Of all God's creatures, human beings alone are made in God's image and likeness (Gen 1.26–27). In Genesis 2.4–25 more details of the direct, special and personal creation of the first humans are given. The man is made "from the dust of the ground" and the woman from man. (Lawrence 2006:14–15)

Stadelmann (1970) provides this opinion on the cosmology depicted in the OT:

> The modern concept of an infinite or open-ended universe was not known in the OT; on the contrary, heaven and earth were thought to be sealed together at the rim of the horizon to prevent the influx of the cosmic waters. (Stadelmann 1970:43)
>
> [T]he ancient Hebrews considered the universe on a three-levelled structure. The earth was located between the heaven, the upper part, and the underworld, the lowest part of the universe. The earth was regarded as a vast plain, occupied partly by the sea, partly by continents studded with mountains, furrowed by rivers, and dotted with lakes. The horizon encircling the earth quite naturally suggested the idea of a circular shape to the ancient Hebrews. (Stadelmann 1970:126)

Aalen (1978) presents multiple lines of biblical evidence that the light of day created on day one is considered to be separate from the light of the sun everywhere in OT thought.

> Every passage that speaks of the shining (*yāʾîr* in the *hifil*) or the light (*ʾôr*) of the sun (Gen 1.14–16; Isa 30.26, 60.19; Jer 31.35; Ezk 32.8; Psa 136.7–9) also refers to the light of the moon and sometimes also to the stars. In descriptions of the darkening of the cosmos, which includes the sun and nocturnal luminaries, the shining (*ʾôr*) of the sun is not mentioned, only that of the moon and the stars (Isa 13.10; Ezk 32.7ff.). In texts devoting special attention to the sun, it is remarkable that there is no reference to its shining (Pss 19.2–7[1–6], 104.19–23 and Jgs 5.31; in 2 Sam 23.4 *ʾôr* refers to the morning, not to the sun). The word *nōgaḫ* 'brightness' is nowhere used with reference to the sun (not even unequivocally in 2 Sam 23.4; Pro 4.18 refers to the dawn, not to the rising sun), but is used in connection with the moon (Isa 60.19) and the stars (Joel 2.10, 4.15[3.15]). Thus, the moon is also called *leḫanah* 'the shining white one,' while the sun has no corresponding name, although admittedly is a "greater light" than the moon (Gen 1.16). In the verb *zāraḥ*, which (along with *yatsaʾ*) is the technical term for the rising of the sun (it is not used in connection with the moon or stars), the idea of light seems to be very obscure. Any rendering of this word other than the traditional rendering "to rise" would not be appropriate. It is not its light, but its heat that distinguishes the sun from the nocturnal luminaries (Exo 16.21; 1 Sam 11.9; Isa 49.10; Jon 4.8; Psa 121.6). When the sun is described as light, it is just as one light among others in the firmament of heaven—analogous to the moon and the stars. In fact, the stars are not independent, but are coordinated in and subordinated to the rhythm of day and night....
>
> Thus, empirical observation apart from cognitive reflection did not lead men to conclude from the first that the light of day originates from the sun. Indeed, in cloudy weather the sun is not visible, and yet the day is bright. Furthermore, men observed that it began to get bright in the morning long before sunrise. Thus, they understood the light of the day or of the morning as something independent of the sun....
>
> This view is clearly presupposed in the account of creation in Gen 1. Here the light is explicitly called the light of the day (v. 5); it already exists before the lights of heaven are formed (vv. 14ff.). The same is true of the darkness and of the regular alternation of day and night (vv. 5ff.). The sun and the moon are both called "great lights," and their function is to give light upon the earth (v. 15). They do not constitute day and night, but are attributes and characteristics of the day and of the night. They "separate the day from the night" (v. 14), i.e., they separate the time of light in the day-and-night unity from the time of darkness, by their shining (vv. 14ff.). The same view appears in Jer 31.35 and

> Psa 136.7–9. Psa 74.16 also mentions day and night first before the establishment of the sun and moon. A similar context is found in Psa 65.7–9 (6–8), where the heavenly bodies are not mentioned. Instead morning dawns and evening fades. In Job 38.4ff., the primeval morning is represented as the beginning of the creation of the world (v. 12; cf. the morning stars in v. 7). The sun is not mentioned here, which is intelligible only if it is not regarded as the source of light (cf. also Am 5.8)....
>
> In keeping with this independence of daylight from the sun, light (*ʾôr*) is explicitly used in connection with morning, dawn, and day in several passages in which no reference is made to the sun (Gen 44.3; Jgs 16.2, 19.26; 1 Sam 14.36, 25.34, 36, 29.10; 2 Sam 17.22; 2 Kgs 7.9; Isa 58.8; Hos 6.3, 5; Am 5.20; Mic 2.1; Zeph 3.5; Zec 14.6ff.; Psa 139.11ff.; Job 3.3–8[v. 4: *neharah*], 17.12, 38.19; Neh 8.3). Sometimes it is possible to observe an explicit or a supposed distinction between the light of the day and the light of the sun. In Isa 30.26, the light of the sun is compared with the light of the day. In Eccl 12.2, *ʾôr*, probably meaning daylight, stands alongside the sun, the moon, and the stars. In 2 Sam 23.4 the rising sun and the "morning light" are named side by side (cf. also Am 8.9). (Aalen 1978:151–156)

Myers (1987) has an entry on Hebrew cosmology and one on the firmament. He says the ancient Hebrew concept of the cosmos was a tripartite division of the heavens above the earth with *Sheol* and the waters of the abyss below the earth, as pictured in Figure 1. However, sometimes the cosmos is referred to as just the heavens and the earth. This would suggest there was an ambivalence as to whether *Sheol* and the waters of the abyss below were part of the cosmos or not. Myers also says from the etymology of *rāqîaʿ* and its function to hold the waters above up, it was conceived of as a solid dome with openings (*ʾărubbōṯ*) to allow the rain to fall.

> **Hebrew Cosmology:**
>
> To the ancient Hebrews the earth was the centre of the universe. Above it were the sky and the heavens, and below it were the Underworld, or *Sheol*, and the waters (e.g., Exo 20.4; Pss 24.2, 136.6). (Though at times the Hebrews did cite only heaven and earth as composing the universe (e.g., Psa 124.8), actually they held to this tripartite concept (e.g., Phil 2.10). The earth, with Canaan at its centre (Psa 74.12), was believed to be one mass of land (cf. the "ends of the earth" (Psa 65.5) or its "four corners" (Isa 11.12)) surrounded by an ocean. It rested on pillars (1 Sam 2.8; Job 9.6; Psa 75.3) or on firm foundations (Psa 104.5; but cf. Job 26.7). (Myers 1987:298)
>
> **Firmament:**
>
> (Heb *raqia*; Vulg Lat *firmamentum*, from LXX Gk *stereoma* 'foundation'). The expanse of sky or heaven (Gen 1.8) separating the water below (rivers, seas, subterranean waters) from the waters above (precipitation). In ancient Israelite cosmogony the firmament may have been viewed as a dome or curtain (cf. Psa 104.2) of beaten metal (cf. Heb *rq* 'beat out'; Job 37.18) from which were suspended the stars and planets (Gen 1.14–17). Rain and other heavenly blessings could pour down upon the earth through windows in the firmament (Gen 7.11; 2 Kgs 7.2; Psa 78.23–24). (Myers 1987:383)

Freedman (1992) says that the Scriptures show that the Hebrews shared the general world view of the ancient Near East. He concludes that the OT conception of the world is basically bipartite (heaven and earth), variously extended to a tripartite cosmos (heaven-earth-sea, or heaven-earth-underworld).

> On the whole, Israel shared the world view of the ancient Near East. The earth was perceived as a flat expanse, seen either in the image of a disk or circle upon the primeval waters (Isa 40.22; Job 26.10; Pro 8.27; cf. "circle of the heavens." Job 22.14) or of an outstretched garment spanning the void (Job 26.7, 38.13). According to HH Schmidt (THAT 1.230–231), these two images, present also in Mesopotamia, derive from different but compatible conceptions of the cosmos which are intertwined without tension in the OT. References to the earth's (four) corners, rims, hems (*'arba' kanepot ha'ares*; Isa 11.12; Job 37.3, 38.13; cf. Isa 24.16, its end(s), border(s), edges (*qeselqesot*; Job 28.24; Psa 135.7; Isa 5.26, 40.28, 41.5, 9; Jer 10.13, 51.16), combinations of these images (Jer 49.36; also Pss 48.11 – Eng 48.10, 65.6 – Eng 65.5), its ends (where it ceases: *'apse [ha]'ares*; Deu 33.17; 1 Sam 2.10, etc.) its boundaries (Psa 74.17), or its remotest parts (Jer 6.22, 25.32, 31.8, 50.41) depict the vast expanse of the earth and its outer limits, rather than a firm conception of its shape. T. Boman (1960:157–59), has pointed out that naming the outer limits of any area includes the whole area, so that the above terms function almost as synonyms for "earth," "world."

> In contrast to this preoccupation with the earth's outer limits, a centre or navel of the earth (Heb *tabbur*) is mentioned only once (Ezk 38.12; cf. Judg 9.37; Jub 8.19). L Stadelmann (1970:147–154) suggests that Jerusalem (cf. Ezk 5.5), and possibly Bethel at an earlier time (cf. Gen 28.10–12, 17–18), were considered in this light, in keeping with the views of many ANE and other peoples that their central sanctuary or capital city represented such a centre. However this theme is not prominent in the Old Testament; that Jerusalem, as the centre of worship of the universal God, held a position of central prominence (Isa 2.2–3 = Mic 4.1–2) is a theological rather than a cosmological observation. Over the earth and its surrounding sea(s) arches the firm vault (or firmament. Heb *raqia'* (Gen 1.6)) of (the) heaven(s). Together, heaven and earth make up what we would call world, universe, cosmos (Gen 1.1, 2.1, 4; Exo 31.17; Psa 102.26 – Eng 102.25; Isa 48.13, 51.13, 16 and often) *[sic]*. Occasionally, earth alone seems to enhance the whole cosmos (e.g., Isa 6.3; 54.5; Zeph 1.2–3, 18(?)). The vault of heaven rests on the earth (Amos 9.6; cf. 2 Sam 22.8: "the foundations of the heavens" = the earth) which in turn is firmly set on pillars (1 Sam 2.8) or foundations (Isa 24.18, 40.21; Jer 31.37; Mic 6.2, etc.). The foundations are associated with the "heavens" (2 Sam 22.8) or the "world" (Heb *tebel*; 2 Sam 22.16; Psa 18.16 – Eng 18.7). The verb *yasad* 'to found' is used with reference to God's founding of the earth (Job 38.4; Pss 24.2, 102.26 – Eng 102.25, etc.).
>
> Somewhat ambivalent is the structure in the place of the sea(s) or water(s), the deep, and the underworld. The seas can be spoken of as a familiar reality, in which the fish and other water creatures swarm (Gen 1.20, 22, 26, etc.) and on which humans move in ships (Pss 104.25–26, 107.23; Pro 30.19; Ezk 27.9). As such, the sea forms part of the earth, i.e., the flat surface below juxtaposed to the heavens above. A transitional position between earth and the surrounding sea is occupied by the islands or coastlands (Heb *'iyyim*; Isa 24.14–16, 41.5, 42.4, 10). Elsewhere in the OT the sea(s) or water(s) take on the character of a third cosmic realm in addition to heaven earth, the extension of the cosmic chaos waters surrounding everything.... The underworld is often spoken of as part of the earth, a lower cavern, grave, pit (called in Heb *Sheol*) where the dead lead a shadowy existence; it can even be referred to simply as "earth" (1 Sam 28.13; Pss 71.20, 106.17; Isa 29.4). In other texts, *Sheol* is treated as a separate cosmic realm besides heaven and earth (Job 26.5; Psa 139.8; Amos 9.2).
>
> The OT conception of the world, then, is basically bipartite (heaven and earth), variously extended to a tripartite cosmos (heaven-earth-sea, or heaven-earth-underworld). Although certain later books and sections (Job, Proverbs 8, several postexilic Psalms, and Isaiah 24–27, 40–55) are more explicit in their cosmological descriptions than the earlier documents, the general view of the cosmos does not show any significant change or development throughout the OT period. (Freedman 1992:245–246)

Stuhlmueller (1996) says the ancient Hebrews imagined the earth to be a flat disk resting on a foundation or pillars and surrounded by the ocean. This disk also had edges all around and a centre. She says, except for the implication that Jerusalem is the earth's centre, ancient Israel's view of the world did not differ from that of other ancient Near Eastern peoples.

> Ancient Israel imagined the earth to be a flat disk (Isa 42.5) resting on a foundation or pillars (Job 9.6). It is surrounded by the ocean (Pss 24.2, 136.6). It has four corners (Isa 11.12; Ezk 7.2; Job 37.3, 38.13) and an edge (Isa 24.36) or ends (Isa 40.8; Job 28.4; Psa 48.11; Jer 6.22, 25.32). It also has a centre or navel (Ezk 38.12). Except for the implication that Jerusalem is the earth's centre, ancient Israel's view of the world did not differ from that of other ancient Near Eastern peoples. (Stuhlmueller 1996:234)

Achtemeier (1996) has an entry on the Hebrew universe and the firmament. He finds that the Scriptures describe the world as a flat, round disk covered by the great dome of the firmament which was held up by mountain pillars. Rains were believed to fall through sluices or windows in the surface of the firmament.

> **The Hebrew Universe:**
>
> The ancient Hebrews imagined the world as flat and round, covered by the great dome of the firmament which was held up by mountain pillars (Job 26.11, 37.18). Above the firmament and under the earth was water, divided by God at creation (Gen 1.6, 7; cf. Pss 24.2, 148.4). The upper waters were joined with the waters of the primordial deep during the Flood; the rains were believed to fall through windows in the firmament (Gen 7.11, 8.2). The sun, moon, and stars moved across or were fixed in the firmament (Gen 1.14–19; Psa 19.4, 6). Within the earth lay *Sheol*, the realm of the dead (Num 16.30–33; Isa 14.9, 15). (Achtemeier 1996:339)

Firmament:

> The Hebrew term *raqia'* suggests a thin sheet of beaten metal (cf. Exo 39.3; Num 17.3; Jer 10.9; also Job 37.18)...Job 26.13 depicts God's breath as the force that calmed (or "spread," "smoothed") the heavens. Luminaries were set in the firmament on the fourth day of creation (Gen 1.14–19). Rains were believed to fall through sluices or windows in its surface (cf. Gen 7.11). (Achtemeier 1996:338–339)

Browning (1996) says the Scriptures depict the world as a flat earth over which is a dome-shaped firmament, supported above the earth by mountains, and surrounded by waters. Holes or sluices allow rain to fall through the dome.

> Hebrew cosmology pictured a flat earth, over which was a dome-shaped firmament, supported above the earth by mountains, and surrounded by waters. Holes or sluices (windows, Gen 7.11) allowed the water to fall as rain. The firmament was the heaven in which God set the sun (Psa 19.4) and the stars (Gen 1.14) on the fourth day of the creation. There was more water under the earth (Gen 1.7) and during the Flood the two great oceans joined up and covered the earth; *sheol* was at the bottom of the earth (Isa 14.9; Num 16.30. (Browning 1996:136)

Freedman (2000) contains a range of articles by various scholars on different aspects of biblical cosmology.

Heaven:

> In Hebrew cosmology heaven(s) (Heb *šāmayim*), Yahweh's dwelling place, and earth comprise God's creation. Heaven depicts skies, the upper part of the created world, and denotes the firmament (a vault or roof of the earth). It may be used literally or metaphorically, and denotes fixed or material reality. It designates God's unique home, a sanctuary, the throne of divine majesty, remoteness, and transcendence. Heaven is a space immediately surrounding the earth (e.g., atmosphere), a place of natural and supernatural signs, outer space. The firmament (Gen 1.6–8), a solid mass (Isa 45.12), rests on pillars (Job 26.11) and has windows (Gen 8.2). (Kirk-Duggan 2000:563)

Creatio ex nihilo:

> The Priestly account of creation (Gen 1.1–2.3) describes a process of creation extending over six days that begins with God's command for the creation of primordial light before the watery, dark chaos (1.3). It is doubtful that the notion of "creation out of nothing" (*creatio ex nihilo*) is meant. Nowhere are the creations of water and darkness mentioned (cf. 2 Pet 3.5). In fact, the notion of creation out of nothing was a much later tradition in Scripture (cf. 2 Macc 7.28; Rom 4.17; Heb 11.3). Moreover, Gen 1.1–2 is syntactically an extended temporal clause that introduces the main sentence in v. 3. Light is the first creative act. Beginning with empty formlessness (*ṯōhû wāḇōhû*, v. 2), creation according to P tradition is about the formation of interdependent structures and the separation of things into their proper categories (cf. Ezk 44.23). Throughout the process, God is unopposed; no chaos monsters must be slain in order to bring about creation. Indeed, the "great sea monsters" come directly from God's creative power (Gen 1.21). (Brown 2000:293)

Abyss:

> Although in English translations of the OT, "abyss" is rarely used (cf. Gen 1.2 NEB, NAB), Gk ἀβύσσος ('primal ocean' or 'world of the dead') appears frequently in the LXX as a translation of Heb *təhôm*, 'waters of the deep'. *təhôm*, treated as a proper name, derives from the same Semitic root as Tiamat, the goddess in Enûma Elish, the Babylonian creation story. However, it does not appear to be personified in the OT and refers variously to the creation event (Gen 1.2; Job 38.16; Psa 33.7), to blessings and fertility (Gen 49.25; Deu 8.7; Psa 78.15), and to destruction (Gen 7.11, 8.2; Ezk 26.19; Amos 7.4). It is also associated with the Reed Sea (Exo 15.5; Isa 51.10; Psa 106.9).
>
> When 'abyss' is not used to translate *təhôm*, 'the deep' is often employed (cf. Gen 1.2, NJPSV, RSV, NRSV). (Spencer 2000:11–12)

Deep:

> The chaotic and terrifying cosmic waters out of which the world originated (Heb *təhôm*; Gk ἀβύσσος).

In the Babylonian creation epic, Enûma Elish, the monstrous goddess Tiamat, whose name is etymologically related to Heb *təhôm*, is slain by the god Marduk in a cosmic battle. After he defeats Tiamat, Marduk cuts her body into two parts; one becomes the earth, and the other becomes the heavens. Marduk thus creates the world and establishes order out of chaos.

Even though there are echoes of this Babylonian epic in Genesis, God there creates order out of chaos by "separating waters from waters" and "making a firmament" and separating the waters under the firmament from those above it (Gen 1.6–7). He does not tame a giant dragon. God divides and contains the waters with his breath (Psa 33.6–7), and he uses "the fountains of the great deep" to wash away the violence and corruption of the world (Gen 7.11; cf. 8.2). These waters are also instruments of God's power and providence in leading the Israelites out of Egypt (Exo 15.5–8).

The deep also refers to the underworld (Jon 2.3, 5–6[MT 4, 6–7]) and the realm of the dead (Job 38.16; Rom 10.7), and it occasionally refers to the primeval battle between God and the monsters of chaos: Rahab, Leviathan, Tannin (cf. Isa 51.9–10). (Carrigan, Jr. 2000:335)

Water in cosmology:

From time immemorial, ancient people must have been aware that water existed above and below the earth. It descended from above in the form of rain and it could be obtained, if one were willing to dig deep enough, from the depths of the earth. In many ancient Near Eastern societies this apparent paradox was explained by the story of the primordial battle between the hero-god and the dragon of chaos. In the Babylonian version, the victorious Marduk splits the body of the female Tiamat. Then he creates the earth from her body, placing the earth in the womb of chaos below the waters of heaven and above the waters of the deep (cf. Heb *təhôm*; Akk *tiâmtu*, 'Tiamat').

The OT acknowledges this basic understanding of the universe, or cosmogony, but modifies it in the light of Israelite monotheism (the Creation account, Gen 1.1–10, the Flood account, 7.11; cf. Exo 20.4; Deu 4.18; 2 Sam 22.14–17; Job 26.5–13; Pss 104.3–6, 136.6, 148.4–7; Jer 10.11–13; Amos 9.5–6; Jon 2.2–6). So the "waters of heaven," or cosmic waters, are the waters above the earth held back by the firmament. Rain falls when God opens the floodgates in the firmament (Gen 7.11, 8.2). The sky is blue (the colour of the ocean) because the waters can be seen through the transparent crystal firmament (cf. Ezk 1.26, which pictures God as seated above the firmament on a throne the colour of lapis lazuli [blue or turquoise]—the colour of deep water and the sky). (Jenney 2000:1367)

Light:

The creation of primordial light, distinguished from the light of the celestial spheres (Gen 1.14–16), functions to distinguish day from night, thereby setting in motion the progress of time. (Brown 2000:293)

Firmament:

"On the second day, God creates a dome or firmament that vertically separates the waters above from the waters below. Separation of the waters below results in the appearance of dry land, which is exhorted to sprout forth vegetation on the third day. With the three domains of heaven, water, and earth firmly established over the course of three days, the celestial spheres of light are created on the fourth day, with teeming life in the seas, air, and on the land appearing on the fifth and sixth days..." (Brown 2000:293)

Firmament:

A thin sheet, similar to a piece of beaten metal, that stretched from horizon to horizon to form the vault of the sky. In Hebrew cosmology, the universe consisted of three parts: the waters above, the earth below, and the waters beneath the earth (cf. Exo 20.4). Job 37.18 describes God as spreading out the heavens and making them "as hard as a mirror of cast bronze" (cf. LXX στερέωμα, suggesting an embossed or hammered-out bowl).

The firmament (Heb *rāqîaʿ*; Lat *firmamentum*) serves to separate the waters above from the waters below (Gen 1.6–8), its primary function being to prevent the waters above from crashing down upon the earth below and flooding the world. However, small holes in the firmament permitted the occasional release of water in the form of rain (Gen 7.11; Psa 78.23–24). The moon, sun and stars were placed along this fixed arch in the heavens (Gen 1.14–18). In Ezekiel's chariot vision the

> firmament appears as an expanse over the heads of the creatures which looked like sparkling ice; above the firmament is a throne of sapphire (Ezk 1.22–26). (Tucker, Jr. 2000:461–462)
>
> (Freedman 2000)

Walton et al. (2000) have a piece on light and a piece on firmament that are relevant to biblical cosmology. This work is concerned to provide the ANE context for understanding the biblical text.

> Gen 1.3–5 *light.* The people of the ancient world did not believe that all light came from the sun. There was no knowledge that the moon simply reflected the light of the sun. Moreover, there is no hint in the text that "daylight" was caused by sunlight. The sun, moon and stars were all seen as bearers of light, but daylight was present even when the sun was behind a cloud or eclipsed. It made its appearance before the sun rose, and remained after the sun set.
>
> Gen 1.6–8 *firmament.* In a similar way the expanse (sometimes called "the firmament") set up in day two is the regulator of climate. The ancient Near Eastern cultures viewed the cosmos as featuring a three-tiered structure consisting of the heavens, the earth and the underworld. Climate originated from the heavens, and the expanse was seen as the mechanism that regulated moisture and sunlight. Though in the ancient world the expanse was generally viewed as more solid than we would understand it today, it is not the physical composition that is important but the function. In the Babylonian creation epic, Enûma Elish, the goddess representing this cosmic ocean, Tiamat, is divided in half by Marduk to make the waters above and the waters below. (Walton et al. 2000:28)

All of these works appear to affirm to a greater or lesser degree that the cosmology depicted in the Bible is as pictured in Figure 1. Many of these scholars also maintain that this biblical cosmology is similar to the cosmologies of other ancient Near Eastern peoples.

5. Biblical cosmology and ANE cosmology

Archaeological research enables us to look back in time. Such research conducted in Mesopotamia and Egypt since the 19th century has revealed a great deal about civilisations that existed in the Near East in ancient times. The civilisations of ancient Mesopotamia and ancient Egypt left behind documents, maps and iconography which describe the cosmological beliefs these cultures had.

5.1. Mesopotamian cosmology

The Sumerian civilisation existed in Mesopotamia from 3100–1700 BCE. Horowitz (2011:134ff.) says no Sumerian creation epic is known such as the Akkadian epic Enûma Elish, in which Marduk builds and arranges the features of the universe. Instead, evidence concerning Sumerian conceptions of the beginnings of the universe is found in two types of cosmological accounts. First, a number of literary text prologues record events of early times. Second, some texts recount the distribution of divine duties in early times, including the assignment of the Moon-god and the Sun-god to their heavenly posts. A common feature of these Sumerian accounts is that the cosmos began when earth was separated from heaven. Another common feature is that all was darkness in the beginning. Several accounts speak of the heavens shining before the sun or moon are created. The universe generally comprises three regions: heaven, earth, and underworld, and a god controls each region. But there is no overt mention of the primeval waters.

The Babylonian creation myth[5] is recounted in the "Epic of Creation" also known as the Enûma Elish. The Mesopotamian "Epic of Creation" dates to the late second millennium BCE. According to Heidel (1963) the epic poem opens with a brief reference to the time when nothing existed except for the divine parents, Apsû and Tiʾâmat, and their son Mummu. Apsû was the primeval sweet-water ocean, and Tiʾâmat the salt-water ocean, while Mummu probably represented the mist rising from the two bodies of water and hovering over them. These three types of water were mingled in one, forming an immense, undefined mass in which were contained all the elements of which afterward the universe was made.

[5] We define "myth" as a sacred and religious story that is believed to be a true account of events in the remote past by those who own the story.

In time, Apsû and Tiʾâmat produced the brother and sister pair, Laḫmu and Laḫâmu. Then while these were growing up they produced another brother and sister pair, Anshar and Kishar, who surpassed the older children in stature. After many years, a son was born to Anshar and Kishar. They named him Anu and he was the sky-god. He, in turn, begot Nudimmud, his likeness. Nudimmud, also variably known as Enki and Ea, was a god of exceptional wisdom and strength; he became the god of the subterranean sweet waters, the god of magic, and the mastermind of the Mesopotamian divinities.

It then came about that Apsû, the grandfather god, became annoyed at the antics of the younger gods. He complained:

> *By day I cannot rest, by night I cannot lie down in peace.*
> (day and night are mentioned before the sun and moon are created [author's comment])

and decided to destroy them. Tiʾâmat, the grandmother god, was horrified, but Ea came to the rescue. By using a magic circle he put Apsû to sleep. Ea then removed Apsû's royal tiara and his supernatural radiance and clothed himself with them. Ea then had the power to slay Apsû, and he did. Tiʾâmat remained unmolested since she had not been in sympathy with Apsû's designs. Ea then established a spacious abode called "Apsû" and he dwelt there in splendour with his wife, Damkina. They had a son called Marduk.

In the meantime, Tiʾâmat became restless and angry at those who had slain her husband, Apsû. She decided to go to war with those gods who were either responsible for Apsû's murder or were sympathetic to it. She gave birth to eleven kinds of monster serpents and ferocious dragons for the impending war. She exalted Kingu to be her spouse and entrusted him with the high command.

Marduk the valiant was called upon to defend the divine beings against Tiʾâmat and her monsters. The hero, Marduk, offered to save the gods only if he was appointed their supreme, unquestioned leader and was allowed to remain so after the threat had passed. The gods agreed to Marduk's terms. Marduk challenged Tiʾâmat to combat and destroyed her. He then ripped her corpse into two halves in order to create the waters above and the waters below. Marduk then created the calendar, organised the planets and stars, and regulated the moon, sun, and weather. Marduk then built *markas ilāni* 'bonds of the gods' to hold the cosmos together. One, the *durmāḫu* 'lead ropes' seems to hold Apsu, heaven, and earth's surface in position—since Marduk apparently stands on the Apsu as he fastens the *durmāḫu*. At this time, the heavens, the earth's surface, and the Apsu seem to lie adjacent to one another, because Marduk's next act is to hoist the heavens upward, away from Apsu and earth, by using Tiʾâmat's crotch as a wedge. This may explain why heaven is distant from earth but the subterranean waters of the Apsu lie just below the earth's surface. Then Marduk completes his construction of the universe by inspecting the bonds that hold it together. Finally, Marduk throws down lead-ropes that regulate the universe to Ea in the Apsu. Ea may then hold these lead-ropes in order to keep heaven and earth in place over the Apsu. Marduk holds similar lead-ropes.

After this, the gods pledged their allegiance to Marduk and he created Babylon as the terrestrial counterpart to the realm of the gods. Marduk then destroyed Tiʾâmat's husband, Kingu, and used his blood to create humankind so that they could do the work of the gods.

Note that in the Enûma Elish, darkness is not mentioned as a feature of the primal state of the universe. Instead, day and night seems to have been present in the primal state, as indicated above. However, darkness is often mentioned as a place where various epic heroes come to in their journeys. Horowitz (2011:100) says it is most likely that the region of darkness was a perpetually sunless region, such as the far north during the arctic winter. In Mesopotamian texts, regions of darkness are found both to the north and east of Mesopotamia. Sargon of Akkad encountered a region of darkness during a campaign to the east, and the World Map identifies the northern *nagû* as "Great Wall...where the Sun is not seen". If the dark portion of the "Path of The Sun" in the Gilgamesh Epic IX[6] is located in the north, this may explain the presence of the north-wind in Gilg. IX v. 38.

[6] The Epic of Gilgamesh is an epic poem from ancient Mesopotamia. It is probably the oldest known work of literature in the world and originated in ancient Sumeria.

5.2. Egyptian cosmology

Bard (1999) says the following of the Egyptian cosmology:

> The Egyptian pantheon knew of a number of creator gods, and even a creator goddess. In the Heliopolitan ennead, the primeval god Atum created the god Shu (air) and the goddess Tefnut (moisture), who in turn begat Geb (male, earth) and Nut (female, sky). Geb and Nut produced Osiris, Isis, Seth and Nephthys. The sun god Ra was also seen as a creator god. He first appeared on the primeval waters (the god Nun) as a child floating on a lotus. He then set about creating the four winds and the inundation of the Nile. From his sweat he created the gods, and from his tears he created mankind (there is a wordplay between *rmṯ*, 'man,' and *rm.t*, 'to weep'). The Memphite god Ptah, the patron of craftsmen, was said to have created Atum and the rest of the ennead through pronouncing their names. Khnum, a god worshipped primarily in the First Cataract region, was thought to have created the gods and men on his potter's wheel. The goddess Neith, in a Roman period cosmogonic text recorded at Esna, is said to have taken the form of a cow while floating in the primeval waters of Nun. She then proceeds to create thirty divine assistants to aid her in her work of creation, as well as creating the sun god (called Amen) who then continues the work of creation.
>
> Another group of gods closely associated with the idea of creation is the Hermopolitan ogdoad, a group of four male deities and their feminine doublets representing the primordial forces of creation. Nun and Naunet represent the primordial waters in which creation begins, Heh and Hauhet embodied spaciousness, Kuk and Kauket darkness, and Amen and Amaunet hiddenness. The last two members of the ogdoad were not fixed, and at times one finds Tenem and Tenemet (disappearance) or Gereh and Gerehet (restraining) instead of Amen and Amaunet. These eight gods unite on a primeval hill, called the "isle of flame," and create the sun god. (Bard 1999:608–609)

Hoffmeier (1983:42–44) suggests there is a parallel between the four cosmic forces and their consorts in the Hermopolitan ogdoad and the primeval forces of Gen 1.2:

Nun	=	*təhôm*
Keku	=	*ḥōšeḵ*
Hehu	=	*ṯōhû wāḇōhû*
Amun	=	*rûᵃḥ ʾĕlōhîm*

Nun is clearly similar to *təhôm* and Keku to *ḥōšeḵ*. Hoffmeier says Hehu is perhaps the least known of the four. Hehu is derived from the root *ḥḥ* 'millions', hence the idea of infinity or boundlessness. The picture portrayed in both Egyptian and Hebrew cosmology is that of a cosmos without form," hence, chaos. This seems to be the meaning of *ṯōhû wāḇōhû* in Gen 1.2. In the Coffin Texts (II, 4–6) *ṯnmw* is also used to describe this condition. It is sometimes rendered "gloom" and "abyss."

Figure 2 depicts the ancient Egyptian conception of the cosmos. This shows the sky-goddess, Nut, represented as a woman, her naked body curved to form the arch of heaven. She is adorned with the stars of heaven. Keel (1997:36) says that alongside Nut is an unrelated arch of the sky, a sea traversed by the sun god. He says the idea of a heavenly ocean probably had its origin in the observation that sky and water have the same colour (in Egyptian iconography it is usually blue-green), and that water falls from above. Lying below her is her husband Geb, the earth-god. As a chthonic deity he was associated with vegetation and the underworld. He is depicted with plants, such as barley, and other green patches on his body. It was believed that Geb's laughter was the source of earthquakes, and that he allowed crops to grow.

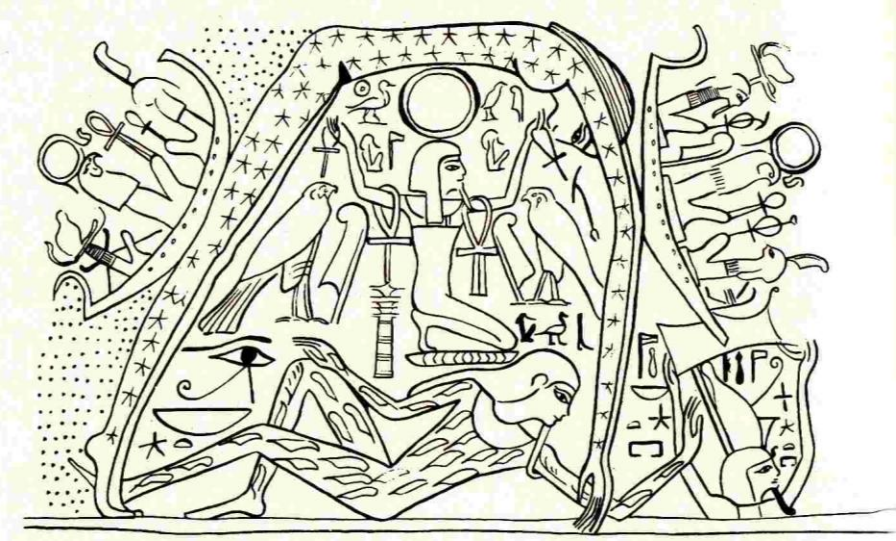


Figure 2: The ancient Egyptian view of the cosmos (Keel 1997:36).

In the Egyptian creation myth, Ra, the sun god, creates the day. There once was no heaven and no earth, no day or night, no life or death. There was only primeval darkness and the formless ocean of Chaos. Then the waters receded and land emerged forming the Mound of Creation.[7] From there the creator, the sun god, Ra, the embodiment of all life and energy, all light and warmth, rose for the first time casting his radiant light on the world. Ra then created the deities Shu (air) and Tefnut (water) who created Geb (Earth) and Sky (Nut). Ra separated them, thus allowing the rest of creation to unfold. Nut was forbidden to have children in the 360 day year. So Thoth (Time), created five more days, so Nut could give birth to Osiris, Isis, Nephthys, Set, and Horus the Elder, thus making it a 365 day year.

The ancient Egyptians believed that at the end of the day, Nut swallowed the sun god, Ra—and gave birth to him again the next morning. They had a book of the day and a book of the night. The day and the night were each divided into twelve hours.[8] The book of the day described the passage of the twelve hours of day and the book of the night, the passage of the twelve hours of night. Ra is depicted travelling through the day and the night. The day and the night are therefore independent of the sun god Ra.

5.3. The ANE and biblical worldviews compared

There are a set of commonalities in the worldviews of the ancient Mesopotamians and Egyptians as expressed through their religious mythologies. These are:

1. The cosmos was created by the activities of supernatural beings or deities.
2. The cosmos is ordered and governed by supernatural beings or deities.
3. The cosmos was created out of a primeval watery deep, abyss.
4. The cosmos was created in stages (activities of gods) until it was complete and fully functional.
5. Deities form part of the cosmos, i.e., the sun, the earth, the sky, etc., are deities.
6. The earth is shaped like a flat disk or table top.
7. The flat earth is surrounded on all sides by masses of water (the primeval deep).
8. The sky is a solid, dome-like structure that covers the earth, it holds back a mass of water (the primeval deep) that exists above it.

[7] The Egyptian pyramids represent the primeval mound of creation.
[8] The ancient Egyptians invented the 24-hour day.

9. When it rains and storms, water and wind pass through openings in the firmament (the sky).
10. The sun, moon, and stars are lights that come out from behind the firmament, run their course along the firmament, and then return behind it.
11. There are two openings in the sky—the East Gate and the West Gate. The sun enters through one in the morning and exits through the other at dusk. During the night it follows the dark path of the underworld back to the East Gate.
12. The earth is fixed, the heavenly bodies move.
13. Daylight is independent of the sun.
14. The earth produces plants and crops.
15. Human beings are created to serve the gods—almost as an afterthought.

Each of these commonalities of the ANE worldview is reflected in ancient Hebrew thought, as recorded in the OT:

1. Gen 1.1 states that Elohim, the Hebrew title for the Most High God, created the heavens and the earth, i.e., the cosmos, in the beginning.
2. With respect to deities ordering and governing the cosmos, in Gen 1.3, 6, 9, 11, 14, 20 and 24, "God said," and it was so.
3. Gen 1.6–8 states that Elohim created the heavens and the earth by separating the waters of the deep (*təhôm*).
4. Gen 1.1–31 describes the creation of a complete and fully functional cosmos through phases that take six days. After the sixth day of creation activity, Gen 2.1 says the heavens and the earth were completed in all their vast array.
5. In the ANE creation mythologies, multiple gods and demi-gods are involved in creating and governing the cosmos, but in the Gen 1.1–2.3 there is only one God, Elohim, who creates and governs everything.
6. Gen 1.9 states that God commanded the waters below to be gathered together to one place and for the land to appear. Elsewhere in the OT this is interpreted as the earth being a flat expanse, seen either in the image of a disk or circle upon the primeval waters (Isa 40.22; Job 26.10; Pro 8.27; cf. "circle of the heavens," Job 22.14) or of an outstretched garment spanning the void (Job 26.7, 38.13).
7. The earth, with Canaan at its centre (Psa 74.12), was believed to be one mass of land (cf. the 'ends of the earth' (Psa 65.5) or its 'four corners' (Isa 11.12)) surrounded by an ocean. Cf. also Gen 49.25; Exo 20.4; Deu 4.18, 33.13 which speak of the deep (*təhôm*) beneath the earth and Pro 8.28–29: "...when he made firm the skies above, when he established the fountains of the deep (*təhôm*), when he assigned to the sea (*yām*) its limit, so that the waters (*mayim*) might not transgress his command, when he marked out the foundations of the earth."
8. Gen 1.6 says God created a *rāqîaʿ* in the midst of the waters of the *təhôm* to separate the waters below from the waters above. The word *rāqîaʿ* is etymologically related to the verb *rq* (Num 16.38[Num 17.3]: *riqqūʿê paḥîm* 'beaten out plates') which means 'to beat out flat'. Therefore *rāqîaʿ* means a flat plate strong enough to hold up the waters above.
9. Gen 7.11 says God opened the sluicegates of heaven (*ʾărubbōṯ haššāmayim*) to allow the waters of the flood (*mê hammabbûl*) to pour down. Then Gen 8.2 says God closed the *ʾărubbōṯ haššāmayim* to stop the rain from falling. Elsewhere in the OT opening the sluicegates of heaven to allow rain to fall is deemed to be a blessing from God, cf. 2 Kgs 7.2, 19; Mal 3.10.
10. Psa 19.4–6 says the sun comes out of his pavilion (*ḥuppāṯō*) like a bridegroom. The *ḥuppāṯō* is where the bridegroom hides before he appears in his splendour for the wedding.

11. Psa 65.8 refers to the Gates of the East, and the Gates of the West: "You make the going out (*môṣā'ê* 'gates') of the morning and the evening to shout for joy."
12. Psa 19.1–4a says that the glory of God is revealed to all the earth by the starry heavens and 4–6 says this knowledge of God is revealed to all by the sun which rises at one end of the heavens and makes its circuit to the other end. The sun traverses across the whole earth and nowhere is hidden from its heat.
13. Gen 1.3–5 states that God created day and night before he created the sun and the moon.
14. Gen 1. 11–12 states that God called upon the earth to produce vegetation: seed-bearing plants and fruit trees, according to their various kinds.
15. In Gen 1.26 God deliberates, "Let us make man...," so the creation of mankind is not an afterthought. Gen 1.27 shows that the creation of mankind is indeed the climax of God's creation. Also, rather than being created to serve the gods, mankind in Gen 1.26 is created in God's image and likeness to rule as God's representative on earth.

Thus Gen 1.1–2.3 speaks into the ANE worldview and only modifies it theologically:

1. The Genesis account depicts the one God, Elohim, the God of the Hebrews, as the creator of all things and while he orders and governs his creation he is distinct and separate from it.
2. The cosmos does not come about by random interactions or internecine warfare between the gods but instead the cosmos comes into being according to the purposeful order and command of Elohim.
3. Mankind is the climax and pinnacle of God's creation. They are created in God's image and likeness as male and female to rule over the earth and its creatures as God's representatives.

6. Understanding some key concepts in Genesis 1.1–31

In this section we will examine some of the key concepts mentioned in Gen 1.1–13 (the first three days of creation) in light of what has gone before. More specifically, we will examine the lexical meanings and denotations of a number of Hebrew terms in the Gen 1.1–31 creation account and show that such meanings and denotations only make sense within the context of a biblical cosmology.

6.1. Discussion of *haššāmayim wəhāʾāreṣ* 'the heavens and the earth' in Gen 1.1

What does *haššāmayim wəhāʾāreṣ* 'the heavens and the earth' denote in Gen 1.1? In section 3 we argued that on the basis of how this expression is used in passages such as Exo 20.11, 31.17; Deu 4.26, 30.19, 31.28; Pss 115.15, 121.2, 124.8, 134.3, 146.6; Isa 37.16; Jer 32.17, 51.48; Luk 16.17; Acts 4.24, 14.15; and Rev 14.7, it is a meristic pairing denoting the cosmos as a whole. VanGemeren (Vol. 4:729) says *šāmayim* and *ʾereṣ* form a meristic pairing and refer to the physical heavens and earth that a person can perceive with their senses of sight, hearing, smell, touch and taste. Stadelmann (1970:39) says the concept of space as a whole was alien to the ancient Hebrews. Space was divided into zones such as *šāmayim* and *ʾereṣ* and these zones were defined in terms of their constitutive elements. These zones of existence also had a spatial relationship to each other. Heaven comprises the upper world and earth the lower world. If the two are brought into relation with one another, as in Gen 1.1, they express the idea of totality.

Psalm 148 provides a detailed depiction of the ancient Hebrew understanding of the contents of the heavens and the earth as praise is called for from each domain. Heaven contains the angelic host, the sun, moon and stars, and the waters above the sky. The earth contains the great sea monsters and the deeps, fire and hail, snow and mist, stormy wind, mountains and hills, fruit trees and cedars, beasts and livestock, creeping things and flying birds, and people (kings and rulers and ordinary people, men and women, young and old).

Psalm 148

[1] Praise the LORD!

Praise the LORD from the heavens (*haššāmayim*); praise him in the heights! [2] Praise him, all his

> angels; praise him, all his hosts! [3] Praise him, sun and moon, praise him, all you shining stars! [4] Praise him, you highest heavens, and you waters above the heavens (*hammāyim haššāmayim*)! [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.
>
> [7] Praise the LORD from the earth (*hāʾāreṣ*), you great sea creatures and all deeps (*təhômōṯ*), [8] fire and hail, snow and mist, stormy wind fulfilling his word! [9] Mountains and all hills, fruit trees and all cedars! [10] Beasts and all livestock, creeping things and flying birds! [11] Kings of the earth and all peoples, princes and all rulers of the earth! [12] Young men and maidens together, old men and children! [13] Let them praise the name of the LORD, for his name alone is exalted; his majesty is above earth and heaven. [14] He has raised up a horn for his people, praise for all his saints, for the people of Israel who are near to him.
>
> Praise the LORD!

The ancient Hebrew cosmos depicted in Psalm 148 was vertically bipartite with the heavens (*šāmayim*) above and the earth (*ʾereṣ*) below. The totality of the cosmos is divided between these two domains. This is what *haššāmayim wəhāʾāreṣ* in Gen 1.1 denotes.

Note that while "the waters above the heavens" (the source of rain) is considered to be part of the heavens and in the same domain as the sun, moon and stars; hail, snow, mist, and storms are considered to be in the earthly domain. Also note in this Psalm that the deeps (*təhômōṯ*) are considered to be part of the earthly domain rather than being something separate.

6.2. Discussion of *ḥōšeḵ* 'darkness' in Gen 1.2

What does *ḥōšeḵ* 'darkness' in Gen 1.2 denote? It is one of two primordial entities introduced in Gen 1.2, the other being *təhôm* 'deep'. In the context of plot structure, both *ḥōšeḵ* and *təhôm* function as antagonists to the protagonist Elohim. In a narrative drama the protagonist is opposed by one or more antagonists against whom the protagonist has to contend to achieve his or her ends. An antagonist can be an obstacle to the purposes of the main character by their very existence, without necessarily deliberately targeting him or her. The entities *ḥōšeḵ* and *təhôm* introduced in Gen 1.2 have this role. Subsequently, in Gen 1.3–5 and Gen 1.6–8, respectively, each is brought under divine control to serve the purposes of Elohim.

BDB (2010[1906]:365) say that *ḥōšeḵ* means 'darkness, obscurity' and, with respect to the use of this term in Gen 1.2, it denotes darkness as the opposite of light (*ʾôr*). VanGemeren (Vol 4:276) says *təhôm* provides information about the earth that God has brought into existence, i.e., an undifferentiated mass of water. "The darkness that permeated the *təhôm* is not an indication of chaos or evil, but simply denotes one characteristic of the unformed earth. It demonstrates that the earth was not yet ready for habitation." VanGemeren (Vol 2:313) says the word *ḥōšeḵ*, 'darkness, obscurity,' occurs 80 times in the OT, usually with reference to darkness literal or figurative. Literally, it refers to the darkness of the primeval creation (Gen 1.2, 4, 5, 18) and to darkness in general opposed to light (Job 3.4, 5, 17.12, 24.16, 26.10, 38.19; Eccl 2.13; Isa 45.7, 19), or to the darkness of night (Gen 15.17; Josh 2.5; Psa 104.20). Harris (1999) says Gen 1.2 uses *ḥōšeḵ* referring to the primeval "darkness" which covered the world. Ryken et al. (1998:191–192) say darkness has no existence by itself, being definable as an absence of light. However, it is a major actor in the biblical drama with approximately two hundred references. But uniquely darkness stands out from virtually all other literary images, which are ambivalent as to having good or bad manifestations, because it is uniformly negative in its import. After *təhôm* is introduced in Gen 1.2 God's first creative act is to produce light and separate it from darkness, with overtones of light's conquering darkness (Gen 1.4–5). Light overcoming darkness is an OT theme, e.g., 2 Sam 22.29; Psa 18.28, and Psa139.11–12: and God set a "boundary between light and darkness" (Job 26:10).

Wenham (1987:19) says that because the light (*ʾôr*) is called good in Gen 1.4 there is a hint of preference expressed for light over darkness. Also the *we-X-qatal* clause in Gen 1.5 indicates a point of discontinuity in the narrative sequence and here there is an asymmetrical contrast expressed between light (*ʾôr*) and darkness (*ḥōšeḵ*). Because of this, Niccacci (1994:183) suggests clauses 5 and 6 should be translated: "God called the light 'day' *while* the darkness he called 'night.'"

Thus *ḥōšeḵ* 'darkness' in Gen 1.2 denotes the first primordial antagonist standing against God and his purposes. No such entity is mentioned in the Mesopotamian cosmogony but as an antagonist to God *ḥōšeḵ* is in the same category as the gods of Egypt. Exo 12.12 says: "For I will pass through the land of Egypt that night, and I will strike all the firstborn in the land of Egypt, both man and beast; and on all the gods of Egypt I will execute judgments: I am the LORD." and Num 33.3–4 says: "They set out from Rameses in the first month, on the fifteenth day of the first month. On the day after the Passover, the people of Israel went out triumphantly in the sight of all the Egyptians, while the Egyptians were burying all their firstborn, whom the LORD had struck down among them. On their gods also the LORD executed judgments."

The biblical writer understood the plagues on Egypt to be a judgment on the gods of Egypt. We mentioned earlier that Hoffmeier (1983:42–44) suggests there is a parallel between the four male and female paired creation gods of the Hermopolitan ogdoad and the four entities introduced in Gen 1.2; more specifically, that there is a parallel between Keku, the Egyptian god of darkness, and *ḥōšeḵ*. Davis (2007:119–121) (amongst many others) suggests the plagues on Egypt described in Exo 7–11 can each be seen as a judgment against a particular Egyptian god. He suggests the plague of frogs (Exo 8.1–6) addresses the Egyptian goddess Hekhet, who was depicted as a human female with a frog's head. However, this plague could also be against Kuk (Kek or Keku) in the Hermopolitan ogdoad. Kuk's male form was depicted as a frog, or as a frog-headed man, and the female form as a snake, or a snake-headed woman. This supports the contention of Shetter (2005) that Gen 1–2 reflects an Egyptian, not Babylonian, background and cosmology.

6.3. Discussion of *təhôm* 'deep' in Gen 1.2

In the previous section we suggested that *təhôm* 'deep' in Gen 1.2 denotes a second antagonist opposed to God alongside *ḥōšeḵ*. BDB (2010[1906]:1062–1063) say that *təhôm* in Gen 1.2 denotes the primeval ocean in Hebrew cosmogony. Buttrick (1962:813) identifies *təhôm* with the primeval waters in Gen 1.2. *The Illustrated Bible Dictionary* (1980:9) says: "LXX renders Heb. *təhôm* 'deep place,' as 'abyss' (Gen 1.2 etc.), with reference to the primitive idea of a vast mass of water on which the world floated, or to the underworld (Psa 71.20)." VanGemeren (Vol 4:276) says *təhôm* provides information about the earth that God has brought into existence, i.e., an undifferentiated mass of water. VanGemeren also says that *təhôm* never delineates the third division of the tripartite universe the way *yam* 'sea' does. Klein (1987:693) says one of the senses of *təhôm* is the primeval ocean and it is etymologically related to Akkadian *ti'amtu*, *tamtu* (=sea), *t'āmat* (the sea monster in the Babylonian creation myth), Ugaritic *thm*, Arabic *tihāmah* 'depth; abyss; sea'.

The Geneva Study Bible (1587) says: "Darkness covered the deep waters, for the waters covered everything." This commentary understands that the waters of the deep, described as a disordered mass, covered the unformed earth. *The Jewish Study Bible* (2004:13) identifies *təhôm* as the primeval chaos, depicted as a dark, undifferentiated mass of water. The NET Bible (1996–2005) notes against Gen 1.2 say the Hebrew term *təhôm* "deep" refers to the watery deep, the salty ocean—especially the primeval ocean that surrounds and underlies the earth (see Gen 7:11) and *təhôm* is translated as 'the watery deep'. *The ESV Study Bible* (2007:49) says *təhôm* is the initial state of things before God begins his creative activity with the creation of light.

The term *təhôm* is used primarily in the OT to refer to the seas or ocean that surrounds the earth, see Exo 15.5; Psa 135.6; Job 38.30; Isa 51.10; Ezk 26.19; Am 7.4; Jon 2.3, 5. The next most common usage is to refer to the waters below the earth, see Gen 7.11, 8.2–3, 49.25; Deu 33.13; Pro 8.28–29; Job 28.14, 38.16. These waters below the earth can be used in blessing, as in Gen 49.25; Deu 33.13, or in judgment, as in Gen 7.11, 8.2–3; Pro 8.28–29. For waters below the earth, see also Exo 20.4; Deu 4.18; Psa 24.1–2 and Psa 104.5–9. Then *təhôm* is used to refer to the primeval ocean in Gen 1.2 and Pro 8.27, to the depths of a river (Nile) in Ezk 31.4, and to Sheol (depths of the earth) in Psa 71.20.

According to an ancient Egyptian creation myth, Nun was the waters of chaos. Nun was the only thing that existed on earth before there was land. Then, the first land (in the form of a mound) rose out of Nun. Nun was also associated with the chaos that existed at the edges of the universe. Ptah is the creator god of the Memphite theology. He is the god of the primeval mound (*Tatenen*) and self-generated out of Nun. He

created by thinking of things in his heart and then naming them by means of his tongue. This is referred to as Logos creation, a label that references the biblical "in the beginning was the Word (*Logos*)" (John 1.1). The Egyptian gods Shu and Tefnut came into being from the mouth of Ptah. Ptah was sometimes equated with the Hermopolitan chaos pair Nun and Naunet.

Horowitz (2011:108) says the first six lines of Enûma Elish describe the universe before the cosmos was shaped and relate the beginnings of the formation of the universe. At the start of Enûma Elish, the universe is comprised of water. Only Apsu and Tiamat, the deified underground waters and deified waters of the sea, were in existence. The first couplet explains that even heaven and earth did not exist at this early time. The development of the universe begins with the mixing of the waters of Apsu and Tiamat in lines 5–6. In the following 12 lines, new gods come into being, including the pairs Laḫmu and Laḫamu, and Anšar and Kišar. Anšar himself sires Anu, who in turn fathers Ea-Nudimmud.

So, in both the Mesopotamian and Egyptian cosmogonies the primeval waters exist in the beginning. In these mythologies the primeval waters are personified and deified, and other deities representing different aspects of the cosmos are subsequently produced from these primeval waters. This is the contextual or background worldview for *təhôm* in Gen 1.2. The difference in the biblical account is that *təhôm* is not personified and is not a deity.

6.4. Discussion of *ʾôr* 'light' in Gen 1.3–5

What does *ʾôr* denote in Gen 1.3? BDB (2010[1906]:21) discern the following range of denotations of *ʾôr* in the OT:

- natural light, daylight, Gen 1.3, 4, 5; Job 3.9, 38.19,
- morning light, dawn, Jgs 16.2; 1 Sam 14.36, 25.34, 36, etc.,
- light of the heavenly luminaries, moonlight and sunlight Isa 30.26, stars of light, 148.3,
- daylight, Job 38.15; Am 8.9,
- lightning, Job 36.32, 37.3, 11,15,
- light of lamp, Pro 13.9; Jer 25.10. light of leviathan's hot breath Job 41.10,
- light of life, Job 33.30; Psa 56.14,
- light of prosperity, Job 22.28, 30.26; Psa 97.11,
- light of instruction, Pro 6.23,
- light of face Job 29.24.

The first sense says that *ʾôr* denotes natural light or daylight in Gen 1.3, 4, 5; Job 3.9, 38.19. However, "day" had not yet been created in Gen 1.3, 4, so in these verses *ʾôr* denotes natural or physical light only. But this raises a question for anyone with a modern understanding of how the universe works. We now know that light is electromagnetic radiation that is visible to the human eye, and is responsible for the sense of sight. Being radiation, light requires a source in order to exist. So the question a modern person asks is: "What was the source of the natural light God created in Gen 1.3 and he called "day" in Gen 1.5?" It could not be the sun as that light-emitting entity is not created until day 4 (Gen 1.14–18). Some Bible commentators think that on the first three days of creation it was God himself who was the source of the daylight. But this would be theologically unacceptable as it would make God part of his creation and part of the heavens and earth created in Gen 1.1. Others think that God must have created an anonymous light-giving body before he created the sun. But this too would be theologically unacceptable as it would mean that God created some other entity on day one that is not mentioned in this context or later. Besides, what the text says God did create on day one was day and night and this required the separation of light and darkness.

However, passages such as Pro 4.18; Ecc 12.2; Isa 5.30 suggest that in the biblical worldview the day has its own light independent of the sun. Ecc 12.2 distinguishes the light of the day (*hāʾôr*) from the sun

(*haššemeš*), the moon (*hayyārēḥa*) and the stars (*hakkôḵāḇîm*). Within this worldview there is no difficulty in understanding that God created the light of day before he created the sun and moon as light-givers or luminaries (*məʾôrōṯ*) to govern the day and the night.

> Pro 4.18: The path of the righteous is like the first gleam of dawn (*ʾôr*), shining ever brighter till the full light (*ʾôr nōḡah*) of day (*yôm*). (NIV)
>
> Ecc 12.2:.. before the sun (*haššemeš*) and the light (*hāʾôr*) and the moon (*hayyārēḥa*) and the stars (*hakkôḵāḇîm*) are darkened
>
> Isa 5.30: And if one looks to the land, behold darkness and distress and the (day)light (*ʾôr*) is darkened by its clouds.

How are *ʾôr* 'light' and *ḥōšeḵ* 'darkness' separated in Gen 1.4 to create *yôm* 'day' and *lāyəlâ* 'night' in Gen 1.5? Calvin (2007[1847]:37) asks if the passage (Gen 1.4–5) means that light and darkness succeed each other in turn through the whole circuit of the world, or does it mean that darkness occupies one half of the circle, while light shines in the other half? Either way, some places in the world would be light while other places would be dark *at the same time* and the distinction between light and dark would depend on where you were on the surface of the planet. Calvin concludes that we do not need to understand how it was so, only to believe that it was so.

Augustine of Hippo (354–430 CE) wrote *The Literal Meaning of Genesis* nearly 1,500 years before John Calvin wrote his commentary yet Augustine had the same issues with Gen 1.4–5 as Calvin did. Augustine knew that the world was a sphere from Greek science and philosophy and that when the sun shines on one side of the world it is night on the other side. He also realised that because the sun travels around the world it is always day somewhere and it is always night somewhere. So you can only have the day-night alternation if you stay in the one place. He then says this forces us to believe that God was in one part of the world when he created daylight and had to remain there until the night came for it to be evening and the end of the first day. But this would be theologically absurd.

However, the concept of a spherical earth was unknown to ANE cultures. In early Mesopotamian mythology, the world was portrayed as a flat disk floating in the ocean and surrounded by a spherical sky, and this forms the premise for early world maps like the Babylonian *Imago Mundi* (ca. 600 BCE) and those of Anaximander (ca. 610–546 BCE) and Hecataeus of Miletus (ca. 550–476 BCE). The concept of a spherical earth dates back to ancient Greek philosophy from around the 6th century BCE, but remained a matter of philosophical speculation until the 3rd century BCE when Hellenistic astronomy established the spherical shape of the earth as a physical given. The Hellenistic paradigm was gradually adopted throughout the Old World during Late Antiquity and the Middle Ages. A practical demonstration of Earth's sphericity was achieved by Ferdinand Magellan and Juan Sebastian Elcano's expedition's circumnavigation (1519−1521 CE). So the ancient Hebrew would not have struggled with understanding how light and darkness could be separated as Augustine and Calvin did. Instead, light and darkness were understood to be separated by the circle of the earth as stated in Job 26.10. When the light (*ʾôr*) appeared above the horizon this signalled the start of the day and when the light disappeared beyond the horizon this signalled the end of day and the beginning of night.

> Job 26.10: He has inscribed a circle (*ḥōq*) on the face of the waters at the boundary between light (*ʾôr*) and darkness (*ḥōšeḵ*).

6.5. Discussion of *rāqîaʿ* 'firmament' in Gen 1.6–8

What does *rāqîaʿ* in Gen 1.6–8, 14–15, 17, 20 denote? The Hebrew dictionaries all consistently say the word *rāqîaʿ* is etymologically related to the verb *rq* (Num 16.38[Num 17.3]: *riqqūʿê paḥîm* 'beaten out plates') which means 'to beat out flat'. Therefore *rāqîaʿ* means a flat plate. See BDB (2010[1906]:956), Klein (1987:628), Baker (1994:2367), VanGemeren (Vol 3:1198) 'firmament, plate', Harris (1999[1980]). Many of the Bible dictionaries cited in section 4 give this meaning for *rāqîaʿ*. See *The Illustrated Bible Dictionary, Part 1* (1980:333), Myers (1987:383), Achtemeier (1996:338–339), Tucker, Jr. (2000:461–462), Walton et al. (2000:28). Hoad (1986) also confirms this analysis of the meaning of *rāqîaʿ*. Under the entry for 'firmament' it says: "The Latin word, meaning originally 'support, foundation,' was adopted in

the Vulgate translation (5th century) in imitation of LXX Greek (3rd and 2nd Centuries BCE in Alexandria) στερεωμα (from στερεοην 'make firm'), as the rendering of Hebrew *rāqîaʿ* 'vault of the sky', from *rāqa* 'spread out, beat or tread out', (Syriac) 'make firm or solid'."

The LXX consistently translates *rāqîaʿ* in Gen 1 with στερέωμα 'firmness, firmament' from στερεόω 'make firm'. This agrees with the meaning of *rāqîaʿ* given by the Hebrew dictionaries. It is also the case that the New King James Version completed in 1982 still translates *rāqîaʿ* with *firmament* and says in the preface: "the most complete representation of the original has been rendered by considering the history of usage and etymology of words in their contexts." The preface also says the scholars who worked on the NKJV used the 1967/1977 Stuttgart edition of the Biblia Hebraica, with frequent comparisons being made with the Bomberg edition of 1524–25. The Septuagint (Greek) Version of the OT and the Latin Vulgate were also consulted. They also referred to a variety of ancient versions of the Hebrew Scriptures which would not have been available to the translators of the 1611 KJV Bible. Where better information was now available on the original Hebrew text the translation had been revised accordingly. Yet in the NKJV the best rendering of *rāqîaʿ* in Gen 1 is still deemed to be 'firmament', i.e., meaning something substantive or solid.

Many Bible commentators and biblical exegetes also agree that the lexical meaning of *rāqîaʿ* is a flat plate. This includes Keil and Delitzsch (1986:32), Henry (1960:2), Cassuto (1961:31), Kidner (1967:47), Harris (1980:862), Wenham (1987:19–20), Sarna (1989:8), Hamilton (1990:122), Seely (1991), Collins (2006:45–46). However, the situation is somewhat different when interpreters say what they think *rāqîaʿ* denotes. Most think *rāqîaʿ* denotes something within the world they are familiar with, and some say its denotation lies within the world of the biblical text.

The first to seek the denotation of *rāqîaʿ* in the world he was familiar with was Augustine. In *The Literal Meaning of Genesis* (Augustine 1982:46–61) Augustine discusses how *rāqîaʿ* should be related to the Greek understanding of the cosmological spheres of fundamental elements: earth, water, air and fire. Augustine worked from the LXX translation as his Bible and discussed the nature of the στερέωμα, as *rāqîaʿ* is translated in the LXX. First, he asks whether στερέωμα refers to heaven which extends beyond all the realm of air and above the air's farthest heights, where the lights and the stars are set on the fourth day, or whether it refers to the air itself. If the στερέωμα was in the sphere of the air, it could not be something of a solid nature holding up liquid water. The στερέωμα would need to be made of stone to hold up a large mass of water. The natural place for stone is in the earth, therefore a stone vault in the air would not be able to stay there. It would fall to earth to its natural place. Also the natural place of air is for it to be above water, since it is lighter than water. It would require a special miracle of God to keep the water above the air. It is also hard to see how the στερέωμα could be something solid in the heavens holding the waters up. The starry heavens were deemed to be a place of pure fire, since flames move upward towards the heavens. Therefore it would have been impossible for liquid water to exist in the starry heavens. However, Augustine argues that water in a vaporous form can exist above the air and above the starry heavens and this would not need the στερέωμα to be something solid. But this understanding of the nature of the waters above would require a nonliteral interpretation of Gen 1.6–8. Augustine's final conclusion is that whatever the nature of the water above and whatever the manner of it being there, we must not doubt that it does exist in that place. The authority of Scripture in this matter is greater than all human ingenuity. Augustine also discusses the shape of the στερέωμα as to whether heaven is like a sphere and the earth is enclosed by it and suspended in the middle of the universe, or whether heaven is like a disk above the earth and covers it over on one side. The scientific opinion of the day claimed that the heavens are a sphere surrounding the earth but the Scriptures suggest the heavens are stretched out flat like a skin (Psa 104.2). He also discusses whether the term στερέωμα implies that the heavens are fixed and do not move. The scientific opinion of the day was that the earth was fixed and the heavens moved around the earth. However, another possibility is that the heavens are fixed and the stars move across the heavens. In this case both the earth and the heavens are fixed in place.

A number of interpreters suggest that *rāqîaʿ* denotes the air or atmosphere around the earth as they understood it to be. John Gill in Gill (1748–1763) says *rāqîaʿ* means 'firmament' or 'expanse'; something stretched out and spread like a curtain, tent, or canopy; and to this all those passages of Scripture refer, which speak of the stretching out of the heavens, as this firmament or expanse is afterwards called (see Psa 104.2; Isa 40.22, 42.5), and by it is meant the air. Keil and Delitzsch (1986:32) say *rāqîaʿ*, from *rāqaʿ*, 'to

stretch, spread out, then beat or tread out,' means *expansum*, the spreading out of the air, which surrounds the earth as an atmosphere. Leupold (1942:59–61) identifies the *rāqîaʿ* with the earth's atmosphere and calls it a "gaseous ocean" and says the idea that *rāqîaʿ* denotes the sky as a solid dome is queer and absurd since it is patently not such. Wenham (1987:19–20) says the function of *rāqîaʿ* 'firmament' is defined in the second clause, "a divider between the waters," i.e., the firmament separates the water in the sky from the seas and rivers. In v. 8 it is called "heaven." Put another way, the firmament occupies the space between the earth's surface and the clouds. Collins (2006:45–46) says the word translated "expanse," (*rāqîaʿ*), is related to a verb that means 'to beat out' or 'spread out' (cf. Job 37.18); hence the word here conveys the idea of the atmosphere as the semi-spherical vault of heaven stretched over the earth and its water.

Other interpreters think *rāqîaʿ* denotes the atmosphere and beyond where the sun, moon and stars are, i.e., the heavens. Calvin (2007[1847]:38) says *rāqîaʿ* means 'expanse' and refers not only to the whole region of the air, but also to the open heavens above us where the stars are. Henry (1960:2) says *rāqîaʿ* signifies, 'like a sheet spread', or 'a curtain drawn out'. The use and design of it is to divide the waters from the waters, that is, to distinguish between the waters that are wrapped up in the clouds and those that cover the sea. God has, in the firmament of his power, store-chambers, from whence he waters the earth. It is the visible heaven, the pavement of the holy city; above the firmament God is said to have his throne (Ezk 1.26).

Morris (1976:58–67) says the word "firmament" is the Hebrew *rāqîaʿ*, meaning 'expanse', or 'spread-out-thinness'. It may well be synonymous with our modern technical term "space," and this passage (Gen 1.8) specifically says that "God called the firmament heaven." Morris postulates that "the firmament of heaven" in Gen 1.14–17, where God set the sun, moon and stars, is not the same firmament as was formed on the second day (Gen 1.6–8). He maintains that the firmament created on the second day only applies to the "open firmament of heaven" described in Gen 1.20 where the birds fly. Morris also says there are three particular "heavens" mentioned in Scripture: the atmospheric heaven (Jer 4.25: I looked, and behold, there was no man, and all the birds of the air (*haššāmayim*) had fled.), the sidereal heaven (Isa 13.10: For the stars of the heavens (*haššāmayim*) and their constellations will not give their light), and the heaven of God's throne (Hebrews 9.24). But this idea of multiple heavens does not agree with Psalm 148.

Then, some interpreters suggest the denotation of *rāqîaʿ* is a literal dome or vault across the sky as described in the world of the biblical text. Cassuto (1961:31) says the root of *rāqîaʿ* is the same as that of *wayᵉriqqᵉʿū* 'and they did hammer out' in Exo 39.3: "And they did hammer out gold leaf." The term signifies a kind of horizontal area, extending through the very heart of the mass of water and cleaving it into two layers, one above the other—the upper and lower layers of water. The firmament was called "heaven" and thus became the dome of the sky. Kidner (1967:47) says the verb underlying firmament (*rāqîaʿ*) means 'to beat' or 'stamp' (Ezk 6.11a), often in connection with beaten metal. Job 37.18 shows that we are not meant to rarefy this word into "expanse" or "atmosphere": "Can you, like him, spread out (*tarqîaʿ*) the skies, hard as a molten (i.e., cast metal) mirror?" It is pictorial language, like our expression "the vault of heaven."

Sarna (1989:8) says the Hebrew noun *rāqîaʿ* is unparalleled in cognate languages. The verbal form is often used for hammering out metal or flattening out earth, which suggests a basic meaning of "extending." It is unclear whether the vault of heaven was here viewed as a gigantic sheet of metal or as a solid layer of congealed ice. The latter interpretation might be inferred from Ezk 1.22, which is how Josephus understood it as well. Hamilton (1990:122) says: The word we have translated as vault is Heb. *rāqîaʿ*, which appears as "firmament" in the AV (from Vulg. *firmamentum*). The basic meaning of the noun is determined by a consideration of the verb *rāqaʿ*. Here the basic idea is "to spread out," and specifically the spreading out of the earth at creation (cf. Psa. 136.6; Isa. 42.5, 44.24) or the spreading out of the sky (cf. Job 37.18). In Isa 40.19 the meaning is to overlay or plate (with gold). A *rāqîaʿ*, then, is something that is created by being spread out either by stretching (e.g., a tent) or by hammering (e.g., a metal plate; cf. Deu 28.23, in which the sky in a time of drought is likened to bronze; cf. also the use of *rāqaʿ* in Exo 39.3, where the meaning is clearly "to hammer out").

However, the only denotation that is coherent with the Hebrew text in Gen 1.1–2.3 is the final one where *rāqîaʿ* refers to a literal dome or vault across the sky. First, the nature of *rāqîaʿ* can be conceptualised from the functions it has in the narrative. The first function is described in Gen 1.7. Here the *rāqîaʿ* separates the

waters of *təhôm* under the *rāqîaʿ* from the waters of *təhôm* above the *rāqîaʿ*. Common knowledge would tell the ancient Hebrew audience that in order to separate two massive bodies of water and hold one of them high up above would require something massively strong and solid, like a great dam across the sky. The second function of *rāqîaʿ* is described in Gen 1.14–18. Here it functions as the location of the sun, moon and stars. Gen 1.17 says "God set (*wayyittēn*) them (the sun, moon and stars) in the *rāqîaʿ haššāmāyim*. Here the verb *nātan* has the sense of 'put, place, set.' When this verb is used elsewhere in the OT with the sense of placing something in a location, and the location is always something with physical substance.[9] Thus God's act of setting the sun, moon and stars in the *rāqîaʿ* further confirms the concept that *rāqîaʿ* is a solid dome or vault above the earth.

The final mention of *rāqîaʿ* in the Gen 1.1–2.3 account also confirms this concept. Gen 1.20 says literally "...and let birds fly above the earth across (*ʿal*) the face (*pənê*) of the firmament (*rāqîaʿ*) of the heavens (*haššāmāyim*)." Here *pānîm* 'face' is the same word as used in Gen 1.2 to describe "the surface (*pənê*) of the deep (*təhôm*)." The same preposition, *ʿal* meaning 'upon, on, above, over', is used to describe the spatial relationship of *rûaḥ ʾĕlōhîm* 'wind, breath, Spirit of God' to the surface of the deep as is used to describe the spatial relationship of the birds (*ʿôp̄*) to the surface of the firmament of heaven. If *rāqîaʿ* denoted the air or atmosphere then the Hebrew would specify that the birds flew *in* (*bə*) the *rāqîaʿ*. But because *rāqîaʿ* denotes a vaulted dome the Hebrew says the birds flew upon, on, across, over the surface of the *rāqîaʿ*.

6.6. Discussion of the 'waters above' in Gen 1.7

What does *hammayim ʾăšer mēʿal lārāqîaʿ* 'the waters above the firmament' denote? Gen 1.7 says: "And God made the firmament and separated the waters that were under the firmament from the waters that were above the firmament. And it was so." When the waters are separated in Gen 1.7 the waters under the firmament are mentioned first and then mentioned again in Gen 1.9–10, 20–21. Whereas the waters above the firmament are only mentioned once in Gen 1.7 and not again in the creation account.

Gen 1.6–8 shows that the waters above are created as an integral part of the cosmos. Their primary function is to provide rain on the earth as Psa 104.13 indicates. In Psa 148.2–6 the waters above the heavens are called upon as part of the heavenly host along with angels, and the sun, moon and stars to give praise to God. The note at Psa 148.4 in *The NIV Study Bible* (1984:921) refers to the "waters above the skies" in verse 4 to Gen 1.7 and also compares these waters with the "ocean depths" in verse 7. This indicates that here the psalmist is referring to the waters above the *rāqîaʿ* and the waters below the *rāqîaʿ* as God created them in Gen 1.7.

> Gen 1.6–8: [6] And God said, "Let there be a firmament in the midst of the waters, and let it separate the waters from the water s." [7] And God made the firmament and separated the waters that were under the firmament from **the waters that were above the firmament** (*hammayim ʾăšer mēʿal lārāqîaʿ*). And it was so. [8] And God called the firmament heaven (*šāmayim*). And there was evening and there was morning, the second day. (modified ESV)
>
> Psa 104.13: He **waters** the mountains **from his upper chambers (lit. upper rooms)**; the earth is satisfied by the fruit of his work. (NIV)
>
> Psalm 148.1–6: [1] Praise the LORD! Praise the LORD from the heavens; praise him in the heights! [2] Praise him, all his angels; praise him, all his hosts! [3] Praise him, sun and moon, praise him, all you shining stars! [4] Praise him, you highest heavens, and you **waters above the heavens** (*hammāyim ʾăšer mēʿal haššāmayim*)! [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.

[9] See the following passages: Exo 25.30: "Put (*nātan*) the bread of the Presence on this table to be before me at all times" ('table' has physical substance). Exo 40.5: "Place (*nātan*) the gold altar of incense in front of the ark of the Testimony..." ('ark' has physical substance). 2 Kgs 12.9: "Jehoiada the priest took a chest and bored a hole in its lid. He placed (*nātan*) it beside the altar, on the right side as one enters the temple of the LORD" ('altar' has physical substance). 2 Chr 4.7: "He made ten gold lampstands according to the specifications for them and placed (*nātan*) them in the temple, five on the south side and five on the north" ('temple' has physical substance).

Passages similar to those in Psa 148 occur in the Praises of Creation in the Apocryphal *The Song of the Three*. Apocryphal books were not part of the Hebrew canon. They were part of the Greek OT made for the Greek-speaking Jews in Egypt. As such they were accepted as biblical by the early Church and were quoted as Scripture by many early Christian writers, for their Bible was the Greek Bible. Even though nonbiblical, verse 38 in *The Song of the Three* clearly indicates that even in NT times the common belief was that there were waters above the heavens supported by the *rāqîaʿ*.

> The Song of the Three (Apocrypha) in the Praises of Creation (from NEB)
>
> [32] Blessed art thou (O Lord) who dost behold the depths from thy seat upon the cherubim;
> worthy of praise, highly exalted for ever.
>
> [33] Blessed art thou on thy royal throne;
> most worthy to be hymned, highly exalted for ever.
>
> [34] Blessed art thou in the dome of heaven;
> worthy to be hymned and glorified for ever.
>
> [35] Let the whole creation bless the Lord,
> sing his praise and exalt him for ever.
>
> [36] Bless the Lord, you heavens;
> sing his praise and exalt him for ever.
>
> [37] Bless the Lord, you angels of the Lord;
> sing his praise and exalt him for ever.
>
> [38] Bless the Lord, all you **waters above the heavens**;
> sing his praise and exalt him for ever.

Psa 104.2–3 indicates that the waters above are regarded as the foundations of heaven. Psa 104.3 and Deu 33.26 describe God as riding through the heavens on the clouds. Cf. Figure 2 where the Egyptian sun-god, Ra, sails across the heavenly ocean in his royal bark.

> Psa 104.1–3: You are clothed with splendour and majesty covering yourself with light as with a garment, stretching out **the heavens** (*haššāmayim*) like a tent. He lays the beams of his chambers on **the waters**, he makes the clouds (*ʿāḇîm*) his chariot and rides on the wings of the wind.
>
> Deu 33.26: There is none like God, O Jeshurun, who rides through **the heavens** (*šāmayim*) to your help, through **the skies** (*šəḥāqîm* 'clouds') in his majesty.

Jer 10.13, 51.16; Job 12.15, 26.8 show that the waters above are under the control of the Lord God to bless or withhold blessing:

> Jer 10.13 and 51.16: When he thunders **the waters in the heavens** roar; he makes clouds rise from the ends of the earth. He sends lightning with the rain and brings out the wind from his storehouses. (NIV)
>
> Job 12.15: If he withholds **the waters (in the heavens)**, they dry up; if he sends them out, they overwhelm the land.
>
> Job 26.8: He binds up **the waters (of heaven)** in his thick clouds (*ʿāḇāyw*), and the cloud (*ʿānān*) is not split open under them.

The waters above can be used in judgment. Gen 7.4 says in seven days God will cause rain (*maməṭîr*) to fall on the earth for forty days and forty nights. This rain will come from the waters of the flood (*hammabbûl*) (Gen 7.7) and will require the windows of heaven (*ʾărubbōṯ haššāmayim*) to be opened to release them (Gen 7.11). Then for the waters of the flood to cease required that God close the windows of heaven (Gen 8.2). Walton et al. (2000:38) say the text uses the poetic phrase "windows of heaven" to describe the openings through which the rain came down. This is not scientific language but reflects the perspective of the observer, much as we would speak of the "setting" of the sun. The observer assumes the *rāqîaʿ* holds the waters above in place and openings of some kind would be needed to allow the torrents of rain through. Walton et al. also say the expression *ărubbōṯ haššāmayim* 'windows, sluicegates of heaven' used to describe such openings is apparently unique to the OT amongst ancient Near Eastern writings.

In cognitive linguistics, conceptual metaphor, or cognitive metaphor, refers to the understanding of one idea, or conceptual domain, in terms of another. A conceptual domain can be any coherent organisation of human experience. For example, a conceptual metaphor that is common in English speaking cultures is that "argument is war." This is reflected in how we speak of war. It is not uncommon to hear someone say "He won that argument" or "I attacked every weak point in his argument." The very way argument is thought of is shaped by this metaphor of arguments being war and battles that must be won. Argument can be seen in many other ways other than a battle, but we use this concept to shape the way we think of argument and the way we go about arguing. In the same way, the author of Genesis says *ʾărubbōṯ haššāmāyim nipətāḥû* 'the windows of heaven were opened' (Gen 7.11), and *ʾărubbōṯ haššāmāyim wayyikkālēʾ haggešem minhaššāmāyim* 'the windows of heaven were closed and the rain from heaven was restrained' (Gen 8.2) as a reflection of the conceptual metaphor that there was an ocean of water above the *rāqîaʿ* as described in Gen 1.7. Thus, in Gen 7.11 and 8.2 the author of Genesis is being consistent with the biblical worldview which depicted the cosmos as having a large body of water above the sky.

The term *mabbûl* is rare in the OT and only occurs outside of Gen 7–11 in Psa 29.10. The two opening verses of Psalm 29 sets the scene for this psalm in heaven. Verse 3 speaks of God's majestic power over "the mighty waters." Exo 15.10 in the Song of Moses and Miriam gives praise that the Egyptians were overwhelmed by the mighty waters of the sea. However, Psa 29.10 says God is enthroned in heaven over the flood (*lammabbûl*). Thus the psalmist identifies *mabbûl* with the waters above the *rāqîaʿ*.

> Gen 7.7: And Noah and his sons and his wife and his sons' wives entered the ark to escape **the waters of the flood** (*mê hammabbûl*).
>
> Gen 7.11: In the six hundredth year of Noah's life, in the second month, on the seventeenth day of the month, on that day all the fountains of the great deep burst forth, and **the windows of the heavens** (*ʾărubbōṯ haššāmayim*) were opened.
>
> Gen 8.2–3: [2] The fountains of the deep and **the windows of the heavens** (*ʾărubbōṯ haššāmāyim*) were closed, **the rain from the heavens** (*haggešem min-haššāmayim*) was restrained, [3] and **the waters** (*mayim*) receded from the earth continually.
>
> Psa 29.3, 10:
> [3] The voice of the LORD is over the waters; the God of glory thunders, the LORD thunders over the mighty waters (*mayim rabbîm*).
>
> [10] The LORD sits enthroned over **the flood** (*lammabbûl*); the LORD is enthroned as King forever. (NIV)

Therefore the Scriptures view the waters above as (i) created in the beginning, (ii) integral to the proper functioning of the cosmos, (iii) the foundation of heaven, (iv) can be used by God to bless or withhold blessing, and (v) can be used by God as the *mabbûl* of judgment.

What do biblical exegetes and commentators say *hammayim ʾăšer mēʿal lārāqîaʿ* denotes? Most biblical scholars identify the waters above with the atmospheric moisture found in clouds. Augustine (1982:46–52) following the Greek philosophical and scientific understanding that the universe was made up of an ordered arrangement of the four fundamental elements of earth, water, air and fire arranged as ordered spheres of existence, presents argumentation that water cannot be above either the air or above the starry heavens in a liquid form, since in liquid form it would fall to earth. The natural place of air is for it to be above water, since it is lighter than water. It would require a special miracle of God for water to be above the air. The starry heavens were deemed to be a place of pure fire, since flames move upward towards the heavens. Therefore it would have been impossible for liquid water to exist in the starry heavens. However, he argues that water in a vaporous form can exist above the air and above the starry heavens. *The Geneva Study Bibl*e (1587) says the waters above separated in Gen 1.7 is the water found in clouds. John Gill in Gill (1748–1763) says the water above represents the water vapour that was drawn up into heaven by the force of the body of fire and light already produced. Calvin (2007[1847]:39) says: "We see that the clouds suspended in the air, which threaten to fall upon our heads, yet leave us space to breathe.... We know, indeed that the rain is naturally produced but the deluge sufficiently shows how speedily we might be overwhelmed by the bursting of the clouds, unless the cataracts of heaven were closed by the hand of God." Keil and Delitzsch (1986:32) say the waters under the firmament are the water upon the globe itself; those above are not

ethereal waters beyond the limits of the terrestrial atmosphere, but the waters which float in the atmosphere, and are separated by it from those upon the earth, the waters which accumulate in clouds, and then bursting these their bodies, pour down as rain upon the earth. Leupold (1942:59) identifies the "waters above the firmament" as an "evaporation of waters, rising of gaseous vapours," i.e., the clouds in the atmosphere. Henry (1960:2) says the Hebrew word (*rāqîaʿ*) signifies, like a sheet spread, or a curtain drawn out.... The use and design of it is to divide the waters from the waters, that is, to distinguish between the waters that are wrapped up in the clouds and those that cover the sea. Kidner (1967:47) says: "In another set of terms we should speak probably of the enveloping vapours being raised clear of the ocean-surface." Wenham (1987:19–20) says: "...the firmament separates the water in the sky from the seas and rivers. In v. 8 it is called "heaven." Put another way, the firmament occupies the space between the earth's surface and the clouds." All of these scholars basically identify the denotation of the waters above the heavens with what they understood the source of rain to be in their own worldview, even though those worldviews were each quite different.

It is the case that there are several Scriptures which indicate that there was an understanding in ancient Hebrew culture that the clouds contain water (2 Sam 22.12; Pss 18.11[12], 77.17[18]; and Ecc 11.3), or rain (Ecc 11.3; Isa 5.6), or moisture (Job 37.11), or dew (Isa 18.4). However, there are also some Scriptures which correlate the waters above and clouds as distinct and separate entities; see Job 26.8 and Psa 104.2–3. Also in Psa 148 while the waters above are described as a denizen of heaven, fire and hail, snow and mist, and stormy wind are all described as denizens of the earth. Put simply, in the biblical worldview the waters above, also known as *mabbûl*, are above the *rāqîaʿ* and are part of the heavenly domain, while the clouds are below the *rāqîaʿ* and are part of the earthly domain.

> 2 Sam 22.12: He made darkness around him his canopy, thick clouds, a gathering of water (*mayim ʿāḇê šəḥāqîm* 'waters of dark clouds').
>
> Job 37.11: He loads the thick cloud (*ʿāḇ*) with moisture (*bərî*); the clouds (*ʿānān*) scatter his lightning.
>
> Psa 18.11[12]: He made darkness his covering, his canopy around him, thick clouds dark with water (*mayim ʿāḇê šəḥāqîm*).
>
> Psa 77.17[18]: The clouds (*ʿāḇôṯ*) poured out water (*mayim*); the skies gave forth thunder; your arrows flashed on every side.
>
> Ecc 11.3: If clouds (*heʿāḇîm*) are full (of water), they pour rain (*gešem*) upon the earth. (NIV)
>
> Isa 5.6: I will also command the clouds (*heʿāḇîm*) that they rain no rain (*māṭār*) upon it.
>
> Isa 18.4: For thus the LORD said to me: "I will quietly look from my dwelling like clear heat in sunshine, like a cloud (*kəʿāḇ*) of dew (*ṭal*) in the heat of harvest."
>
> Job 26.8: He binds up the waters (*mayim*) in his thick clouds (*bəʿāḇāyw*), and the cloud (*ʿānān*) is not split open under them.
>
> Psa 104.1–3: You are clothed with splendour and majesty, covering yourself with light as with a garment, stretching out the heavens like a tent. He lays the beams of his chambers on the waters (*ḇammayim*); he makes the clouds (*ʿāḇîm*) his chariot; he rides on the wings of the wind

Even so, there is a significant coherency problem with the Gen 1.1–2.3 creation account if the waters above are identified (solely) with the clouds. Gen 1.7 says the waters above are above the *rāqîaʿ* and Gen 1.17 says God set the sun, moon and stars in the *rāqîaʿ*. Since the sun and moon move across the *rāqîaʿ*, the inference is that the waters above are above the sun, moon and stars. Psa 148.3–4 confirms that the waters above are located in heaven along with the sun, moon and stars. Notice that this psalm does not call for praise from the clouds in heaven. Also simple observation of the sky shows that while clouds may cover and pass in front of the sun, moon and stars, clouds are never seen behind the sun, moon or stars. Therefore the clouds in the sky are not the denotation of *hammayim ʾăšer mēʿal lārāqîaʿ* in Gen 1.1–2.3 according to the testimony of Scripture.

Morris (1976:59) interprets *hammayim ʾăšer mēʿal lārāqîaʿ* in Gen 1.7 as denoting an actual large body of water above the atmosphere but knowing that water cannot exist in liquid form above the earth's

atmosphere he suggests: "'The waters above the firmament' thus probably constituted a vast blanket of water vapour above the troposphere and possibly above the stratosphere as well, in the high-temperature region now known as the ionosphere." What Morris seems to be referring to is the thermosphere which is the layer of the Earth's atmosphere directly above the mesosphere and directly below the exosphere. The thermosphere exists 100–600 kms above the earth's surface and within this layer ultraviolet radiation (UV) causes ionisation. However, even though this layer can reach 2,500 °C (4,530 °F) during the day the atmospheric gas is highly rarefied and close to being a vacuum. Water molecules could not exist for long in this environment as the UV radiation would break them down. Even if they were to exist for some time there would be no way for them to precipitate on the earth as rain. Rain drops are formed when the water vapour in the atmosphere condenses into water droplets on particles of dust suspended in the air. However, this could not happen in the thermosphere because there are no dust particles there. Night clouds or noctilucent clouds are the highest clouds to have been observed in the earth's atmosphere. They are made of crystals of water ice and form in the mesosphere at altitudes of around 76 to 85 kms.

In terms of the physics of meteorology a water vapour canopy that Morris envisages could not have existed and, of course, does not exist today. In any case, even creationists have found Morris's water vapour canopy theory to be scientifically untenable. Computer models have shown that any canopy able to hold enough water for forty days and nights of rain would have raised temperatures on the earth's surface to such an extent that life could not have survived (Rush and Vardiman 1990, Vardiman and Bousselot 1998, Vardiman 2003). Walt Brown on a website for the Center for Scientific Creation (2008), lists a number of scientific problems with the water vapour canopy theory:

1. *The Pressure Problem.* A canopy holding 40 or more feet of liquid water or its equivalent in vapour or ice would certainly increase the atmospheric pressure, but this would make the increased oxygen and nitrogen toxic to many animals including humans. Most canopy theories now limit the thickness of water in the canopy to less than 40 feet.

2. *The Heat Problem.* If the water from a vapour canopy were to fall, enough to form a 40-foot layer upon the Earth, the temperature would rise about 810 degrees C! Just as a spacecraft generates tremendous heat upon re-entering the atmosphere, molecules of water or ice falling from orbit would do the same. Also, due to the greenhouse effect, heat would be trapped under a canopy, more water would evaporate, and the greenhouse effect would accelerate, thus leading to a "runaway greenhouse effect." This runaway greenhouse effect can be seen on the cloud-covered planet Venus which is about 700 degrees C hotter than one would expect for a planet that distance from the Sun.

3. *The Light Problem.* A canopy having only 40 feet of water would reflect, refract, absorb, or scatter most light trying to pass through it. Under such conditions, a person could only see stars if he looked straight up as through a keyhole. Yet, it would seem necessary for early man to have seen entire constellations and note their movements from season to season if the stars were to serve as markers.

4. *The Nucleation Problem.* To form raindrops, microscopic particles called "condensation nuclei" must be present for condensation to occur. However, falling rain tends to sweep away these nuclei, clean the atmosphere, and reduce further condensation. This argument says that rainfall from a canopy could not long be maintained. It certainly would not last 40 days and 40 nights (Gen 7.12).

5. *The Support Problem.* What kept the canopy from falling? A vapour or liquid canopy would mix with the atmosphere just as steam does and diffuse throughout the atmosphere. An ice canopy would vaporise into the vacuum of space just as dry ice does at atmospheric temperature and pressure.

6. *The Ultraviolet Light Problem.* While ozone in the earth's upper atmosphere blocks the sun's destructive ultraviolet light, a canopy surrounding the atmosphere would be exposed. Water in the canopy would dissociate into hydrogen and oxygen, destroying the canopy.

Morris (1976:205) also says that three specific actions were taken by God after the flood (Gen 7–8): he caused a wind to pass over the earth, he stopped the fountains of the deep from further eruptions, and he

closed the windows of heaven from further downpours (both were essentially emptied of their waters by this time). Morris believes the waters above, the waters of the *mabbûl*, were all used up by the Noahic flood and did not exist after that event. This conflicts with the testimony of the Scriptures as we have shown above. The waters above were created by God as integral to the proper functioning of the cosmos, and Pss 148 and 29 show they were understood to still be in existence long after the Noahic flood. Thus Morris's suggestion that *hammayim ʾăšer mēʿal lārāqîaʿ* denotes a water vapour canopy above the earth's atmosphere that was emptied of its contents in the biblical flood is not supported by the Scriptures as well as being scientifically untenable.

Some biblical commentaries say that *hammayim ʾăšer mēʿal lārāqîaʿ* denotes a large body of water above the firmament. Cassuto (1961:32) interprets the waters above as a body of water above the firmament: "Above now stands the vault of heaven surmounted by the upper waters; beneath stretches the expanse of lower waters, that is, the waters of the vast sea, which still covers all the heavy, solid matter below. The universe is beginning to take shape." Sarna (1989:8) says: "The purpose of the expanse (*rāqîaʿ*) is to create a void that separates what was taken to be the source of rain above from the water on earth." *The NJB Study Bible* (1994:17) says for the ancient Semites the seeming vault of the sky (the 'firmament') was a solid dome holding the upper waters in check; the waters of the flood poured down through apertures in it (Gen 7.11). *The Jewish Study Bible* (2004:13) says: "The word translated 'expanse' refers to a piece of metal that has been hammered flat. Here, the function of the sky is to separate the waters above (which fall as rain) from the subterranean waters (which rise as springs; see 7.11)." These scholars therefore agree with the testimony of the Scriptures regarding the denotation of *hammayim ʾăšer mēʿal lārāqîaʿ*.

6.7. Discussion of the 'waters below' in Gen 1.7, 9–10

Gen 1.7 says that God separated the waters under the firmament (*rāqîaʿ*) from those above it. Then Gen 1.9 says the waters under the heavens were gathered into one place (*ʾel-māqōm ʾeḥāḏ*) and the dry ground (*hayyabbāšâ*) appeared. Gen 1.10 says God called the dry ground "earth" (*ʾereṣ*) and the gathered waters "seas" (*yammîm*). What is the scenario depicted by these verses?

In Gen 1.9–10 God continues the creative ordering of the cosmos through the activity of separation. In Gen 1.4 God separated light and darkness to create day and night, respectively. In Gen 1.7 God separated the waters under the firmament and the waters above the firmament by creating the *rāqîaʿ* which he named "heavens" (*šāmayim*) in Gen 1.8. On day one God names the things that have been separated as different domains of the created order. Later the sun is created to rule over the day and the moon to rule over the night (Gen 1.18) but these are not named. On day two it is the separator that is named and this is where the sun, moon and stars are placed (Gen 1.17). On day three the dry ground (*hayyabbāšâ*) is separated from the gathered waters and named "earth" (*ʾereṣ*) and the gathered waters are named "seas" (*yammîm*). A critical question in determining what is the scenario depicted is to understand what *ʾereṣ* refers to in this context. There would appear to be two options: (1) it depicts a piece of dry land appearing out of the waters, or (2) it depicts the whole earth appearing out of the waters. Option (2) would necessarily entail that the earth was on the waters, whereas option (1) would not.

BDB (2010[1906]:387) say that the meaning of *yabbāšâ* in Gen 1.9–10 is dry land as opposite to sea. VanGemeren (Vol 2:394) says that *yabbāšâ* in Gen 1.9–10 refers to the dry ground that God brought out of the water at creation. Harris (1999[1980]) says that *yabbāšâ* emphasises "dry land" in contrast to bodies of water (cf. Jon 2.11). Two basic theological events are partially described by this noun: the separation of the "dry land" from the waters in creation (Gen 1.9–10) and the crossing of the Reed Sea and the Jordan river in the exodus and conquest respectively (Exo 14.16–29; Neh 9.11). Thus the separation of *yabbāšâ* from the waters gathered into one place depicts the creation of two separate domains designated "earth" and "seas." In Gen 1.26 mankind is given dominion and rule over these separate domains referred to as "the sea" (*hayyām*) and "all the earth" (*ḵol-hāʾāreṣ*).

> Gen 1.26: Then God said, "Let us make man in our image, in our likeness, and let them rule over the fish of the sea (*hayyām*) and the birds of the heavens (*haššāmayim*), over the livestock, over all the earth (*ḵol-hāʾāreṣ*), and over all the creatures that move along the ground (*hāʾāreṣ*)." (NIV)

VanGemeren (Vol 1:518) says *ʾereṣ* has a broad range of meaning, from the whole earth, through particular countries, especially the land of Israel, local districts, the soil, to the ground inside a tent (Josh 7.21). BDB (2010 [1906]:76) say *ʾereṣ* has these senses: 1) the whole earth or earth opposite to heaven, 2) a country, territory, 3) ground, soil, 4) people of the land. Since there is no country or territory in view in Gen 1.10 and people did not exist at this point in the creation story the options for the meaning of *ʾereṣ* in Gen 1.10 are either "the whole earth" or "ground, soil." The first meaning would be appropriate for the domain that mankind is to live in and to rule over but not the second meaning. We therefore conclude that *ʾereṣ* in Gen 1.10 must refer to the whole earth as a domain of creation separate from the domain of *yām, yammîm*, and since the ancient Hebrews did not know they lived on a planetary globe this entails that the earth was created out of and upon the waters below the firmament.

There are also a number of Scriptures which confirm that the earth was created upon the waters and that the waters below are the foundations of the earth. Psa 24 is a processional liturgy and the prelude (Psa 24.1–2) proclaims the Lord as the Creator, Sustainer and Possessor of the whole world, and therefore worthy of worship and reverent loyalty as "the King of Glory" (vv. 7–10). Psa 24.1–2 is an allusion to Gen 1.9 and the reference to "the earth" (*hāʾāreṣ*) and "the world" (*tēḇēl*) makes it clear that the denotation is to the whole earth. The word (*ʿal*), translated here with 'upon', can also mean 'on' or 'above'. Thus the psalmist is saying the whole earth is founded on the seas and the rivers. For this description to be coherent the image depicted must be of a flat and circular earth floating on the waters of the deep and surrounded by the waters of the seas. If the image depicted by Psa 24.1–2 is meant to be that of a planet of solid rock beneath our feet and the seas and rivers on the surface of the planet then the description of the earth founded *ʿal* 'upon, on, above' the seas and rivers makes no sense.

> Psa 24.1–2: **The earth** (*hāʾāreṣ*) is the LORD's and the fullness thereof, **the world** (*tēḇēl*) and those who dwell therein, **for he has founded it upon** (*ʿal*) **the seas** (*yāmmim*) **and established it upon** (*ʿal*) **the rivers** (*nəhārôṯ*).

Psa 136.6 also alludes to Gen 1.9 and *rōqaʿ* 'the one who spread out' makes the image of a flat circular earth floating on the waters of the great deep even clearer. Pro 8.27–29 is another glimpse of the biblical view of the cosmos. This passage of Scripture describes how the waters above and below have been set in place by Yahweh and are under his control. In v. 27 the horizon (*ḥûḡ*) denotes the separation and the boundaries between the two great cosmic spheres of sky (the waters above) and sea (the waters below). In v. 28 the clouds (*šəḥāqîm*) are contrasted with the fountains of the deep (*ʿînôṯ təhôm*). These were the two sources of freshwater in the ancient world. Two types of waters upon which the earth is founded are distinguished: the fountains of the deep (*ʿînôṯ təhôm*) and the sea (*yām*). The earth is founded on the freshwater of the fountains of the deep and the saltwater of the seas, each of which has boundaries set in place to prevent them from flooding the earth (v. 29). 2 Pet 3.5 also refers to the creation of the earth as "the earth was formed out of water and by water." All of these Scriptures support the understanding that Gen 1.9–10 describes the creation of the whole earth (*ʾereṣ*) as a flat disk upon the gathered waters.

> Psa 136.6: to him **who spread out the earth** (*hāʾāreṣ*) **above** (*ʿal*) **the waters** (*hammayim*), for his steadfast love endures forever
>
> Pro 8.27–29: I was there when he set the heavens in place, when he marked out the horizon (*ḥûḡ*) on the face of the deep (*ʿal-pənê təhôm*), when he established the clouds (*šəḥāqîm*) above, and **fixed securely the fountains of the deep** (*ʿînôṯ təhôm*), when he gave **the sea** (*yām*) its boundary, so that **the waters** (*mayim*) would not overstep his command, and **when he marked out the foundations** (*môsəḏê*) **of the earth** (*ʾāreṣ*),
>
> 2 Pet 3.5–6: But they deliberately forget that long ago by God's word the heavens existed and **the earth was formed out of water and by water**. By these waters also the world of that time was deluged and destroyed.

Like the waters above discussed in section 6.6 the waters below are a fundamental part of the cosmos. They are created as a basic component of the cosmos in Gen 1.6–8 and are referred to as *bammayim mittaḥaṯ lāʾāreṣ* 'the waters under the earth' in Exo 20.4 and Deu 4.18. Exo 20.4 describes every part of the created cosmos as including heaven above, the earth beneath heaven and the waters below the earth. Deu 4.18

describes every creaturely domain as including anything on the earth, in the heavens or in the waters below the earth.

> Exo 20.4: "You shall not make for yourself a carved image, or any likeness of anything that is in heaven above, or that is in the earth beneath, or that is in **the waters** (*mayim*) **under the earth** (*lāʾāreṣ*).
>
> Deu 4.16–18 beware lest you act corruptly by making a carved image for yourselves, in the form of any figure, the likeness of male or female, [17] the likeness of any animal that is on the earth, the likeness of any winged bird that flies in the air, [18] the likeness of anything that creeps on the ground, the likeness of any fish that is in **the waters** (*mayim*) **under the earth** (*lāʾāreṣ*).

As with the waters above, the waters below can provide blessings, as illustrated from Gen 49.25 and Deu 33.13, or they can be instruments of judgment, as illustrated from Gen 7.11 and 8.2–3. In Gen 49.25 and Deu 33.13 the verb *rōḇeṣeṯ tāḥaṯ* 'crouches beneath' is in the singular grammatical form and refers to a single entity, "the deep." This is coherent with Gen 1.9 which says the waters under the heavens were gathered into one place to form a unified body of water. But it would not be coherent with a view that the water below the earth refers to multiple subterranean water chambers of some kind. Similarly, Gen 7.11 and 8.2 refer to fountains (plural) of the (great) deep (singular).

> Gen 49.25: by the God of your father who will help you, by the Almighty who will bless you with blessings of heaven above, **blessings of the deep** (*təhôm*) **that crouches beneath**, blessings of the breasts and of the womb.
>
> Deu 33.13: And of Joseph he said, "Blessed by the LORD be his land, with the choicest gifts of heaven above, **and of the deep** (*təhôm*) **that crouches beneath**..."
>
> Gen 7.11: In the six hundredth year of Noah's life, in the second month, on the seventeenth day of the month, **on that day all the fountains of the great deep** (*maʿəyənōṯ təhôm rabbâ*) **burst forth**, and the windows of the heavens were opened.
>
> Gen 8.2–3: **The fountains of the deep** (*maʿəyənōṯ təhôm*) and the windows of the heavens **were closed**, the rain from the heavens was restrained, and the waters (*mayim*) receded from the earth continually.

Gen 49.25 and Deu 33.13 indicate that the deep below the earth described in Gen 7.11 and 8.2–3 still exists after the flood, contrary to the assertion by Morris (1976:205), for example, that these waters no longer existed after the flood. There is also a theological argument for why the deep below the earth must exist after the flood. In Gen 9.11, 14–16 God makes a covenantal promise to Noah that the waters of the *mabbûl* will never again flood the earth. A covenant is a formal agreement between two parties and the making of covenants was a common practice in the ancient Near East. The covenant made in Gen 9.8–17 is a royal grant made between the Lord God and "righteous" Noah (and his descendants and every living thing on earth, all life that is subject to man's jurisdiction) (Gen 6.9). In this case God takes the stipulations for the covenant upon himself and nothing is required of Noah. However, for the injunction to never flood the cosmos again with the waters of the deep to be real these waters must exist when the covenant is made. If it was not possible for God to flood the earth again because the waters of the *mabbûl* have all been "used up" then the covenant with Noah has no substance. Isa 54.9–10 refers to this covenant that God made with Noah as still being in place. With regard to the sign of the rainbow (*qešeṯ*), Walton et al. (2000:39) say the designation of the rainbow as a sign of the covenant does not suggest that this was the first rainbow ever seen. The function of a sign is connected to the significance attached to it.

> Gen 9.11: I establish my covenant with you, that never again shall all flesh be cut off by the waters (*mayim*) of the flood (*hammabbûl*), and never again shall there be a flood (*mabbûl*) to destroy the earth.
>
> Gen 9.14–16: [14] When I bring clouds over the earth and the bow is seen in the clouds, [15] I will remember my covenant that is between me and you and every living creature of all flesh. And the waters (*hammayim*) shall never again become a flood (*mabbûl*) to destroy all flesh. [16] When the bow (*qešeṯ*) is in the clouds, I will see it and remember the everlasting covenant between God and every living creature of all flesh that is on the earth.

> Isa 54.9–10: "To me this is like the days of Noah, when I swore that the waters of Noah would never again cover the earth. So now I have sworn not to be angry with you, never to rebuke you again. Though the mountains be shaken and the hills be removed, yet my unfailing love for you will not be shaken nor my covenant of peace be removed," says the LORD, who has compassion on you.

With regard to *yiqqāwû hammayim mittaḥaṯ haššāmayim ʾel-māqōm ʾeḥāḏ* 'the waters under heaven gathered into one place' named 'seas' (*yammîm*) in Gen 1.9–10 and *kol-maʿyənōṯ təhôm rabbâ* 'all the fountains of the great deep' opened in Gen 7.11 and closed in Gen 8.2, most Bible commentators and exegetes see the former as water on the surface of the planet and the latter as water in subterranean chambers. This is the case with *The Geneva Study Bible* and John Gill's exposition. Calvin (2007[1847]) calls the waters below in Gen 1.7 'terrestrial waters', i.e., the seas upon the surface of the earth, and he understands the source of the fountains of the great deep (Gen 7.11) to be subterranean waters. Keil and Delitzsch (1986) understand the waters under the firmament in Gen 1.7 are the water upon the globe itself and they understand that the flood was produced by the bursting forth of fountains hidden within the earth (Gen 7.11), which drove seas and rivers above their banks. Leupold (1942) identifies the "waters below the firmament" in Gen 1.7 as the seas and oceans on the surface of the earth. He says: "Apparently, before this firmament existed, the earth waters on the surface of the earth and cloud waters as we now know them were contiguous without an intervening clear air space. It was a situation like a dense fog upon the surface of the waters." But then he says the "fountains of the great deep" in Gen 7.11 must be subterranean water of which there is still much and of which there may have been more in early days. Cassuto (1961) says the waters below the expanse in Gen 1.7 refers to "the water of the vast sea, which still covers all the heavy, solid matter below." He says of the fountains of the great deep in Gen 7.11 that "here the reference is undoubtedly to subterranean waters, which are the source of the springs that flow upon the ground." The NET Bible note against Gen 1.9 says: "*Let the water...be gathered to one place.* In the beginning the water covered the whole earth; now the water was to be restricted to an area to form the ocean. The picture is one of the dry land as an island with the sea surrounding it." And against Gen 7.11 the NET Bible says: "*The watery deep*." The same Hebrew term used to describe the watery deep in Gen 1.2 (*tihom*) appears here. The text seems to picture here subterranean waters coming from under the earth and contributing to the rapid rise of water." Morris (1976) also considers the seas in Gen 1.9–10 to be seas and oceans on the surface of the planet and the fountains of the great deep in Gen 7.11 to be subterranean waters of some kind. Henry (1960), on the other hand, identifies the waters below in Gen 1.7 with the seas that cover the earth and the fountains of the great deep as the sea returning to cover the earth, as they had done at first (Gen 1.9).

However, some commentators suggest that the waters gathered into one place in Gen 1.9–10 and the fountains of the great deep in Gen 7.11, 8.2 refer to the cosmic waters that surround the earth. Kidner (1967:45) identifies *təhôm* in Gen 1.2 with the literal ocean. But then his comment against Gen 7.11 (1967:90–91) says: "We can infer from the statement about the great deep and the windows of heaven a vast upheaval of the sea-bed, and torrential rain; but the expressions are deliberately evocative of chapter 1: the waters above and below the firmament are, in token, merged again, as if to reverse the very work of creation and bring back the featureless waste of waters." Wyatt (2001:134) makes the same observation: "The cosmological theme is particularly clear here: the story is an anticosmogony, a reversal of the process of creation. Formerly, the primeval waters had been separated by the interpolation of the 'world' (*tēḇēl*, the habitable world). Now this process is reversed, as the barriers are pierced with windows and sluices opening." Alter (1997:32) treats Gen 7.11 as poetry and says: "The surge of waters from the great deep below and from the heavens above is, of course, a striking reversal of the second day of creation, when a vault was erected to divide the waters above from the waters below. He also says the Flood story abounds in verbal echoes of the Creation story. The Flood is, in effect, an Uncreation. Wenham comments on Gen 1.7: "...the firmament separates the water in the sky from the seas and rivers." And against Gen 7.11, "*All the springs...burst open...and the windows of heaven were opened,"* he says:

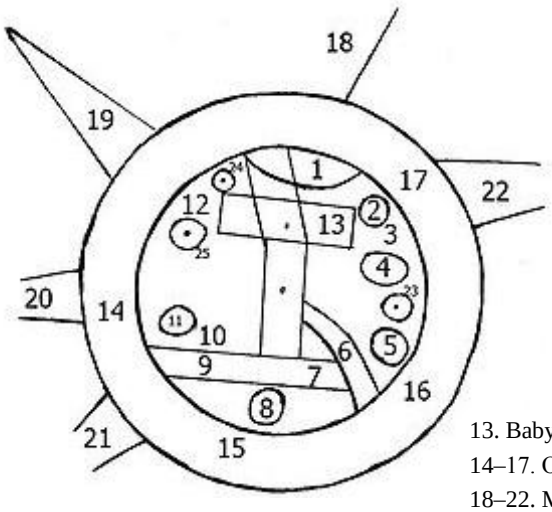
> "Springs of the great deep" and "windows of heaven" are poetic phrases suggesting water gushing forth uncontrollably from wells and springs which draw from a great subterranean ocean ('the great deep') and an unrestrained downpour from the sky. In Babylonian mythology, Adad the weather god controls the rain and, occasionally, the water from the abyss so that the idea of the flood involving disruption of both goes back to pre-Hebrew sources. (Wenham 1987:19–20)

Sarna (1989) says against Gen 7.11: *"fountains...floodgates*":

> This sentence is couched in classic poetic phraseology and parallelistic structure. The description of the cataclysm is incisively brief, in striking contrast to the elaborate detail given in the Gilgamesh Epic. The "great deep" is the cosmic abyssal water introduced in Gen 1.2. The "floodgates of the sky" are openings in the expanse of the heavens through which water from the celestial part of the cosmic ocean can escape onto the earth. In other words, creation is being undone, and the world returned to chaos. (Sarna (1989:55)

Hamilton (1990) identifies *təhôm* in Gen 1.2 with the literal ocean. Then his comment against Gen 7.11 says: "There is no doubt that the two sources of water are intended to recall the 'waters above and below' of 1.6–7. The Flood uncreates, and returns the earth to a pre-creation period when there was only 'waters.' The lower waters are sprung loose when the springs of the great abyss (*təhôm rabbâ*) are split." (Hamilton 1990:111)

So, on the one hand, some commentators interpret *yiqqāwû hammayim mittaḥaṯ haššāmayim ʾel-māqōm ʾeḥāḏ*, "the waters under heaven gathered into one place" in Gen 1.9, and *kol-maʿyənōṯ təhôm rabbâ*, "all the fountains of the great deep" in Gen 7.11, 8.2 in terms of how we observe the world to be today, while other commentators try to interpret these concepts from an ANE perspective. But the latter set of commentators are inconsistent. While they say the waters of the flood (*mabbûl*) from above and below in Gen 7.11, 8.2 can be understood to be the cosmic waters surrounding the earth flooding back into the cosmos as an anticosmogony, they still regard the waters in Gen 1.9 to refer to the seas and oceans on the surface of a spherical globe even though ANE peoples did not know they lived on a spherical globe. This did not become common knowledge until Greek astronomers worked it out in the 3rd century BCE. The famous Babylonian Map of the World at the British Museum (see Figure 3) depicts the world as a circular disk floating on an abyss of fresh water with salt water seas all around. This map is usually dated to the 5th century BCE but since it concords with the Enûma Elish creation account, which scholars date to the Hammurabi period (18th–16th century BCE), it must have been an ancient understanding of the world.



1. 'Mountain' (Akkadian: *šá-du-ú*)
2. 'City' (Akkadian: *uru*)
3. Urartu (Akkadian: *ú-ra-áš-tu*)
4. Assyria (Akkadian: $^{kur}aš+šur^{ki}$)
5. Der (Akkadian: *dēr*)
6. ?
7. Swamp (Akkadian: *ap-pa-ru*)
8. Elam (Akkadian: *šuša*)
9. Canal (Akkadian: *bit-qu*)
10. Bit Yakin (Akkadian: *bīt-ia-'-ki-nu*)
11. 'City' (Akkadian: *uru*)
12. Habban (Akkadian: *ha-ab-ban*)
13. Babylon (Akkadian: *tin.tir*^{ki}), divided by Euphrates
14–17. Ocean ('salt water', Akkadian: ^{id}*mar-ra-tum*)
18–22. Mythological objects

Figure 3: Babylonian Map of the World, at the British Museum[10]

As explained above, the ancient Egyptian creation mythology also recounts that in the beginning the waters of the primeval waters (the god Nun) receded and land emerged which formed the self-generated Mound or Hill of Creation. After this, the sun god, Ra, appeared on the primeval waters as a child floating on a lotus. Ra then created the deities Shu (air) and Tefnut (water) who then created other deities of the creation. Thus

[10] See http://en.wikipedia.org/wiki/Babylonian_Map_of_the_World, accessed 4 September 2013.

the basic idea in the Egyptian cosmology is also that the earth floats on the cosmic waters, as illustrated by Figure 2.

This historical evidence therefore shows that when Gen 1 was written (ca. 1446–1406 BCE) the common understanding of the cosmos was that the earth was a flat, circular disk floating on the waters of the abyss. The idea that we live on a spherical globe did not arise until the 6th century BCE when Greek philosophers first proposed this. This notion was then not confirmed as fact until the 3rd century BCE. There is therefore no way the author and original audience of Genesis could have understood that *yiqqāwû hammayim mittaḥaṯ haššāmayim ʾel-māqōm ʾeḥāḏ* in Gen 1.9 denotes the seas and oceans on the surface of a rocky planet. The only way they could have understood this passage would have been in terms of the biblical cosmology depicted in Figure 1. An examination of relevant Scriptures in this section supports this analysis.

7. The implications of biblical cosmology for Bible translation

At the beginning of section 4 we noted that the UBS *Translators' Handbook* (Reyburn and Fry 1998) recommend that translators should study carefully the picture of the universe given in Figure 1 as it was understood by the ancient Hebrew authors. In section 5.1–section 5.2 we presented evidence for how the ancient Mesopotamians and ancient Egyptians believed the world to be from their mythological records. In section 5.3 we compared fifteen commonalities of the ANE worldview with the biblical worldview and found that the Gen 1.1–2.3 creation account only modifies the ANE worldview theologically. Otherwise, the cosmic geography presented in Gen 1.1–2.3 is very similar to that of other ANE cultures. In section 6 we examined a number of key concepts in Gen 1.1–31 and established that Figure 1 is a fair representation of the biblical view of the cosmos.

What are the implications of the biblical cosmology for Bible translation? We will argue in this section that if the translation of cosmological passages is concordant with the biblical worldview it will be a coherent account, but if the translation seeks to be concordant with a modern view of the world then the resultant account will be incoherent with that view.

7.1. *haššāmayim wəhāʾāreṣ* 'the heavens and the earth'

In section 3 we discussed two interpretive issues involving *haššāmayim wəhāʾāreṣ* in Gen 1.1. The first issue concerned whether the text of the first creation account is Gen 1.1–2.3 (the traditional understanding) or Gen 1.1–2.4a (the interpretation according to the documentary hypothesis). We argued that there are three pieces of text structure evidence that support the traditional interpretation:

- The Gen 1.1–2.3 has multiple patterns of number seven which are an important part of the structure of the text. If the object text were extended to include Gen 2.4a then several of these patterns would be disrupted.
- Gen 1.1 and Gen 2.3 form a chiastic structure which marks the beginning and end of the text. In Gen 1.1 the phrases *bārāʾ* 'he created', *ʾĕlōhîm* 'Elohim' and *haššāmayim wəhāʾāreṣ* 'heavens and earth' are introduced in that order. Whereas in Gen 1.1–2.3 these phrases occur in reverse order: "heavens and earth" (2.1), "Elohim" (2.2), "created" (2.3).
- Gen 2.4a contains a *ṯôləḏôṯ* construction. Elsewhere in Genesis (e.g., 5.1, 11.27) a *ṯôləḏôṯ* construction introduces a major new development in the story. If Gen 2.4a is considered to end Gen 1.1–2.3 then this would be an anomalous use of the *ṯôləḏôṯ* construction.

We have adopted the traditional interpretation for this study. However, as we noted in section 3, a number of English translations assign Gen 2.4a to the end of Gen 1.1–2.3 by the use of section breaks, etc. This includes: NEB (1970), Alter (2004[1997]), NLT (2004), Message/Remix (2005), CEB (2011), and Moffatt (1924). But we recommend that an overt section break should occur between Gen 2.3 and 2.4.

Another interpretive issue we discussed in section 3 was how Gen 1.1 relates to Gen 1.2–3. Four possibilities have been proposed and argued for in the literature. The traditional and oldest interpretation is that Gen 1.1 is a main clause describing the first act of creation and vv. 2–3 describe subsequent phases in

God's creative activity. Of the four different interpretations that have been proposed in the literature, however, this is the only one that excludes there being pre-existent matter before the work of creation began. Since the Gen 1.1–2.3 creation account clearly presents Elohim as the one and only God, transcendent to the creation, an interpretation that allows something else to exist along with Elohim before creation would be theologically incongruent with the author's purposes. We have therefore accepted the traditional interpretation that Gen 1.1 is a main clause describing the first act of creation. We recommend translations that make this interpretation explicit, such as the NIV, NJB, NET, WEB, and Lexham versions.

7.2. *ḥōšeḵ* 'darkness'

In section 6.2 we suggested that *ḥōšeḵ* 'darkness' is one of two primordial entities introduced in Gen 1.2 which functions as an antagonist to God by its existence rather than its actions. It is part of the state of disorder (chaos) that God brings to a state of order (cosmos) by his divine command: in Gen 1.3–5 God commands light (*ʾôr*) into being and then creates day and night from the separation of light and darkness.

Most English translations translate *ḥōšeḵ* in Gen 1.2 with the nominal *darkness* and therefore denote an entity in the discourse. However, some English translations translate *ḥōšeḵ* in Gen 1.2 as a property of something else rather than as a distinct entity.

> Bible in Basic English (1965)
>
> Gen 1.2 ...and it was **dark** on the face of the deep, [4] and God made a division between the light and the **dark**
>
> Living Bible (1971)
>
> Gen 1.2 ...with the Spirit of God brooding over the **dark** vapors. [4–5] And God was pleased with it, and divided the light from the **darkness**.
>
> EasyEnglish Bible Modern English (2001)
>
> Gen 1.2 The earth was without shape. Nothing was alive on it. Deep water covered the earth. There was no light. Everywhere was **dark**. [4] ...He separated the light from the **dark**.
>
> The Message (2002) and Remix (2005)
>
> Gen 1.1–5 ...Earth was a soup of nothingness, a bottomless emptiness, an **inky blackness**.
>
> Common English Bible (2011)
>
> Gen 1.2 ...it was **dark** over the deep sea. [4] ...God separated the light from the **darkness**.

The BBE introduces *dark* as a property of the face of the deep in Gen 1.2, but then the nominal *dark* denotes an entity distinct to light (v. 4) named "Night" (v. 5). The LB introduces *dark* as a property of the *vapors* in Gen 1.2, but then *darkness* denotes an entity from which light is divided (v. 4) and which is named "nighttime" (v. 5). In the EEB *light* is introduced prematurely into the discourse as an entity in Gen 1.2 and *dark* is presented as a property of *everywhere*. The nominal *dark* then denotes an entity from which light is separated (v. 4) and which is named "night" (v. 5). The Message (2002) and Remix (2005) have *inky blackness* as a property of the earth in Gen 1.2. Then in v. 4 the nominal *dark* denotes an entity from which light is separated and which is named "Night" (v. 5). The CEB introduces *dark* as a property of *the deep sea* in Gen 1.2, but then *darkness* denotes an entity from which light is separated (v. 4) and which is named "Night" (v. 5). The pattern is the same in each of these translations. *Ḥōšeḵ* is introduced as a property of something and then the next reference is to an entity from which light is separated. This is referentially incoherent and the notion of an initial primeval darkness as an entity is made obscure in these translations.

The Jewish Study Bible (2004:13) note against Gen 1.2 says this clause describes things just before the process of creation began. To modern people, the opposite of the created order is "nothing," that is, a vacuum. To the ancients, the opposite of the created order was something much worse than "nothing." It was an active, malevolent force we can best term "chaos." In this verse, chaos is envisioned as a dark, undifferentiated mass of water. In 1.9 God creates the dry land (and the Seas, which can exist only when water is bounded by dry land). But in Gen 1.1–2.3 water itself and darkness too, are primordial. The NET

Bible (1996–2005) note against Gen 1.2 says the Hebrew word *ḥōšeḵ* simply means "darkness," but in the Bible it has come to symbolise what opposes God, such as judgment (Exo 10.21), death (Psa 88.13), oppression (Isa 9.1), the wicked (1 Sam 2.9) and in general, sin. In Isa 45.7 it parallels "evil." It is a fitting cover for the primeval waste, but it prepares the reader for the fact that God is about to reveal himself through his works.

Since the ancient Hebrews considered *ḥōšeḵ* to be an entity opposed to God we recommend that *ḥōšeḵ* in Gen 1.2 be translated as denoting this rather than as being a property of something else.

7.3. *təhôm* 'the deep'

In section 6.3 we showed that most Hebrew dictionaries agree that *təhôm* in Gen 1.2 denotes the primeval waters that ANE cultures believed the world was created from. We also suggested that *təhôm* in Gen 1.2 functions as another antagonist to God alongside *ḥōšeḵ*. Like *ḥōšeḵ*, *təhôm* is antagonistic to God by its existence rather than its actions. It is also commanded by God into a state of order in Gen 1.6–8 by the separation of the waters above the *rāqîaʿ* from the waters below the *rāqîaʿ*.

Most English translations translate *təhôm* in Gen 1.2 with *the deep*. This includes the Alter, ASV, BBE, ESV, KJV, Knox, Lexham, NASV, NIV, NJB, NKJV, NRSV, REB, RSV, Tanakh, TNIV, WEB, and YLT translations. Some translations use a qualified version of this expression: *the very great deep* (Amp), *the deep water* (GW, TfT), *the watery deep* (NET), *the deep sea* (CEB). Other translations prefer *the abyss* (Moffatt, NAB, NEB). This follows the LXX which translates *təhôm* in Gen 1.2 as τῆς ἀβύσσου 'the abyss'. Wyatt (2001:85) says the etymological source of ἀβυσσος is the Akkadian *Apsû* (Sumerian ab.zu). Thus the English word *abyss* is etymologically related back to the primordial waters of ancient Mesopotamian mythology. The NIRV, EVD, and ERB translate *təhôm* as *the ocean*. The translational terms *the deep*, *the abyss*, and *the ocean* are all referentially definite and a definite reference in English implies a unique referent.

But the question is what do the terms *deep*, *abyss* and *ocean* denote in these English translations? We have established that in the original context *təhôm* could only refer to the primordial cosmic waters common to ANE cosmology. Since there is no equivalent to this concept in modern cosmology[11] the denotations of *deep*, *abyss* and *ocean* can only be to the ancient Mesopotamian concept. In which case, it would be better to translate *təhôm* with expressions that make this denotation explicit, such as *primordial deep*, *abyss* or *cosmic waters*.

Some English translations come close to making the ANE denotation clear: The TEV has *the raging ocean that covered everything*, and Street has *the cosmos in chaos: no shape, no form, no function*. Other English translations achieve the same end by using an indefinite expression: *a roaring ocean* (CEV), *a formless mass* (NLT 1996), *a soup of nothingness*, *a bottomless emptiness*, *an inky blackness* (Message, Remix). The Schocken translation (1995) has *Ocean* and is the only English translation that refers to *təhôm* as a named entity and makes the ANE denotation explicit. However, the problem with using a proper name designation, such as *Abyss* or *Ocean*, is that this would imply a deity and the author of Genesis does not name the sun and the moon in Gen 1.16 for this very reason.

On the other hand, some English translations try to relate Gen 1.2 to a modern cosmological context by how they translate *təhôm* in Gen 1.2. The Ferrar Fenton translation (1903) has: "By Periods God created that which produced the Solar Systems; then that which produced the Earth. But the Earth was unorganised and empty; and darkness covered its convulsed surface (*təhôm*); while the breath of God rocked the surface of its waters." (Gen 1.1–2) This translation depicts the *təhôm* as waters that covered the unformed earth. The EEB uses the nonspecific term *deep water*. The LB appears to be influenced by Morris's (Morris 1976) interpretation of *təhôm* and translates this as *the dark vapors* in Gen 1.2.

[11] The Big Bang theory is the prevailing cosmological model that describes the early development of the universe. According to this theory the universe was initially in an extremely hot and dense state and began expanding rapidly. Water did not exist at this time.

Nevertheless, by accident or by design nearly all the English translations we have reviewed set the Genesis account of creation in an ANE cosmological context by how they translate *təhôm*. It would therefore be incongruous for these translations to then migrate to a modern cosmological context in the course of translating the rest of Gen 1.1–2.3.

7.4. *yôm* 'day' and *lāyəlâ* 'night'

In section 6.4 we determined that the term *ʾôr* denotes physical light as its primary sense. This is what *ʾôr* denotes in Gen 1.3. We also noted that according to the Hebrew dictionary BDB this term is never used in the OT to denote the sun (*šemeš*), as such. So *ʾôr* does not denote the sun in Gen 1.5: "God called the light (*ʾôr*) 'day,' (*yôm*) and the darkness (*ḥōšeḵ*) he called 'night' (*lāyəlâ*)." The study by Aalen (1978) found that every passage that speaks of the shining (*yāʾîr* in the *hifil*) or the light (*ʾôr*) of the sun (Gen 1.14–16; Isa 30.26, 60.19; Jer 31.35; Ezk 32.8; Psa 136.7–9) also refers to the light of the moon and sometimes also to the stars. Thus in the biblical worldview *ʾôr* 'light' is independent of the sun, moon and stars. We also saw that a passage such as Ecc 12.2 distinguishes the light of the day (*hāʾôr*) from the sun (*haššemeš*), the moon (*hayyārēḥa*) and the stars (*hakkôḵāḇîm*). Therefore the light of the day created on day one (Gen 1.3–5) does not need the sun for its existence. Thus what is described in Gen 1.3–5 is the creation of the day and the night according to how ANE cultures understood this phenomenon and not according to how we understand the operation of day and night today.

In the ancient Near East it was understood that the earth was fixed and the sun and moon moved across the sky. Ecc 1.5 laments: "The sun rises and the sun sets, and hurries back to where it rises." The cycle of the sun rising, moving across the sky from east to west, setting and then hurrying back to where it rises is repeated endlessly and this is wearisome and futile to the writer of Ecclesiastes. But the key dimension to this cycle in the ANE world is that it is always either day or night on the earth. They are separate domains of time. But that is not the case from a modern perspective. Today we know we live on the surface of a globe which rotates on its axis and it is the sun that is fixed and the earth that moves. The key dimension to this cycle from a modern day perspective is that whether it is day or night depends upon where you are on the surface of the earth. It is always day on one side of the globe and always night on the other side. So in the modern worldview day and night are separate domains of place rather than time. This then creates a number of conceptual incongruities in the context of the creation account:

- How can the distinction between day and night be determined by location in space on day one when space itself is not created until day two?
- How can the light of day come from a source that is fixed in one location in space relative to the earth on day one when the earth is not created until day three?
- What is this fixed source of daylight on days one to three that precedes the sun created on day four?
- What happened to the source of daylight for the first three days of creation when the sun was created to rule over the day on day four? Did God uncreate it?
- Such a scenario also implies that God created day and night to function from a fixed point on the surface of planet earth and this fixed point moving into darkness prompts the refrain "and there was evening, and there was morning." This seems theologically absurd.

If the account of the creation of day and night in Gen 1.3–5 is viewed from a modern cosmological perspective then it is dependent on things not yet created, such as a fixed source of light for the daylight and a rotating earth. On the other hand, none of these conceptual incongruities (both practical and theological) arise if the creation of day and night is understood from an ANE worldview. Daylight is created as an entity in itself. Day and night succeed each other in a fixed temporal cycle. They are clearly distinct and separate from each other. When it is day it is not night, and when it is night it is not day. There is no problem in conceptualising them as belonging to separate domains of existence and distinct from the sun and the moon.

Most English translations follow the form of the Hebrew text in Gen 1.3–5 fairly closely and translate just what it says. Any concerns about how this text should be interpreted are left up to the biblical

commentaries. The main point of differentiation in the English translations is with regard to how *ḇādēl* is translated in *wayyaḇədēl ʾĕlōhîm bên hāʾôr ûḇên haḥōšeḵ* (Gen 1.4b).

The LXX follows the form of the Hebrew very closely and translates *ḇādēl* with διεχώρισεν. This Greek verb is a combination of διά 'through' plus χωρίζω 'separate, divide', which means to divide into separate and distinct entities. The Latin Vulgate translates with *divisit* 'he divided'. The first English translation by John Wycliffe translates *ḇādēl* with 'he parted' and introduces the preposition '*from'*. Subsequent early English translations, such as Tyndale, Douay-Rheims and KJV have *divided from*. Most modern English translations continued to include *from* in the translation. Some, such as Darby, Fenton, Knox, BBE and Message, Remix, have not.

> Early translations of Gen 1.4b:
>
> LXX (late 2nd century BCE)
>
> καὶ [and] διεχώρισεν [he.parted] ὁ [the] Θεὸς [God] ἀνὰ [up to] μέσον [between] τοῦ [of the] φωτὸς [light] καὶ [and] ἀνὰ [up to] μέσον [between] τοῦ [of the] σκότους [darkness]
>
> '...and God divided between the light and the darkness.'
>
> Biblia Sacra Vulgata (405)
>
> et [and] divisit [he.divided] lucem [light] ac [and] tenebras [darkness]
>
> '...and he (God) divided the light and the darkness.'
>
> John Wycliffe (ca. 1395)
>
> "...and he parted the light from (the) darknesses."
>
> William Tyndale (ca. 1530)
>
> "& devyded the lyghte from the darcknesse."
>
> Douay-Rheims (1610)
>
> "...and he divided the light from the darkness."
>
> King James Version (1611)
>
> "...and God divided the light from the darkness."

Some translations also continued to translate *ḇādēl* with *divided*, i.e., RV, Darby, ASV, Rotherham, Fenton, Knox, NLV, BBE, LB, NKJV, NCV, NJB, Alter, WEB, and EXB. Others switched to translate *ḇādēl* with *separated*, i.e., YLT, Moffatt, NASV, NAB, NEB, RSV, TEV, NIV, NRSV, REB, Amp, GW, Shocken, CEV, NET, NLT (1996/2004), NIRV, EEB, Message, Remix, EVD, Tanakh, TNIV, ER, ESV, CEB, and Lexham has *a separation*. Kidner (1967:47) says "separate" is a fundamental theological principle of cosmos formation in Genesis 1 (cf. Gen 1.4, 6, 7, 14, 18) and in the law (e.g. Lev 20.25). It is also a fundamental principle of cosmos formation in the cosmogonies of ancient Sumer, Babylonia and Egypt. So the notion of "separation" should be expressed in any translation of Gen 1.4. However, while *separate from* is idiomatic English, *separate* means 'to pull apart' (COBUILD) and Hamilton (1990:119) comments: "*separated* means here (Gen 1.4) not to pull apart, but to assign each part to its respective sphere and slot." Also *from* is not in the Hebrew and the use of this preposition implies that the light is somehow part of the darkness and has been created out of the darkness. But Gen 1.3 makes clear that light is created at the command of God. The light is not called forth from out of the darkness as the land is commanded to produce vegetation and plants in Gen 1.11. So, in this regard, it would be better to translate *ḇādēl* with *divide*. However, while *divide* does not necessarily imply to pull apart, according to *The BBI Combinatory Dictionary of English, divide from* is not idiomatic English. In the context of Gen 1.4 it should be *divide between*. Also, the use of *from* with *divide* again implies that the light is part of the darkness.

Therefore we recommend that *wayyaḇədēl ʾĕlōhîm bên hāʾôr ûḇên haḥōšeḵ* in Gen 1.4 be translated as: *and God divided between the light and the darkness* or, more pedantically, *and God caused the light and the darkness to separate (into their own domains of existence)*. This translation assumes an ANE or biblical cosmological worldview and is only properly comprehensible within that worldview. The TfT tries to come

to terms with the fact that separating light from darkness in Gen 1.4 is not comprehensible from a modern cosmological worldview and translates Gen 1.4 as: "Then he (God) made the light to shine in some places, and in other places there was still darkness." However, while this translation conceptualises day and night as being a product of the earth's rotation it introduces the notion of "place," i.e., a physical location, before space has been created on day two and before the earth has been created on day three. *Places* is therefore incoherent and anachronistic at this point in the creation account.

7.5. *rāqîa* 'firmament'

In section 6.5 we showed from lexical analysis and denotative comparison that the only denotation of *rāqîaʿ* that is faithful to its lexical meaning and coherent with the Hebrew text in Gen 1.1–2.3 is the one that refers to a literal dome or vault across the sky. Conceptually, such a dome would need to be something solid enough to hold the waters above up.

English translations divide into those that translate *rāqîaʿ* from an ANE cosmological worldview and those that try to accommodate the translation of this word to a modern cosmological perspective. To illustrate a translation that tries to accommodate to a modern cosmological perspective, consider how the TEV translates *rāqîaʿ* in Gen 1. Initially, in Gen 1.6–8, the TEV translates *rāqîaʿ* as *dome*. This is a good equivalent as dome means 'a round roof that is built on a flat circular base' (COBUILD). Dome also implies something solid. Then in Gen 1.8 the TEV has "He named the dome 'Sky'." The Hebrew word here is *šāmayim* 'heaven(s)'. *Haššāmayim* is the place above where the angels, the sun, moon and stars, and the waters above are located (see Psa 148.2–4). God is also in heaven (see 1 Kgs 8.30; Psa 102.19). *Sky*, on the other hand, refers to the space of the atmosphere around the earth which looks blue in the daytime and dark at night. The concept of "sky" covers everything you can see when you look up, including the sun, moon and stars, but this concept does not include the idea that there is a great body of water in the sky, nor the idea that God lives in the sky. However, the word *heaven* does include in its connotative meaning that it is the place where God lives. Using *heaven* to translate *šāmayim* would therefore be closer to what *šāmayim* denotes in Gen 1.8. By using *sky* to translate *šāmayim* in Gen 1.8 the TEV concords the creation account to a modern cosmological worldview. But the modern notion of "sky" does not exist in the biblical worldview. The nearest equivalent to "sky" in the Hebrew is *šaḥaq*. VanGemeren (Vol 4:83) says this word is used 21 times in the OT. In more than half of the instances, *šaḥaq* denotes clouds in the sky (Job 35.5, 38.37; Pro 8.28), but it also occurs as a synonym of the heavens (Job 37.18; Psa 36.5[6]). However, the author of Genesis uses *šāmayim* rather than *šaḥaq* in Gen 1.8 to name *rāqîaʿ*.

> Translations of *rāqîaʿ* in Gen 1 in the Today's English Version:
>
> Gen 1.6–8: [6–7] Then God commanded, "Let there be a **dome** (*rāqîaʿ*) to divide the water and to keep it in two separate places"—and it was done. So God made a **dome**, (*rāqîaʿ*) and **it** (*rāqîaʿ*) separated the water under **it** (*rāqîaʿ*) from the water above **it** (*rāqîaʿ*). [8] He named the **dome** (*rāqîaʿ*) "Sky." (*šāmayim*) Evening passed and morning came—that was the second day.
>
> Gen 1.14–19: [14] Then God commanded, "Let lights appear in the **sky** (*birqîaʿ haššāmayim*) to separate day from night and to show the time when days, years, and religious festivals begin; [15] they will shine in the **sky** (*birqîaʿ haššāmayim*) to give light to the earth"—and it was done. [16] So God made the two larger lights, the sun to rule over the day and the moon to rule over the night; he also made the stars. [17] He placed the lights in the **sky** (*birqîaʿ haššāmayim*) to shine on the earth, [18] to rule over the day and the night, and to separate light from darkness. And God was pleased with what he saw. [19] Evening passed and morning came—that was the fourth day.
>
> Gen 1.20: Then God commanded, "Let the water be filled with many kinds of living beings, and let the **air** be filled with birds (*wəʿôp yəʿôpēp ʿal-hāʾāreṣ ʿal-pənê rāqîaʿ haššāmayim*)."

The term *rāqîaʿ* occurs three times in Gen 1.14–19 as part of the expression *rāqîaʿ haššāmayim*. If the TEV were consistent with what has gone before then this expression would be translated as *dome of the sky*. But the TEV translates *rāqîaʿ haššāmayim* with just *sky*. If the TEV were to use *dome of the sky* in Gen 1.14–19 then this would imply that God set the sun, moon and stars in the earth's atmosphere and this would not concord with a modern worldview. Then *rāqîaʿ* occurs finally in Gen 1.20 as part of the sentence *wəʿôp yəʿôpēp ʿal-hāʾāreṣ ʿal-pənê rāqîaʿ haššāmayim*. The full translation of this sentence is: "Let the birds fly

above the earth and over, across the surface of the dome of the sky." But the TEV translates this with "let the *air* be filled with birds." Whereas the Hebrew makes it explicit that *rāqîaʿ* should be conceived of as a solid dome with a surface, the TEV obscures this meaning by translating *ʿal-hāʾāreṣ ʿal-pənê rāqîaʿ haššāmayim* with *air*. Technically, this is an accurate translation. The Hebrew says the birds fly in the space between the earth below and the dome of the sky above. From a modern perspective this would be the air of the earth's atmosphere and so *air* is an accurate translation for that denotatum. But this translation, in effect, equates *rāqîaʿ* with the earth's atmosphere. The problem then is that in the TEV Gen 1.1–2.3 creation account *rāqîaʿ* denotes multiple entities which are quite different to each other. In Gen 1.6–8 *rāqîaʿ* denotes a dome capable of holding aloft the waters above, in Gen 1.14–19 *rāqîaʿ haššāmayim* denotes the place where the sun, moon and stars are set, and in Gen 1.20 *rāqîaʿ haššāmayim* denotes the place where the birds fly. But there is no evidence from the Hebrew text that *rāqîaʿ* has a different denotation in each of these instances. Also translating *rāqîaʿ* with these different denotations makes it somewhat difficult to make sense of the creation account from a modern cosmological perspective. How does the earth's atmosphere hold the waters aloft? What are these waters in the sky? How can the birds fly where the sun, moon and stars are? Whereas if we read Gen 1.1–2.3 from the perspective of a biblical cosmology as depicted in figure 1 then it is a coherent account. But this reading would only be available in the English translation if *rāqîaʿ* was consistently translated as *dome (of heaven, the heavens)*.

The TEV migrates from an initial ANE denotation of *rāqîaʿ* as *dome*, which implies a biblical cosmic geography, to a modern worldview where *rāqîaʿ* is equated with *sky*, as understood in modern terms. This makes the creation account incoherent with either worldview. For example, in Gen 1.6–8 the waters above the sky is incoherent with a modern worldview and identifying *šāmayim* with "sky" (*šaḥaq*) is incoherent with a biblical worldview. Most translations present either an ANE worldview or a modern worldview. Those English translations that translate according to an ANE cosmological perspective are: KJV, ASV, RSV, NKJV, Amp *firmament* (this is a transliteration from the Latin *firmamentum*), NAB, TEV, NRSV, Schocken, CEV, Street *dome*, Moffatt, NEB, REB, NJB, TNIV *vault*, Knox *solid vault*, and BBE *solid arch*. Those that translate according to a modern cosmological perspective are: Fenton, YLT, NASV, NIV, NET, Tanakh, ESV *expanse*, NLT (1996/2004), ER *space*, GW *horizon*, ER *air*, NCV *something*, and LB, Message/Remix *separate* (v). Note that with these latter renderings only *expanse*, *space* and *horizon* are translations of *rāqîaʿ*. The NCV, LB and Message/Remix actually avoid specifying what *rāqîaʿ* is in their translations. It is also interesting to note how translations of *rāqîaʿ* have been updated in translation revisions. The NIV *expanse* has been changed to *vault* in the TNIV (a modern worldview to an ANE worldview switch of denotation) but the ASV *firmament* has been changed to *expanse* in the NASV (an ANE worldview to a modern worldview switch of denotation). The RSV has *firmament* while the NRSV has the more colloquial *dome*, and the NLT (1996/2004) translates *rāqîaʿ* as *space*.

We would argue, however, that translating *rāqîaʿ* with *expanse* or *space* or *horizon* is inaccurate in each case. We have argued, and many biblical exegetes agree, that the lexical meaning of *rāqîaʿ* is that of a flat plane, such as a plate (of metal, glass) or a sheet (of fabric, metal). The verb *expand*, from which the noun *expanse* is derived, means to increase in size, more specifically, to increase in amount or volume. For example, a property of a gas is that *a gas will expand to fill whatever space it occupies*. COBUILD says for its definition of the word *expanse* that "an **expanse** of sea, sky, etc. is a very large amount of it that you can see from a particular place." Therefore the intensional meaning of the English word *expanse* includes the notion of "large amount of" which the Hebrew word *rāqîaʿ* does not have as part of its intensional meaning. In addition, the Hebrew word *rāqîaʿ* has as part of its intensional meaning something substantive, capable of holding the waters of the heavens in place. The English word *expanse* lacks this semantic content in its intensional meaning. Therefore *expanse* is an inaccurate translational equivalent for *rāqîaʿ*.

The NLT (1996) and revised NLT (2004) both translate *rāqîaʿ* with 'space'. The stated purpose of the NLT (2004) is to improve the accuracy of the translation in rendering the correct meaning of the biblical source text while maintaining clarity of understanding in natural modern English. Much of Gen 1 in the NLT (2004) revision has been changed to reflect more of what the Hebrew text actually says. But Gen 1.6 in NLT (2004) still has *space* for *rāqîaʿ*: Then God said, "Let there be a **space** (*rāqîaʿ*) between the waters, to separate the waters of the heavens from the waters of the earth." But *space* is arguably a more inaccurate translational equivalent than *expanse*, since *space* more explicitly defines a volume. This rendering of

rāqîaʿ as a space also makes the account incoherent. How does a space support the waters above in Gen 1.7? Furthermore, if the author of Gen 1.6 had intended to denote that a "space" separated the waters of the heavens from the waters of the earth he could have used the Hebrew word *rewaḥ* 'space' to do so, as he does in Gen 32.16, for example.

> Gen 32.16: These he handed over to his servants, every drove by itself, and said to his servants, "Pass on ahead of me and put a **space** (*rewaḥ*) between drove and drove."

God's Word for the Nations (1995) Gen 1.6–8:

> [6] Then God said, "Let there be a **horizon** (*rāqîaʿ*) in the middle of the water in order to separate the water." [7] So God made the **horizon** (*rāqîaʿ*) and separated the water above and below the **horizon** (*rāqîaʿ*). And so it was. [8] God named [what was above] the **horizon** (*rāqîaʿ*) sky. There was evening, then morning—a second day.

The *God's Word for the Nations* translation translates *rāqîaʿ* with *horizon*. This may be because of: "I was there when he set the heavens in place, when he marked out the horizon (*ḥāḡ*) on the face of the deep" (Pro 8.27). However, Pro 8.27 describes the ANE notion that the horizon is where the sky is sealed to the earth to prevent the cosmic waters above the sky and below the earth from flooding into the cosmos. Translating *rāqîaʿ* as *horizon* in Gen 1.6–8 does not explain how the *rāqîaʿ* holds the waters above aloft. This rendering of *rāqîaʿ* as *horizon* also produces inconsistencies with the GW translation. Whereas the Hebrew says *wayyiqərāʾ ʾĕlōhîm lārāqîaʿ šāmayim* "and God called the *rāqîaʿ* heaven," the GW has to adjust this to "God named [what was above] the horizon, sky" as the horizon is obviously not the heavens or the sky. In addition, if the author of Genesis had wanted to denote that it was the horizon he had in mind in Gen 1.6–8 he could have used the Hebrew word for this concept, *ḥāḡ* 'circle, compass, circuit, horizon' as in Pro 8.27.

Gen 1.20 can be used as a diagnostic verse to show whether a translation denotes a biblical cosmological worldview or a modern cosmological worldview with respect to how *rāqîaʿ* is translated. For translations that have been made post-KJV it works out to be about 50-50 between these two types of translation:

English translations of *rāqîaʿ* in Gen 1.20 that denote a biblical worldview:

Alter	...and let fowl fly over the earth *across* the **vault** of the heavens.
BBE	...and let birds be in flight over the earth *under* the **arch** of heaven.
CEB	...and let birds fly above the earth up *in* the **dome** of the sky.
ESV	...and let birds fly above the earth *across* the **expanse** of the heavens.
Knox	...and winged things that fly above the earth *under* the sky's **vault**.
Lexham	and let birds fly over the earth *across* the face of the **vaulted dome** of heaven.
Moffatt	...and let birds fly over the earth *under* the **open vault** of heaven.
NAB	...and on the earth let birds fly *beneath* the **dome** of the sky.
NEB	...and let birds fly above the earth *across* the **vault** of heaven.
NET	...and let birds fly above the earth *across* the **expanse** of the sky.
NIV	...and let birds fly above the earth *across* the **expanse** of the sky.
NJB	...and let birds wing their way above the earth *across* the **vault** of heaven.
NKJV	...and let birds fly above the earth *across* the face of the **firmament** of the heavens.
NRSV	...and let birds fly above the earth *across* the **dome** of the sky.
REB	...and let birds fly above the earth *across* the **vault** of the heavens.
RSV	...and let birds fly above the earth *across* the **firmament** of the heavens.
Schocken	...and let fowl fly above the earth, *across* the **dome** of the heavens!

Tanakh ...and birds that fly above the earth *across* the **expanse** of the sky.

TNIV ...and let birds fly above the earth *across* the **vault** of the sky.

YLT ...and fowl let fly on the earth *on* the face of the **expanse** of the heavens.

English translations of *rāqîaʿ* in Gen 1.20 that denote a modern worldview:

Amp ...let birds fly over the earth *in* the open **expanse** of the heavens.

ASV ...let birds fly over the earth *in* the open **expanse** of the heavens.

CEV ...and I command birds to fly above the earth. (does not translate *ʿal-pənê rāqîaʿ haššāmāyim*).

Darby ...and let fowl fly above the earth *in* the **expanse** of the heavens.

EXB ...and let birds fly *in* the **air** [firmament, dome, expanse] above the earth.

EEB And birds will appear and fly *in* the **sky**, above the earth.

ERB And let there be birds to fly *in* the **air** over the earth.

EVD And let there be birds to fly *in* the **air** over the earth.

Fenton ...and let birds fly *in* the **expanse** of the skies above the Earth.

GW ...and let birds fly *through* the **sky** over the earth.

KJV ...and fowl [that] may fly above the earth *in* the **open firmament** of heaven.

LB ...and let the **skies** *be filled* with birds of every kind.

Message Birds, fly *through* the **sky** over Earth!

NASV ...and let birds fly above the earth *in* the **open expanse** of the heavens.

NCV ...and let birds fly *in* the **air** above the earth.

NIRV Let birds fly above the earth *across* the **huge space** of the sky.

NLT Let the **skies** *be filled* with birds of every kind.

NLV Let birds fly above the earth *in* the **open space** of the heavens.

Remix Birds, fly *through* the **sky** over Earth!

TEV ...and let the **air** *be filled* with birds.

TfT ...and I also want birds to fly *in* the **sky** above the earth.

WEB ...and let birds fly above the earth *in* the **open expanse** of sky.

7.6. *mabbûl* 'waters above'

In section 6.6 we presented biblical evidence that *hammayim ʾăšer mēʿal lārāqîaʿ* 'the waters above the firmament' created in Gen 1.6–7 refers to the fresh water that the ancient Hebrews believed God kept stored in heaven to provide rain as a blessing but could also use as the *mabbûl* of judgment. In Psa 148.4 these "waters above the heavens" are addressed directly and called upon to give praise to God. They are regarded as an integral part of heaven along with the angels and the sun, moon and stars. The apocryphal *Song of the Three* suggests this was still Hebrew belief up to NT times. Part of this belief included the idea that this water in heaven could be released through *ărubbōṯ haššāmayim* 'windows, sluicegates of heaven' to provide blessing (2 Kgs 7.2) or judgment (Gen 7.11).

We also noted that most biblical exegetes and commentators believe that the *hammayim ʾăšer mēʿal lārāqîaʿ* created in Gen 1.6–7 refers to the atmospheric moisture found in clouds. However, we presented biblical evidence that the OT writers regarded the waters above the heavens and the clouds to be distinct

and separate entities. More specifically, the heavenly waters are understood to be above the *rāqîaʿ* and the clouds to be below it.

We also looked at the suggestion by Morris (1976) that *hammayim ʾăšer mēʿal lārāqîaʿ* in Gen 1.6–7 denotes a water vapour canopy above the earth's atmosphere that was precipitated and emptied at the time of the biblical flood (Gen 7.11–8.2). We argued that this denotation cannot be correct on biblical and scientific grounds. Firstly, the Scriptures view the waters above as (i) created in the beginning, (ii) integral to the proper functioning of the cosmos, (iii) the foundation of heaven, (iv) can be used by God to bless or withhold blessing, and (v) can be used by God as the *mabbûl* of judgment. Secondly, atmospheric physics would not allow such a water vapour canopy to exist. Also this moisture above is called *mayim* 'waters' wherever it is referred to and not *ʾēḏ* 'mist' (Gen 2.6; Job 36.27).

We also noted that some biblical exegetes and commentators believe that *hammayim ʾăšer mēʿal lārāqîaʿ* denotes a large body of water above the firmament. This would agree with the biblical worldview. Most English translations of Gen 1.6–8 follow the form of the Hebrew Masoretic Text (MT) fairly closely and the ESV is a typical example of this kind of translation:

> ESV Gen 1.6–8: [6] And God said, "Let there be an expanse (*rāqîaʿ*) in the midst of the waters (*mayim*), and let it separate the waters (*mayim*) from the waters (*mayim*)." [7] And God made the expanse (*rāqîaʿ*) and separated the waters (*mayim*) that were under the expanse (*rāqîaʿ*) from the waters (*mayim*) that were above the expanse. And it was so. [8] And God called the expanse (*rāqîaʿ*) Heaven. And there was evening and there was morning, the second day.

The literal nature of this translation is shown in how *mayim* is translated. *Mayim* is a plural form but means 'water' rather than 'waters' (see VanGemeren, Vol 2:929). "Waters" is a literal translation of the Hebrew form. Nevertheless, this translation and the others like it allow for a cosmological interpretation that follows a biblical perspective. A number of versions translate some or all of the *mayim* in Gen 1.6–8 as *water*. This includes the NAB, NEB, TEV, NIV, REV, NCV, GW, CEV, TNIV, EVD, Tanakh, ERB, EXB, and Message/Remix. These versions also allow for a biblical interpretation of *hammayim ʾăšer mēʿal lārāqîaʿ*. The LB, on the other hand, excludes this interpretation by how it translates *mayim* in Gen 1.6–8. In Gen 1.6 *mayim* is translated variously as *vapors*, *sky*, and *oceans*, and in 1.7–8 as *vapor* and *water*. *Vapor(s)* clearly denotes the water vapour canopy suggested by Morris (1976). The *sky above* presumably denotes the clouds, and *oceans* denotes the oceans. Thus the LB translation denotes a cosmic geography from a modern perspective. The water vapour canopy is a modern idea proposed by Whitcomb and Morris (1961).

> LB Gen 1.6–8: [6] And God said, "Let the vapors (*mayim*) separate (*rāqîaʿ*) to form the sky (*mayim*) above and the oceans (*mayim*) below." [7,8] So God made the sky (*rāqîaʿ*), dividing the vapor (*mayim*) above from the water (*mayim*) below. This all happened on the second day.

A number of translations denote a modern worldview interpretation of *hammayim ʾăšer mēʿal lārāqîaʿ* by translating *rāqîaʿ* in Gen 1.6 as *space* or *air*. This applies to NIRV, NCV, EEB, EVD, NLT, and ERB.

There is another point of interest in how different English versions translate Gen 1.6–8. In the MT *wayəhî-ḵēn* 'and it was so' occurs at the end of Gen 1.7. In the LXX the translation of this sentence καὶ ἐγένετο οὕτως 'and it happened thus' occurs at the end of Gen 1.6. A number of English versions place the translation of *wayəhî-ḵēn* at the end of v. 6 following the LXX arrangement. This includes NAB, TEV, NJB, CEV, NLT, and TfT. In the MT *wayəhî-ḵēn* 'and it was so' occurs seven times in Gen 1.(3), 7, 9, 11, 15, 24, 30 if you count *wayəhî-ʾôr* 'and there was light' in Gen 1.3 as a representation of this refrain. Whereas the translational equivalent καὶ ἐγένετο οὕτως occurs seven times in the LXX in Gen 1.6, 9, 11, 15, 20, 24, 30 if you do *not* count καὶ ἐγένετο φῶς 'and there was light' in Gen 1.3 as a representation of this refrain. Also the expression καὶ ἐγένετο οὕτως 'and it was so', in Gen 1.6 in the LXX, occurs immediately after the command, "Let there be an expanse in the midst of the waters, and let it separate the waters from the waters," This follows the same placement pattern of the other occurrences of this refrain in Gen 1.6, 9, 11, 15, 20, 24, 30. Whereas the occurrence of *wayəhî-ḵēn* 'and it was so' in Gen 1.7 in the MT text is misplaced according to this pattern. Therefore the English translations that place the "and it was so" refrain at the end of v. 6 in effect "correct" the MT arrangement to follow the LXX arrangement. The NCV

omits this refrain from both v. 6 and v. 7. Are English translations of Gen 1.1–2.3 which accommodate the translation to a modern cosmological worldview effectively "correcting" the Hebrew text?

7.7. *təhôm rabbâ* 'waters below'

In section 6.6 we established that in the biblical cosmic geography the waters above the sky (*rāqîᵃʿ*) are called the *mabbûl* (Psa 29.10) and in section 6.7 we established that the waters below the earth are called the *təhôm* (Gen 49.25,;Deu 33.13). These represent the cosmic waters out of which the heavens and the earth were formed (Gen 1.6–8) and which flooded back into the world from above and below to destroy the ancient world (Gen 7.11). In the previous section we examined how English translations try to deal with the concept of the waters above the sky, the *mabbûl*. In this section we will examine how English translations try to deal with the concept of the waters below the earth, the *təhôm*. To do this we will look at how English translations deal with the bolded items in these three OT passages:

> Gen 1.10: wayyiqərāʾ [and-he.called] ʾĕlōhîm [Elohim] layyabbāšâ [to-dry] ʾereṣ [earth, land]
>
> 'God called the dry ground **earth**.'
>
> Gen 7.11: bayyôm [in-day] hazzeh [the-this] niḇəqəʿû [they.were.rent] kol-maʿyənōṯ [all.of-fountains.of] təhôm [deep] rabbâ [vast]
>
> 'On that day all the fountains of **the great deep** burst out.'
>
> Exo 20.4: lōʾ [not] ṯaʿăśeh-lə-ḵā [you.must.make-for-yourself] p̄esel [image] wəḵol-təmûnâ [and-all-form] ʾăšer [which] baššāmayim [in-heavens] mimmaʿal [from-above] waʾăšer [and-which] bāʾāreṣ [on-earth] mittāaḥaṯ [from-beneath] waʾăšer [and-which] bammayim [in-waters] mittaḥaṯ [from-below] lā'āreṣ [the-earth]
>
> 'You shall not make for yourself a carved image, or any likeness of anything that is in heaven above, or that is in the earth beneath, or that is in **the waters below the earth**.'

In section 6.7 we established that *ʾereṣ* in Gen 1.10 must refer to the whole earth and cannot refer to a portion of land, or the soil, or people of the land. COBUILD says the primary sense of *earth* is the planet on which we live and the second sense is the substance on the land surface of the earth. The primary meaning of *land* is an area of ground, especially one that is used for a particular purpose. Therefore the best translation of *ʾereṣ* in Gen 1.10 is 'earth'. The earliest English translations from Wycliffe (ca. 1395) to the KJV (1611) all translate *ʾereṣ* here as 'earth'. Most modern English translations also use 'earth'. However, Rotherham (1902), NIV (1978), CEV (1995), NET (1996), NIRV (1996), EEB (2001), Street (2003), NLT (2004), TNIV (2005) translate *ʾereṣ* with 'land' in Gen 1.10. The motivation for this may be to present *land* and *seas* as a meristic pairing of opposites which represents the domain over which mankind is given authority to rule in Gen 1.26. The note in the NET Bible against Gen 1.10 says: "Heb 'earth', but here the term refers to the dry ground as opposed to the sea."

However, translating *ʾereṣ* as 'land' makes it easier to conceptualise that the text in Gen 1.10 depicts land surrounded by seas from a modern perspective where we know the earth is not a flat disk floating on the waters of the *təhôm*. The NIV note against Gen 1.9 says that "one place" is a picturesque way of referring to the "seas" (v. 10) that surround the dry ground on all sides and into which the waters of the lakes and rivers flow. It is interesting to compare tables 1 and 2, below. Table 1 shows how these versions, which translate *ʾereṣ* with 'land' in Gen 1.10, translate *təhôm rabbâ* in Gen 7.11 and *mayim mittaḥaṯ lā'āreṣ* in Exo 20.4.

Table 1: How versions which translate *ʾereṣ* with 'land' in Gen 1.10 translate *təhôm rabbâ* in Gen 7.11 and *mayim mittaḥaṯ lā'āreṣ* in Exo 20.4.

	təhôm rabbâ in Gen 7.11	*mayim mittaḥaṯ lā'āreṣ* in Exo 20.4
Rotherham	the great roaring deep	in the waters, beneath the earth
NIV	all the springs of the great deep	in the waters below
CEV	the water under the earth	in the ocean under the earth

NET	all the fountains of the great deep	in the water below
NIRV	all of the springs at the bottom of the oceans	in the waters
EEB	all the water below the earth	in the water
Street	–	–
NLT	all the underground waters	in the sea
TNIV	all the springs of the great deep	in the waters below

Only Rotherham translates all of the Hebrew text in each case. The NIV translates *təhôm rabbâ* with *great deep* but in Exo 20.4 the NIV only has 'below' for *mittaḥaṯ lā'āreṣ*. The CEV under-translates in Gen 7.11 with 'water' and then over-translates in Exo 20.4 with "ocean under the earth." The NET, NIRV, EEB, NLT and TNIV all do not fully translate "below the earth." The NIRV interprets *təhôm rabbâ* as *springs at the bottom of the oceans* and the EEB and NLT interpret *təhôm rabbâ* as subterranean water of some kind.

It is also the case that some versions which translate *ʾereṣ* with 'earth' in Gen 1.10 vary in how they translate *təhôm rabbâ* in Gen 7.11 and *mayim mittaḥaṯ lā'āreṣ* in Exo 20.4. These variations are given in table 2.

Table 2: How versions which translate *ʾereṣ* with 'earth' in Gen 1.10 translate *təhôm rabbâ* in Gen 7.11 and *mayim mittaḥaṯ lā'āreṣ* in Exo 20.4.

	təhôm rabbâ in Gen 7.11	*mayim mittaḥaṯ lā'āreṣ* in Exo 20.4
Moffatt	the fountains of the great abyss all burst	in the sea
LB	the subterranean waters burst forth	fish
Remix	all the underground springs erupted	swim
NCV	the underground springs split open	in the water below the land
GW	all the deep springs burst open	in the water
EVD	all the springs under the ground split open	in the water
ERB	the springs under the earth broke through the ground	down in the water
EXB	the underground springs [fountains, springs of the deep] split [burst] open	in the water below the land [earth]
CEB	all the springs of the deep sea erupted	in the waters under the earth

Only the Moffatt version translates *təhôm rabbâ* in Gen 7.11 as *great abyss*. The rest translate *təhôm rabbâ* as underground or undersea waters of some kind. With respect to *mayim mittaḥaṯ lā'āreṣ* in Exo 20.4, only CEB translates this with *waters under the earth*. The NCV and EXB translate with *water below the land* which does not mean the same as *water(s) below the earth*. GW, EVD and ERB omit "below the earth" and Moffatt, LB and Remix identify this body of water with the sea.

All the translations we have illustrated, apart from *Rotherham's Emphasized Bible*, try to avoid denoting the waters below the earth in Gen 7.11 and Exo 20.4 as the biblical *təhôm*. For *təhôm rabbâ* in Gen 7.11 these versions denote some kind of subterranean waters (CEV, EEB, NLT, LB, Remix, NCV, GW, EVD, ERB, EXB) or waters under the seabed (NIRV, CEB). For *mayim mittaḥaṯ lā'āreṣ* in Exo 20.4, they denote the waters below the heavens, i.e., the seas (NIV, NET, NIRV, EEB, NLT, TNIV, Moffatt, LB, Remix, NCV, GW, EVD, ERB). Some translate this as subterranean water (CEV, NCV, EXB, CEB).

But there are incoherency problems with these denotations. If *təhôm rabbâ* in Gen 7.11 does not denote the biblical *təhôm* which provides blessings of fresh water (Gen 49.25; Deu 33.13) and functions as an instrument of judgment (Gen 7.11, 8.2–3), then what kind of water below the earth does it refer to? An

aquifer is an underground layer of water-bearing permeable rock or unconsolidated materials (gravel, sand, or silt) from which groundwater can be extracted using a water well. Large aquifers have been found in N. and S. America, Africa and Australia but the water in these aquifers has to be extracted by digging wells, etc. Nothing like the *təhôm rabbâ* described in Gen 7.11 exists in the world today nor is there any geological evidence that a massive body of underground water existed under the surface of the earth in the past.

In recent decades the geological evidence for plate tectonics[12] has grown strong and consequently most geological mechanisms proposed to account for the "fountains of the deep" in Gen 7.11, 8.2 involve the notion of "runaway subduction," i.e., the rapid movement of tectonic plates, in one form or another.[13] However, the hypothesis of catastrophic plate tectonics is considered pseudoscience and is rejected by the vast majority of geologists in favour of the conventional geological theory of plate tectonics. It has been argued that the tremendous release of energy necessitated by such an event would boil off the earth's oceans, making a global flood impossible. Not only does catastrophic plate tectonics lack any plausible geophysical mechanism by which its changes might occur, it also is contradicted by considerable geological evidence (which is in turn consistent with conventional plate tectonics), including:

- The fact that a number of volcanic oceanic island chains, such as the Hawaiian islands and the Galapagos islands, yield evidence of the ocean floor having moved over volcanic hot spots. These islands have widely ranging ages (determined via both radiometric dating and relative erosion) that contradict the catastrophic tectonic hypothesis of rapid development and thus a similar age.
- Radiometric dating and sedimentation rates on the ocean floor likewise contradict the hypothesis that it all came into existence nearly contemporaneously.
- Catastrophic tectonics does not allow sufficient time for guyots to have their peak eroded away (leaving these seamounts' characteristic flat tops).
- Runaway subduction does not explain the kind of continental collision illustrated by that of the Indian and Eurasian Plates.

Whereas conventional plate tectonics accounts for the geological evidence already, including innumerable details that catastrophic plate tectonics cannot, such as why there is gold in California, silver in Nevada, salt flats in Utah, and coal in Pennsylvania, without requiring any extraordinary or supernatural mechanisms to do so.

Therefore the translations that denote *təhôm rabbâ* as a large body of subterranean water within the earth are referring to something that does not exist either within a modern worldview or a biblical worldview. Such translations thus present an incoherent cosmological account from both a modern scientific perspective and a biblical perspective. In order to be consistent with a biblical cosmology we recommend that *ʾereṣ* in Gen 1.10 be translated as *earth*, *təhôm rabbâ* in Gen 7.11 be translated as *the great deep*, and *mayim mittaḥaṯ lāʾāreṣ* in Exo 20.4 be translated as *the waters below the earth*.

8. Conclusion

We have argued that the creation account in Gen 1.1–2.3 presents a conception of the cosmos as depicted in Figure 1. In this view the cosmos comprises the heavens above and the earth below. The heavens are a vaulted dome which joins the earth at the horizon. The earth itself is a flat circular disk which extends to the horizon in all directions. Above the vaulted dome are the cosmic waters of the *mabbûl* 'flood.' These are held in place by the *rāqîaʿ haššāmayim* 'firmament of heaven.' Below the earth are the cosmic waters of the *təhôm rabbâ* 'great deep.' Both of these bodies of water function to provide blessings or to bring judgment and are fundamental to the proper functioning of the cosmos. They are held in place by the

[12] Plate tectonics is a theory that explains the global distribution of geological phenomena such as seismicity, volcanism, continental drift, and mountain building in terms of the formation, destruction, movement, and interaction of the earth's lithospheric plates.
[13] See Austin, et. al. (1994), for example.

command of God. The earth is fixed and the sun and moon move across the sky. The light of day is independent of the sun. So it makes perfect sense in the biblical cosmological worldview for day and night to be created on day one before the sun and moon are created on day four. We also argued that other Scripture passages that provide a glimpse of biblical cosmology support this understanding of cosmic geography.

We showed that the biblical view of the world in Figure 1 is also largely concordant with the cosmologies of the civilisations of ancient Mesopotamia and ancient Egypt. The main point of difference between ANE cosmologies and the biblical cosmology is theological. In ANE cosmologies the world is created through the activities of multiple deities whereas the biblical account of creation only involves the one God, Elohim.

With respect to Bible translation, the UBS translators' handbook recommends that translators take into account the biblical cosmology in translation practice. We surveyed nearly 70 English translations of the Bible from the John Wycliffe translation (ca. 1395) to the Expanded Bible (2011) to see how they translated the biblical cosmology. All English translations up to the American Standard Version (1901) translated the Hebrew fairly literally into English, so they unavoidably depicted the cosmology that the Hebrew text depicted. Thus, for six centuries English translations of Gen 1.1–2.3 denoted a biblical cosmology. Even so, whereas the Douay-Rheims Bible (1610) translates Gen 1.20 as "and the fowl that may fly over the earth under the firmament of heaven," the KJV (1611) translates Gen 1.20 as, "and fowl (that) may fly above the earth in the open firmament of heaven." The KJV in this way tries to concord the translation with a modern worldview. The Hebrew actually says:

> MT Gen 1.20b: wəʿôp̄ [and-flyer] yəʿôp̄ēp̄ [he.will.fly] [over-the-earth] ʿal-pənê [on-faces.of] rāqîᵃʿ [firmament] haššāmāyim [the-heavens]
>
> 'and let the birds fly over the earth and across the surface of the firmament of heaven'

Therefore the translation "in the open firmament of heaven" is an interpretation in modern terms of what "across the surface of the firmament of heaven" means. But this translation obscures the biblical cosmology revealed in this verse.

Another English translation that tries to concord the creation account more purposely to a modern view is the Holy Bible in Modern English (1903) by Ferrar Fenton. The Fenton translation begins with: "By Periods God created that which produced the Solar Systems; then that which produced the Earth" (Gen 1.1), followed by "This was the close and the dawn of the first age." (Gen 1.3), "Let the Earth produce seed-bearing vegetation, as well as fruit trees according to their several species" (Gen 1.11) and "let birds fly in the expanse of the skies above the Earth" (Gen 1.20). The expressions *by periods* and *solar systems* in 1.1, *first age* in 1.3, *species* in 1.11 and *in the expanse of the skies* in 1.20 are translations designed to concord with a modern worldview.

However, in section 7.5 using the TEV as an example, we showed that a translation that tries to concord the denotation of a term such as *rāqîᵃʿ* in Gen 1.6–8, 14–19, 20 to a modern worldview by equating *rāqîᵃʿ* with the earth's atmosphere ends up rendering the creation account incoherent from a modern worldview. We also showed how incoherencies arose with other concepts in the biblical cosmology where the translation of a concept was in concordance with a modern cosmological view of this concept. The result is a creation account that is incoherent from a modern worldview perspective. In addition, the biblical worldview of the cosmos is obscured by the translation and cannot be recovered from the text. Such a translation, therefore, fails to present a coherent conceptualisation for either worldview, biblical or modern.

We therefore recommend that the translation should denote a biblical cosmology and not try to concord the text to a modern cosmological view via the translation. This task of interpretation should be left to the recipients of the translation.

Appendix: **Abbreviations**

Alter	Robert Alter: Genesis: Translation and Commentary (2004[1996])
Amp	Amplified Bible (1995)
ANE	ancient Near Eastern
ASV	American Standard Version (1901)
BBE	Bible in Basic English (1965)
BDB	Brown, Driver and Briggs
BCE	before common/Christian era
CE	common/Christian era
CEB	Common English Bible (2011)
CEV	Contemporary English Version (1995)
COBUILD	Collins COBUILD English Language Dictionary (1987)
Darby	Darby Bible (1890) translated by J. N. Darby
D	Deuteronomic source
DH	Documentary Hypothesis
E	Elohim source
EXB	Expanded Bible (2011)
EEB	EasyEnglish Bible Modern English (2001)
ERB	Easy to Read Bible (2006)
ESV	English Standard Version (2007, 2008)
EVD	English Version for the Deaf (2003)
Fenton	Holy Bible in Modern English (1903) by Ferrar Fenton
GW	God's Word for the Nations (1995)
J	Jahweh/Yahweh source
KJV	King James Version (1611)
Knox	Monsignor Ronald Knox Translation (1950)
LB	Living Bible (1971) by Kenneth Taylor
Lexham	Lexham English Bible (2011)
LXX	Septuagint Greek Old Testament
Message	The Message (2002) by Eugene H. Peterson
Moffatt	James Moffatt Bible (1924)
MT	Masoretic Text
NAB	New American Bible (1970)
NASV	New American Standard Version (1970)
NCV	New Century Version (1993)
NEB	New English Bible (1970)

NET	New English Translation (1996–2005)
NIRV	New International Reader's Version Bible (1996)
NIV	New International Version (1978)
NJB	New Jerusalem Bible (1994)
NJPSV	New Jewish Publication Society Version
NKJV	New King James Version (1982)
NLF	New Life Version (1969)
NLT	New Living Translation (1996, revised 2004)
NLV	New Life Version (Gideons) (1956)
NRSV	New Revised Standard Version (1989)
NT	New Testament
OT	Old Testament
P	Priestly source
REB	Revised English Bible (1989)
Remix	The Message Remix (2005)
Rotherham	Rotherham's Emphasized Bible (1902)
RSV	Revised Standard Version (1971)
RV	Revised Version (1885)
Schocken	Schocken Bible (1995) by Everett Fox
Street	The Street Bible (2003) by Rob Lacey
Tanakh	Tanakh Translation of Jewish Bible (2004)
TEV	Today’s English Version (1976)
TfT	A Translation for Translators (ongoing)
TNIV	Today’s New International Version (2005)
UBS	United Bible Societies
WEB	World English Bible (1997–ongoing)
YLT	Young’s Literal Translation (1887) by Robert Young

References

Aalen, Sverre. 1974. *ʾôr* [light]. In G. Johannes Botterweck, and Helmer Ringgren (eds.), *Theological dictionary of the Old Testament,* vol. 1, 147–166. Translated by John T. Willis. Grand Rapids: Eerdmans.

Achtemeier, Paul J., ed. 1996. *The HarperCollins Bible dictionary*. New York: HarperCollins.

Alter, Robert. 1997. *Genesis: Translation and commentary.* New York: Norton.

Augustine, Saint. 1982. *The literal meaning of Genesis.* Translated and annotated by John Hammond Taylor. New York: Paulist Press.

Austin, Steven A., John R. Baumgardner, D. Russell Humphreys, Andrew A. Snelling, Larry Vardiman, and Kurt P. Wise. 1994. Catastrophic plate tectonics: A global flood model of earth history. In R. E. Walsh (ed.), *Proceedings of the Third International Conference on Creationism*, 609–621. Pittsburgh, Penn.: Creation Science Fellowship.

Baker, Warren, ed. 1994. *The complete word study Old Testament.* Chattanooga: AMG Publishers.

Bard, Kathryn A., ed. 1999. *Encyclopedia of the archaeology of ancient Egypt.* London: Routledge.

Brown, Francis, S. R. Driver, and Charles A. Briggs. (1906) 2010. *The Brown-Driver-Briggs Hebrew and English lexicon.* Peabody, Mass.: Hendrickson.

Brown, Walt. 2008. In the beginning: Compelling evidence for creation and the flood. Phoenix: Center for Scientific Creation. Accessed 13 May 2013. www.creationscience.com/onlinebook/FAQ33.html.

Brown, William P. 2000. *Creatio ex nihilo.* In David Noel Freedman (ed.), *The Eerdmans dictionary of the Bible*, 293. Grand Rapids: Eerdmans.

Brown, William P. 2000. Light. In David Noel Freedman (ed.), *The Eerdmans dictionary of the Bible,* 293. Grand Rapids: Eerdmans.

Browning, W. R. F. 1996. *Dictionary of the Bible*. Oxford: Oxford University Press.

Buttrick, George Arthur, ed. 1962. *The interpreter's dictionary of the Bible.* New York: Abingdon Press.

Calvin, John. (1847) 2007. C*alvin's Bible commentaries: Genesis, Part I.* Forgotten Books.

Carrigan, Jr., Henry L. 2000. Deep. In David Noel Freedman (ed.), *The Eerdmans Dictionary of the Bible,* 335. Grand Rapids: Eerdmans.

Cassuto, Umberto. 1961. *A commentary on the book of Genesis. Part 1, From Adam to Noah, Genesis I–VI.* Translated from the Hebrew by Israel Abrahams. Jerusalem: Magnes Press.

Cassuto, Umberto. 2006. *The documentary hypothesis and the composition of the Pentateuch.* Jerusalem: Shalem Press.

Collins, John C. 2006. *Genesis 1–4. A linguistic, literary and theological commentary.* Phillipsburg, N.J.: P&R Publishing.

Collins COBUILD English language dictionary. 1987. London: Collins.

Davis, Craig. 2007. *Dating the Old Testament.* New York: RJ Communications.

Freedman, David Noel, ed. 1992. *The Anchor Bible dictionary*. New York: Doubleday.

Freedman, David Noel, Allen C. Myers, and Astrid B. Beck, eds. 2000. *The Eerdmans dictionary of the Bible*. Grand Rapids: Eerdmans.

Gill, John. 1748–1763. *Exposition of the Old Testament.* 6 vols. Accessed 28 August 2013. www.biblestudytools.com/commentaries/gills-exposition-of-the-bible.

Hamilton, Victor P. 1990. *The new international commentary on the Old Testament. The book of Genesis.* Grand Rapids: Eerdmans.

Harris, R. Laird, Gleason Leonard Archer, and Bruce K. Waltke, eds. (1980) 1999. *Theological wordbook of the Old Testament.* (Electronic edition: Translator's Workplace, Version 5). Chicago: Moody Press.

Heidel, Alexander. (1951) 1963. *The Babylonian genesis.* Second edition. Chicago: University of Chicago Press.

Henry, Matthew. 1960. *Matthew Henry's commentary on the whole Bible.* London: Marshall, Morgan & Scott.

Hoad, T. F., ed. 1986. *The concise Oxford dictionary of English etymology.* Oxford: Clarendon Press.

Hoffmeier, James K. 1983. Some thoughts on Genesis 1 and 2 and Egyptian cosmology. *Journal of the Ancient Near Eastern Society* 15:39–49.

Horowitz, Wayne. 2011. *Mesopotamian cosmic geography.* Winona Lake, Ind.: Eisenbrauns.

Jenney, Timothy P. 2000. Water in cosmology. In David Noel Freedman (ed.), *The Eerdmans dictionary of the Bible*, 1367. Grand Rapids: Eerdmans.

Keel, Othmar. 1997. *The symbolism of the biblical world.* Winona Lake, Ind.: Eisenbrauns.

Keil, Carl Friedrich, and Franz Delitzsch. (1866–1891)1986. *Commentary on the Old Testament in ten volumes.* Vol. 1. *The Pentateuch.* Translated from the German. Grand Rapids: Eerdmans.

Kidner, Derek. 1967. *Genesis. An introduction and commentary.* London: Tyndale Press.

Kirk-Duggan, Cheryl A. 2000. Heaven. In David Noel Freedman (ed.), *The Eerdmans dictionary of the Bible*, 563. Grand Rapids: Eerdmans.

Klein, Ernest. 1987. *A comprehensive etymological dictionary of the Hebrew language for readers of English.* Jerusalem: CARTA.

Lawrence, Paul. 2006. *The Lion atlas of Bible history.* Oxford: Lion Hudson.

Lawrence, Paul. 2011. *The books of Moses revisited.* Eugene, Oreg.: Wipf & Stock.

Leupold, H. C. 1942. *Exposition of Genesis.* London: Evangelical Press.

Morris, Henry M. 1976. *The Genesis record. A scientific and devotional commentary on the book of beginnings.* Grand Rapids: Baker Book House.

Myers, Allen C., John W. Simpson, Jr., Philip A. Frank, Timothy P. Jenney, and Ralph W. Vunderink, eds. 1987. *The Eerdmans Bible dictionary*. Grand Rapids: Eerdmans.

Niccacci, Alviero. 1994. Analysis of biblical narrative. In Robert D. Bergen (ed.), *Biblical Hebrew and discourse linguistics*, 175–197. Dallas: Summer Institute of Linguistics.

Reyburn, William D., and Euan McG. Fry. 1998. *A handbook on Genesis.* New York: United Bible Societies.

Rush, D. E., and Larry Vardiman. 1990. Pre-flood vapour canopy radiative temperature profiles. In Robert E. Walsh and Chris L. Brooks (eds.), *Proceedings of the Second International Conference on Creationism. Volume II: Technical Symposium Sessions and Additional Topics*, 231–245. Pittsburgh: Creation Science Fellowship.

Ryken, Leland, James C. Wilhoit, and Tremper Longman III. 1998. *Dictionary of Biblical imagery.* Downers Grove, Ill.: IVP Academic.

Sarna, Nahum M. 1989. *The JPS Torah commentary. Genesis.* Philadelphia: The Jewish Publication Society.

Seely, Paul H. 1991. The firmament and the waters above. *The Westminster Theological Journal* 53:227–240.

Shetter, Tony L. 2005. Genesis 1–2 in light of ancient Egyptian creation myths. Paper presented at the second annual Student Academic Conference, Dallas Theological Seminary, April 18, 2005.

Spencer, John R. 2000. Abyss. In David Noel Freedman (ed.), *The Eerdmans dictionary of the Bible*,11–12. Grand Rapids: Eerdmans.

Stadelmann, Luis I. J. 1970. The Hebrew conception of the world: A philological and literary study. Rome: Pontifical Biblical Institute.

Stuhlmueller, Carroll, ed. 1996. *The Collegeville pastoral dictionary of biblical theology*. Collegeville, Minn.: The Liturgical Press.

The BBI combinatory dictionary of English. 1986. Amsterdam: John Benjamins.

The Douay-Rheims Version of the Bible. (1610) 2013. Online: Catholic First. Accessed 30 August 2013. www.catholicfirst.com/bibledrv.html.

The ESV study Bible. 2007. Wheaton: Crossway Bibles.

The Geneva study Bible. (1587) 2013. Online: Bible Study Tools. Accessed 28 August 2013. www.biblestudytools.com/commentaries/geneva-study-bible.

The illustrated Bible dictionary, Part 1. 1980. Sydney and Auckland: InterVarsity Press.

The Jewish study Bible. 2004. Oxford University Press.

The NET Bible. 1996–2005. Online: Biblical Studies Press, L. L. C. Accessed 29 August. https://bible.org/netbible.

The New Jerusalem Bible. Study edition. 1994. London: Darton, Longman & Todd.

The NIV study Bible. 1984. London: Hodder and Stoughton.

Tucker, Jr., W. Dennis. 2000. Firmament. In David Noel Freedman (ed.), *The Eerdmans dictionary of the Bible*, 461–462. Grand Rapids: Eerdmans.

VanGemeren, Willem A., ed. 1997. *New international dictionary of Old Testament theology and exegesis.* 5 vols. Carlisle: Paternoster.

Vardiman, Larry. 2003. Temperature profiles for an optimised water vapour canopy. In Robert L. Ivey (ed.), *Proceedings of the Fifth International Conference on Creationism*, 29–39. Pittsburgh: Creation Science Fellowship.

Vardiman, Larry., and Karen Bousselot. 1998. Sensitivity studies on vapour canopy temperature profiles. In Robert E. Walsh (ed.), *Proceedings of the Fourth International Conference on Creationism*, 607–618. Pittsburgh: Creation Science Fellowship.

Walton, John H., Victor H. Matthews, and Mark W. Chavalas, eds. 2000. *The IVP Bible background commentary.* Downers Grove: InterVarsity Press.

Wenham, Gordon J. 1987. *Word biblical commentary. Volume 1. Genesis 1–15.* Waco, Tex.: Word Books.

Whitcomb, John C., and Henry M. Morris. 1961. *The Genesis flood.* London: Evangelical Press.

Wyatt, Nicolas. 2001. *Space and time in the religious life of the Near East.* Sheffield: Sheffield Academic Press.