

THE DATE OF THE TOWER OF BABEL AND SOME THEOLOGICAL IMPLICATIONS

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If we assume that the story in Gen 11:1-9 is accurately describing an actual historical event, that the account is what we might call "VCR history," the narrative gives us five facts which enable us to date the event. One, the event took place in Shinar, at Babylon in particular (vv. 2, 9). Two, the event involved the building of a city with a tower (vv. 4, 5). Three, the tower was constructed of baked brick (v. 3). Four, the mortar used was asphalt (v. 3). Five, the tower was very probably a ziggurat (v. 4; see discussion below).

When we employ these five facts to date the building of the tower of Babel, we discover from archaeological data that the event occurs too late in history to be the origin of all languages on earth. Scientifically enlightened concordism has attempted to solve this problem through a reinterpretation of the biblical data, and creation science through a reinterpretation of the scientific data; but, these reinterpretations are merely plausible and are able to endure only by setting aside the weighty evidence which supports consensual scholarship. A better solution can be derived from Calvin's understanding of divine accommodation.

I. The Location of Shinar and Its Relevance for Dating the Tower of Babel

Although there is a question whether or not the word Shinar is related to the word *Sumer*,¹ there is no question that the land of Shinar is distinguished from the land of Assyria, that is, northern Mesopotamia (Isa 11: 11). Further, it is evident that the land of Shinar covers the southern half of Mesopotamia (Gen 10:10). The land of Shinar is the land between the Tigris and the Euphrates that lies south of modern Baghdad.²

Archaeological excavations in the land of Shinar indicate that although prior to the sixth millennium B.C. there may have been small villages equivalent to those of modern-day Marsh Arabs in the southernmost reaches of the land, Shinar was fundamentally uninhabited before about 6000 B.C.³ In the southern

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¹ James R. Davilla, "Shinar" *ABD* 5:1220; Jerrold S. Cooper, "Sumer," *ABD* 6:233.

² Davilla, "Shinar," *ABD* 5:1220.

³ Hans J. Nissen, "Mesopotamia," *OEANE* 3:476-77, especially the subsection "Eridu and Hajji Mohammed"; Piotr Michalowski, "Sumerians," *OEANE* 5:96; Harriet Crawford, *Sumer and the Sumerians* (Cambridge: Cambridge University Press, 1991), 31.

area of Shinar, the cities of Ur, Eridu, and Oueili "seem to be uninhabited before about 5600 to 5000 B.C."⁴

In the northern part of the land of Shinar, which is more relevant to our study because Babylon is located there,⁵ the cities seem to have been founded later than those in the southern part.⁶ Ras al-Amiya, c. 12 miles northeast of Babylon, dates from c. 4750 B.C.⁷ Tell Uqair, about 25 miles from Babylon, rests on virgin soil carbon-dated to about 4500.⁸ At Jemdet Nasr, about 25 miles northeast of Babylon, occupation begins around 4000 B.C.⁹ Kish, c. 9 miles east of Babylon, also has no remains earlier than 4000 B.C. The lowest levels of Babylon lie below the water table, but its origins have been variously estimated as being from 4000 to 3000 B.C.

For reasons we will discuss below, it is doubtful that any archaeologist would date the tower of Babel before c. 3500 B.C.; but since northern Shinar, where Babel is located, was not settled before c. 5000 B.C., one certainly cannot push the events of Gen 11:1-9 back into history earlier than that if one takes the mention of the land of Shinar and of the city of Babylon seriously

II. *Urbanism and Monumental Architecture Date the Tower*

Prior to c. 3500 B.C., before the end of the Ubaid culture and the beginning of the Uruk culture, the "cities" in Mesopotamia were just scattered settlements with no monumental architecture. In a few places there is development toward urbanism in the fifth millennium, but the clear rise of urban civilizations with monumental buildings occurs c. 3500 B.C.¹⁰

The tenor of the story in Gen 11: 1 with its social determination to make a name, its strong desire for security, its building of a city, its use of baked bricks,¹¹ and especially its building of a ziggurat (discussed in more depth below) all point to urbanism with monumental architecture as opposed to a mere settlement. This suggests that these events do not significantly antedate 3500 B.C.

⁴ Jean-Louis Huot, "Ubaidian villages of lower Mesopotamia," in *Upon This Foundation--The Ubaid Reconsidered* (ed. Elizabeth Henrickson and Ingolf Thuesen; University of Copenhagen: Museum Tusulanum Press, 1989), 23.

⁵ The word *Babel* is used nearly 300 times in the OT and usually refers to the city of Babylon, although the country of Babylonia is sometimes the referent. In Gen 11:8, 9 it is clearly identified as a city (in the land of Shinar); and there is no archaeological doubt about the location of this city.

⁶ Marc Van De Mieroop, *The Ancient Mesopotamian City* (Oxford: Oxford University Press, 1999), 29.

⁷ David Stronach, "Excavations at Ras al Amiya," *Iraq* 23 (1961): 121.

⁸ Olivier Aurenche, Jacques Evin, and Francis Hours, eds., *Chronologies du Proche Orient: Chronologies in the Near East: Relative chronologies and absolute chronology 16, 000- 4000 B. P.:* C.N.R.S. International Symposium, Lyon, France (BAR International Series 379; Oxford: 1987), 506.

⁹ R. J. Matthews, "Jemdet Nasr," *OEANE* 3:212.

¹⁰ Nissen, "Mesopotamia," *OEANE* 3:478; Hans J. Nissen, *The Early History of the Ancient Near East--9000-2000 B.C.* (Chicago: University of Chicago Press, 1988), 56--59; Jean-Louis Huot, "The First Farmers at Oueili," *BA* 55 (1992), 188, 190. Cf. Seton Lloyd, *Ancient Architecture* (New York: Rizzoli, 1986), 12-13.

¹¹ Cf. R. J. Forbes, *Studies in Ancient Technology* (2nd ed.; Leiden: Brill, 1964), 1:67-68.

III. *The Use of Baked Brick with Bitumen for Mortar Dates the Tower of Babel*

We can derive a more sure indication of the earliest date for the building of the tower of Babel from the fact that the builders used baked bricks extensively (v. 3 almost implies exclusively) as a building material. Baked bricks were very expensive in Mesopotamia because fuel was so scarce, and their use shows how committed the builders were to making a luxurious and impressive building. This points to the age of urbanism; but the testimony of the baked bricks is even more specific. For we know when baked bricks first appear in the archaeological record of the ancient Near East as building materials.

Nor are we arguing from silence. There are hundreds of archaeological sites in the ancient Near East which have architectural remains. A number of them display layer after layer of architectural remains covering many centuries or even millennia. These architectural remains date from the beginnings of architecture in the ninth millennium down through the entire OT period and even later. Further, baked brick is virtually indestructible; so it would almost certainly be found if it were present.¹²

The ancient Near Eastern archaeological data regarding building materials used in the ancient Near East is so abundant and clear that every modern scholar writing about the history of architecture in the Near East comes to the same conclusion: although unbaked brick was extensively used for architecture from c. 8500 B.C. to Christian times, baked brick, though used occasionally for such things as drains or walkways, did not make an architectural appearance until c. 3500 B.C. and it was rarely used in architecture until c. 3100 B.C.¹³ Whether viewed in terms of breadth as at Chatal Huyuk with its dozens of unearthened buildings¹⁴ or in terms of depth as at Eridu with its eighteen successive building levels from c. 5000 to c. 2100 B.C., the archaeological data from the Near East universally testify that prior to c. 3100 B.C. the bricks used in architecture were unbaked. Indeed, Jacquetta Hawkes indicates in her archaeological survey that baked brick was not used for architecture anywhere in the entire world until c. 3000 B.C.¹⁵ The use of baked brick in the tower of Babel indicates very clearly, therefore, that it was not built before c. 3500 to 3000 B.C.

The use of bitumen (asphalt) for mortar also gives clear evidence of the earliest date to which we can ascribe the events of Gen 11:1-9. Since there are extensive remains of brick buildings in the sites of the ancient Near East and

¹² Edward Chiera, *They Wrote on Clay* (Chicago: University of Chicago Press, 1938), 6-7.

¹³ Jack Finegan, *Archaeological History of the Ancient Middle East* (Boulder, Co.: Westview, 1977), 8; Armas Salonen, *Die Ziegeleien im Allen Mesopotamien* (Helsinki: Suomalainen Tiedeakatemia, 1972), 7; Charles Singer, *The History of Technology* (Oxford: Clarendon, 1954), 1:462; Lloyd, *Ancient Architecture*, 9-13; Pinhas Delougaz and Seton Lloyd, *Pre-Sargonid Temples in the Diyala Region* (Chicago: University of Chicago Press, 1942), 46, 121.

¹⁴ James Mellaart estimates that Chatal Huyuk had more than 1000 houses. There are also fourteen continuous successive building levels at Chatal Huyuk dating between 7100 and 6300 B.C. (James Mellaart, *The Archaeology of Ancient Turkey* [Totowa, NJ.: Rowman & Littlefield, 1978], 13, 140).

¹⁵ Jacquetta Hawkes, *The Atlas of Early Man* (New York: St. Martin's, 1976), 50, 76.

bituminous mortar is nearly as indestructible as baked brick,¹⁶ it is easy to ascertain when bitumen began to be used as mortar for bricks. The evidence from thousands of bricks shows that bitumen was not used as a mortar for brick until baked brick appeared. Until c. 3500 to 3000 B.C., if mortar was used, it was gypsum or just mud. It is quite clear that bitumen was not used as mortar for brick buildings until the proto-historical period, that is c. 3500 to 3000 B.C.¹⁷

IV. *The Tower of Babel as a Ziggurat and Its Implications for Dating the Tower*

Gen 11:4 tells us that the settlers in Sumer decided to build "a city and a tower." The word used for tower is מגדל (*migdal*). Since this word is often used in the OT for a watchtower or a defensive tower (e.g., Judg 9:45, 51; 2 Kgs 9:17; 17:9; Isa 5:2) and nowhere else refers to a ziggurat, what reason is there to believe that in Gen 11:4 it refers to a ziggurat? The first reason is that the setting is in Babylonia where the ziggurat was the most prominent structure in a city—both visually and ideologically.¹⁸ Secondly, the tower in our text was designed to bring fame and glory to the builders ("so that we may make a name for ourselves"). Mesopotamian kings often took pride in building ziggurats, but no such pride was taken in defensive towers which were simply parts of the city wall. The use of baked brick and bitumen also tells us that the *migdal* in our text was a ziggurat rather than a defensive tower, for baked brick and bitumen were very expensive in Mesopotamia and hence were saved for luxurious architecture like palaces, temples, and ziggurats.¹⁹

It is also telling that in our text the making of the baked bricks is specifically mentioned first (v. 3) and after that the building of the city and tower (v. 4). This is exactly the way the building of the temple and ziggurat of Babylon are described in Enuma Elish (6.50-70) as well as in the account of Nabopolassar in Neo-Babylonian times.²⁰ In addition, Nabopolassar is told to make the foundation of Babylon's ziggurat "secure in the bosom of the nether world, and make its summit like the heavens" just as our text describes the tower as having "its head in the heavens." Indeed it is typical of the descriptions of Mesopotamian ziggurats that they have their heads in the heavens. Thus King Samsuiluna is said to have made "the head of his ziggurat ... as high as the heavens." The top of Hammurabi's ziggurat was said to be "lofty in the heavens." And Esarhaddon, speaking of the ziggurat he built, says, "to the heavens I raised its head."²¹

¹⁶ Forbes, *Studies*, 1:69.

¹⁷ Maurice Dumas, ed., *A History of Technology and Invention: Progress through the Ages* (New York: Crown, 1969), 1:117. So also Bertrand Gille, *The History of Techniques* (New York: Gordon & Breach, 1986), 1:211. Cf. Forbes, *Studies*, 1:71-72.

¹⁸ Elizabeth C. Stone, "The Development of Cities in Ancient Mesopotamia," *CANE* 1:236, 238.

¹⁹ Singer, *A History of Technology*, 1:254-55; Forbes, *Studies*, 1:68.

²⁰ So strong is the parallel with Enuma Elish that E. A. Speiser thought Gen 11:1-9 was a response to Enuma Elish. Andre Parrot, *The Tower of Babel* (London: SCM, 1955), 19.

²¹ John H. Walton, *The Tower of Babel* (Ph.D. diss., Hebrew Union College, 1981), 44-45.

As for the use of the word *migdal*, one wonders what other choice the Hebrews had for a word to refer to a ziggurat? Since they had no ziggurats in their culture, they would either have to borrow a word or use the closest word they could find in their own language. As Walton has pointed out, the word *migdal* is not inaccurate and has a similar etymology to *ziggurat*, being derived from *gedal* (to be large), while *ziggurat* is derived from the Akkadian word *zaqaru* (to be high).²² It is also noteworthy that when Herodotus (1:181-183) needed a word to describe the eight levels of the ziggurat he saw in Babylon, he chose *πύργος*, which is the Greek word most commonly used for defensive towers.

There is very good reason then to believe that the tower in our text refers to a ziggurat and not just to a defensive tower. The vast majority of scholars agree that a ziggurat is intended. We need to ask, therefore, when did ziggurats first appear in Babylonia? The answer is, during the period of Uruk 5 and 4, that is, the protohistoric period, 3500 to 3000 B.C.²³

We see then that the archaeological facts coalesce around the dates 3500 to 3000 B.C. The building of a city not just a settlement, the use of baked brick, the use of bitumen for mortar and the fact that a ziggurat is being built all dovetail in date. This remarkable agreement makes it highly probable that the earliest date to which we can ascribe the tower of Babel as described in Gen 11:1-9 is c. 3500 to 3000 B.C. But, what is the latest date to which we can ascribe its building? There is a text saying that Sharkalisharri restored the temple-tower at Babylon c. 2250 B.C., and another text indicates that Sargon I destroyed Babylon c. 2350 B.C.²⁴ This suggests that there was a city established at Babylon before 2350 B.C.; so, allowing a modest 50 years of city history, we can set 2400 B.C. as the *terminus ante quem* for the first ziggurat built in Babylon.²⁵ We can thus date the building of the tower of Babel sometime between 3500 and 2400 B.C.

V. *The Meaning of Gen 11:1*

In Gen 11:1 we read that "All the earth had one language and common words." The Hebrew literally says they had one "lip" and one "words." Parallel passages show that this simply means that everyone on earth spoke and could understand the grammar (Isa 19:18) and words (Ezek 3:5, 6) of everyone else. That is, all the earth spoke one and the same language.

The church, both Jewish and Christian, has historically understood this to mean that everyone on the entire earth spoke the same language. *Gen. Rab.* says,

²² John Walton, "The Mesopotamian Background of the Tower of Babel Account and Its Implications," *BBR* 5 (1995), 156.

²³ H. W F Saggs, *The Greatness that Was Babylon* (New York: New American, 1962), 45; CAH3 1:1:226, 228; Harriet Crawford, *The Architecture of Iraq in the Third Millennium BC* (Copenhagen: Akademisk Forlag, 1977), 27; Singer, *History*, 1:461. Some today would place the beginning of Uruk 5 at 3600 B.C.

²⁴ CAH3 1:1:219; Evelyn Klengel-Brandt, "Babylon," *OEANE* 1:254.

²⁵ Ziggurats began as elevated temples and did not become "true ziggurats" until c. 2100 B.c., after which they continued to be built or at least rebuilt until the fall of Babylon in the sixth century B.C.

"all the nations of the world." *Sib. Or.* 3:105 says, "the whole earth of humans." Chrysostom said, "all mankind."²⁶ Augustine said, "the whole human race."²⁷ Calvin said, "the human race."²⁸ Luther, "the entire earth ... all the people."²⁹ John Gill, "the inhabitants of the whole earth."³⁰ Adam Clarke, "All mankind."³¹ Even after scientific data made such a history of language doubtful, nearly all commentators both liberal and conservative have continued to recognize that, nevertheless, this is what the biblical text says. Westermann says, "humankind ... the whole world."³² Sarna, "mankind."³³ Cassuto says, "all the inhabitants of the earth."³⁴ Keil and Delitzsch, "the whole human race."³⁵ Mathews, "mankind."³⁶ Wenham says, "all the inhabitants of the world ... mankind."³⁷ Leupold says, "the whole human race."³⁸

Although some commentators thought that mankind had already begun to disperse or that those building the tower of Babel were just Nimrod and his followers or just the descendants of Ham, there has been universal agreement from the beginning right up to the present that Gen 11:1 means that every human being on earth was speaking the same language until God "confused the language" at the tower of Babel.

A handful of evangelical scholars, however, have apparently felt pressured by the fact that taken at face value the story conflicts, as we shall see more clearly later, with the archaeological evidence that not every human being on earth was speaking the same language at the time of the building of the tower of Babel. They have accordingly sought to adjust the story by suggesting that Gen 11:1 only refers to a small part of mankind speaking the same language, probably the Sumerians speaking Sumerian. They construe the words "all the earth" in 11:1 as a reference simply to Mesopotamia or even just southern Mesopotamia.³⁹

²⁶ St. John Chrysostom, "Homily 30," in *Homilies on Genesis 18-45* (trans. Robert C. Hill; Washington, DC: Catholic University of America Press, 1990), 222.

²⁷ Augustine, *City of God*, 16. 10. 11 (NPNF² 2:316-17).

²⁸ John Calvin, *Commentaries on the First Book of Moses Called Genesis* (Grand Rapids: Eerdmans, 1948), 1:332.

²⁹ Martin Luther, *Works* (St. Louis: Concordia, 1960), 2:210.

³⁰ John Gill, *Gill's Commentary* (Grand Rapids: Baker, 1852-54, repr., 1980), 1:68.

³¹ Adam Clarke, *The Holy Bible containing the Old and New Testaments... with a commentary and critical notes ...* (New York: Abingdon, c. 1860), 1:88.

³² Claus Westermann, *Genesis 1-11* (Minneapolis: Augsburg, 1976), 542.

³³ Nahum M. Sarna, *Understanding Genesis* (New York: Schocken, 1970), 69.

³⁴ Umberto Cassuto, *A Commentary on the Book of Genesis* (Jerusalem: Magnes, 1964), 2:239.

³⁵ C. F. Keil and F. Delitzsch, *Biblical Commentary on the Old Testament* (Grand Rapids: Eerdmans, 1949), 1:172.

³⁶ Kenneth A. Mathews, *Genesis 1-11:26* (Nashville: Broadman & Holman, 1996), 477.

³⁷ Gordon J. Wenham, *Genesis 1-15* (Waco, TX: Word, 1987), 238.

³⁸ H. C. Leupold, *Exposition of Genesis* (Grand Rapids: Baker, 1960), 382.

³⁹ So, David F. Payne, "Babel, Tower of," *ISBE* 1:382; Dale S. DeWitt, "The Historical Background of Genesis 11:1-9: Babel or Ur?" *JETS* 22 (1979): 17-18; Steve Reimer, "The Tower of Babel: An Archaeologically Informed Reinterpretation," *Direction* 25 (1996): 64-72; and as an optional interpretation Meredith Kline in *The New Bible Commentary* (ed. Donald Guthrie and J. A. Motyer; rev. ed.; Grand Rapids: Eerdmans, 1970), 91; D. E. Kidner, *Genesis* (Chicago: InterVarsity, 1967), 110.

Kidner and Kline suggest this "local" interpretation as an alternative possibility but give few supporting details. Reimer, Payne, and DeWitt each give supporting details and suggest that the event being described in Gen 11:7-9 is reflecting a cultural upheaval. Reimer sees the story of Gen 11:1-9 as reflecting the fall of the Uruk culture c. 3000 B.C.; and, the confusion of language is just a way of saying that diverse ethnic groups took over after the fall of the Uruk culture. Payne suggests that the upheaval was due to the influx of the Akkadians with their Semitic language into Sumer sometime around 3000 to 2500 B.C. The Akkadian language confused the Sumerian language and eventually displaced it. DeWitt suggests that the upheaval was due to the invading Elamites and Subarians in 1960 B.C. who put an end to the Sumerian civilization. These are interesting suggestions, but before we can accept a "local" interpretation of Gen 11:1-9, compelling exegetical reasons should be given for rejecting the historical interpretation of the church, especially since it appears that apart from this handful of concordists, all modern scholars agree with the historic interpretation. But, neither Kline nor Reimer offers any exegetical reasons for suggesting this new interpretation; and Kidner only notes that v. 4b suggests the builders were fearful of attack, thus lending some support to the idea that they were a limited particular people. Verse 4b, however, only mentions a fear of being scattered. There is nothing implying a fear of attack unless the tower is interpreted as a defensive tower, and Kidner does not attempt to interpret the tower as a defensive tower rather than a ziggurat. Kidner's interpretation on the whole, in fact, leans toward the church's historic interpretation. He sees the act of God at the end of the story as a "fit discipline of an unruly race."

Payne's only exegetical defense for the "local" interpretation is that the word **הָאָרֶץ** (the earth) can mean either land or the world; and he says, "it need not be doubted that the author of this story was concerned with just his own immediate surroundings, southern Mesopotamia."⁴⁰ But, Payne gives no reasons for interpreting **הָאָרֶץ** as land rather than the world. His argument is a bare assertion. DeWitt is the only one of the five who gives more than a one-sentence defense of this new interpretation. He gives three reasons for understanding **אֲרָץ** in 11:1 as referring just to Mesopotamia. His first reason is that Gen 10:5, 20, and 31 indicate "the natural development of diverse languages and dialects." Genesis 11:1 would not, therefore, speak of a total worldwide singleness of language because "the narrator would surely have caught so obvious a contradiction to the immediate context."⁴¹

If DeWitt meant the various languages of the world developed over time as a natural course of events, this is not in contradiction to a miraculous judgment, as described in Gen 11:7-9, being the event which began the process. If DeWitt meant the events of Gen 10 preceded those of 11:1-9, he is adopting a position

⁴⁰ Payne, "Babel," 382.

⁴¹ DeWitt, "Historical Background," 17.

contrary to the vast majority of exegetes. Historically, commentators have recognized that the events of Gen 10 chronologically follow the events of 11:1-9, and no one has thought this makes an "obvious contradiction" between the meaning of Gen 10:5, 20 and 31 and understanding "all the earth" in Gen 11:1 as meaning the entire world.

Although the events in Gen 10 are chronologically later than the events in Gen 11:1-9, there are good contextual reasons why the church has not seen Gen 11:1-9 as a contradiction of Gen 10. The biblical account of the flood makes it abundantly clear that no human being was left alive on the earth after the flood except Noah and his sons (and their wives). Since everyone living on the earth after that would be descendants of this one family (9:19; 10:32), it was obvious that everyone on earth would be speaking the same language for some time after the flood. Since the flood and the sons of Noah are mentioned in Gen 10:32, it is natural to understand the next verse, Gen 11: 1, as referring to a time shortly after the flood when everyone was speaking the same language. It is not surprising that exegetes throughout church history have identified "all the earth" in Gen 11:1 as the recent descendants of Noah, all still speaking the same language that he spoke.⁴²

In addition to setting forth the background of the flood, Gen 10:32 (and its parallel in 9:19) speaks of a dispersion of the descendants of the sons of Noah over the whole world after the flood, a dispersion which involves a variety of languages (10:5, 20, 31). Since the very next thing one reads about is the dispersion of the builders at Babel into conflicting language groups (11:4, 8, 9), it is almost impossible not to make the connection between the two accounts. The reader naturally sees the judgment of Gen 11:7-9 as being the event which began the process of dispersion and language differentiation, with Gen 11:1 being a description of all the earth before the judgment at Babel.

DeWitt's second argument begins with the fact that **אָרֶץ** can mean either land or whole world. He then says, there is a sequence of local concepts beginning with "the whole Tigris-Euphrates basin [apparently in v. 1], a plain within the basin (v. 2), a city within the plain (v. 4), and a tower within the city (v. 4)." But this argument just begs the question for there is no reason why this sequence cannot begin with the whole world and work down to the tower.⁴³

DeWitt's third argument is that the whole paragraph is "full of local expressions." His illustrations of these expressions are simply "a plain in the land of Shinar" and "let us build a city, and a tower whose top is unto heaven, lest we be scattered abroad upon the face of the earth." As a sub-argument, DeWitt adds that the unity of the language and the builders is "so localized that they look out upon their world with fear and are concerned for their security lest they be scattered through the whole earth." He concludes that the tower and city must be

⁴² Until the nineteenth century there was nearly unanimous opinion that the one language spoken in Gen 11: 1 was Hebrew.

⁴³ In Jer 26:6 there is a reverse sequence from the local temple to the city to the whole earth, and the earth is clearly universal.

local. The tower and city, of course, are local as are the expressions he mentions; but these facts in no way prove or even imply that the word אֶרֶץ in Gen 11:1 is local any more than the address on an envelope with its local name, street, and city implies that the country to which it is sent is local.

DeWitt's sub-argument, which is the same as the one argument offered by Kidner, is also not compelling. It is true that the builders felt a certain fear of being scattered; but the flood which their recent forefathers had survived was an epochal traumatic event. The survivors would be like the only eight people who survived a worldwide nuclear holocaust. An event like that would leave following generations with an undefined anxiety and fear which felt open to destruction just by virtue of being separated from the community. There is no need to suppose they feared attack from other groups of people; and there is no clear evidence in the text which indicates that an attack from other groups of people was the basis of their fear.

The concordists are largely just begging the question. Their arguments are insufficient for rejecting the historical interpretation of the church. There are very good contextual reasons supporting the historically accepted interpretation of "all the earth" in Gen 11:1 as referring to all mankind, the whole world; and these reasons were not even addressed by the concordists. A review of those reasons is, therefore, in order.

First of all the phrase כָּל־הָאָרֶץ, "all the earth," in Gen 11:1 occurs right after a statement mentioning the anthropologically universal flood. It is the anthropological universality of the flood which is the contextual backdrop that defines the meaning of Gen 11:1.

Secondly, the statement that "all the earth" had the "same words and the same grammar" is emphatic. An emphatic statement like this does not fit a reference to one country out of many, each of which has the same words and the same grammar. Similarly, Gen 11:6a, "And Jehovah said, Behold, they are one people, and they all have one language," makes little if any sense when interpreted locally. Since the world delineated in Gen 10 is about as wide and diverse as Europe, Gen 11:1 interpreted locally would be like saying emphatically, "All of Italy spoke the same language (Italian);" and 11:6a would be like saying "Behold, the Italians are one people and they all have the same language." Why should this be emphatic or draw any attention? All of France also spoke the same language (French). All of Spain spoke the same language (Spanish). Every country spoke the same language. So what if the Italians did? But, if the statement is saying, "All the world spoke the same language," that is startling in light of the fact that they certainly do not all speak the same language now. It would be appropriate to make emphatic statements about the whole world speaking the same language because it would be so unusual compared to the present. Thirdly, the terminology in Gen 11:5 ill fits a merely local interpretation. It calls the builders the "sons of men" (בְּנֵי הָאָדָם), literally "sons of the man."⁴⁴

⁴⁴ Not "sons of Adam" since an article is not used with personal names.

If the account had been merely local, it probably would have spoken of particular sons like the "sons of Heth" (Hittites, Gen 23:3) or the "sons of Midian" (I'vlidianites, Gen 25:4). The phrase "the sons of the man" refers to mankind in general.⁴⁵ Finally, the climax of the story in v. 9 is telling. If you interpret it locally, it says, "there the Lord confused the language of the whole land of Shinar." If people all over the world were already speaking different languages, this conclusion to the story seems rather insignificant and anti-climactic. But, if all of mankind was speaking one language until this event, v. 9 makes a fitting and resounding climax not only to the story but also to the universal history begun in Gen 1. Closing out that universal history with a story of mankind attempting to make a name for itself in a way that threatens to bring a curse upon mankind makes a great introduction to the next chapter of Genesis, wherein God promises to make a name for a man he chose, Abraham, and through him to bring a blessing upon all mankind (Gen 12:2, 3).

In summary, the concordist reinterpretation of Gen 11:1-9 has a very weak exegetical foundation and contrasts with the contextually rooted foundation which supports the historical interpretation of the church. The fact that no one until modern times interpreted "all the earth" in Gen 11:1-9 in a local way indicates that this interpretation does not arise naturally from Scripture.⁴⁶ Just as concordists take Gen 1 out of context in order to make it harmonize with modern geography, geology, and astronomy⁴⁷ so they take Gen 11:1-9 out of context in order to make it harmonize with modern geography and anthropology. In addition, although it might appear at first glance that the various "local" reinterpretations of Gen 11:1-9 are bringing the biblical text into harmony with its ancient Near Eastern context, the truth is they leave the biblical text at serious odds with ancient Near Eastern archaeology.

In the biblical text (11:7-9), the confusion of the builders' language is so sudden and definitive that the builders are no longer able to "understand one another's speech" and are thereby forced to give up completing the building of the city and tower. In Reimer's reconstruction of the event, although other languages may have come into the area c. 3000 B.C., the Sumerian language went right on being spoken and understood until at least the fall of Ur III, a thousand years later. So Reimer's reconstruction of the event actually contradicts Gen 11:7 and 9.

Payne's reconstruction of the event with its invasion of the Akkadians in 3000 to 2500 B.C. likewise contradicts Gen 11:7 and 9, since it leaves the Sumerian language intact for at least another 500 years, allowing plenty of time to finish building the city and tower. In addition, Payne's reconstruction of the event was built upon an archaeological theory popular at the time which hypothesized that the Akkadian language did not enter the area which the Bible

⁴⁵ Cf. Gen 1:27; 6:1; 8:21; and 9:6 where the same phrase is used.

⁴⁶ Several of the concordists themselves comment that the story looks like it is about humankind.

⁴⁷ Paul H. Seely, "The First Four Days of Genesis in Concordist Theory and in Biblical Context," *Perspectives on Science and Christian Faith* 49 (1997): 85-95.

calls Shinar until the invasion of the Akkadians c. 3000 to 2500 B.C. Today a number of leading archaeologists believe that Akkadian was spoken alongside of Sumerian from the very beginning.⁴⁸

DeWitt's reconstruction is a better archaeological fit to Gen 11:7 and 9, since the fall of Ur III in 1960 B.C. initiates the end of Sumerian as a spoken language; but it still leaves a generation or two before the language would have been understood only by scribes. DeWitt's reconstruction contradicts the biblical text in any event, however, because 1960 B.C. is too late for the first building of the city and tower of Babel as the biblical text demands.⁴⁹ In addition, the biblical text demands that just one language be spoken in Shinar before the tower was begun; but, on DeWitt's reconstruction two languages were spoken in Shinar for four hundred years before the tower of Babel was begun, for we know that Akkadian was spoken in Shinar from the middle of the third millennium B.C.⁵⁰

The "local" interpretations of Gen 11:1-9 which have been offered, therefore, violate the biblical text both contextually and archaeologically.⁵¹ They drive us back to the historical interpretation as the only contextually valid one. The more detailed concordist reinterpretations do, however, make a positive contribution in that they all fundamentally agree in dating the tower of Babel between c. 3000 and 2000 B.C.⁵²

VI. *Scientific Evidence for Diverse Languages Prior to the Tower of Babel*

As we have seen, if Gen 11:1-9 is accepted as historically accurate, the building of the tower of Babel can be dated approximately between 3500 and 2400 B.C. The problem which arises is that when Gen 11:1-9 is interpreted in context it is saying that until the building of the tower of Babel, that is, until 3500 B.C. at the earliest, all people on earth spoke the same language. It is quite evident from archaeology, however, that this is not the case.

When we step outside the world known to the biblical writer, it becomes immediately obvious that diverse languages were in existence prior to and during the building of the tower of Babel. We should perhaps stop, however, to note just how large the earth was understood to be by the biblical writer. The extent of the earth in the understanding of the biblical writer is given in Gen

⁴⁸ Joan Oates, *Babylon* (London: Thames and Hudson, 1986), 22; Crawford, *Sumer and the Sumerians*, 20; I. M. Diakonoff, ed., *Early Antiquity* (Chicago: University of Chicago Press, 1991), 72.

⁴⁹ Even if the city and tower are moved to Ur as DeWitt suggests, it is still too late for the first building of the city and tower.

⁵⁰ CAH3 1:1, 134; Gene B. Gragg, "Semitic Languages," *OEANE* 4:517.

⁵¹ There may still be a tie to ancient Near Eastern literature including a possible Sumerian parallel. See Wenham, *Genesis 1-15*, 236-38.

⁵² John Walton, though not offering a concordistic interpretation, dates the tower "perhaps during the late Uruk period, or perhaps as late as the Jemdet Nasr period ..." (3500 to 3000 B.C.) in "The Mesopotamian Background ...," 173. All four of these evangelical scholars, therefore, confirm that the tower of Babel should be dated between 3000 and 2000 B.C., with 3500 B.C. as the earliest date.

10. The northern boundary is marked by the peoples around the Black Sea (Gen 10:2; Ezek 38:6). The southern boundary is marked by peoples living in the extreme south of the Arabian peninsula (Gen 10:7: cf. Matt 12:42). The eastern boundary is marked by Elam (Gen 10:22). The western boundary is at Tarshish (Gen 10:4), but its location is not certain. Although elsewhere in Scripture Tarshish may refer to Tartessos in Spain, in Gen 10 it probably refers to a location c. latitude ten degrees east, perhaps Sardinia, Tunis, or Carthage. "All the earth" in Gen 11:1 is then a circle or ellipse around 2400 miles in width and 1200 in height.⁵³ Everyone in the ancient Near East understood this circular area to be the entire extent of the earth and that this earth was surrounded by a great ocean.⁵⁴

Genesis 10 thus indicates (and history makes certain) that the writer of Gen 11 was oblivious to the existence of the Far East, Australia, and the Americas.⁵⁵ Yet an awareness of these lands and the peoples living there is critically important to the history of language. For although samples of written languages do not appear in the Far East, Australia, or the West before 3500 B.C., archaeologically stratified sites and carbon-14 dating show that people certainly lived in these areas both before 3500 B.C. and during the building of the tower of Babel. In addition, the isolation of the Far East, Australia, and the Western peoples from the Near East and from each other, as well as the structures of the many languages in existence today that descended from them, virtually guarantee that they were not speaking Sumerian or any other ancient Near Eastern language.⁵⁶

Spirit Cave in Thailand, for example, is a stratified site showing human occupation from before 5000 B.C. down to 250 B.C.⁵⁷ We do not know what language they were speaking in Thailand from 5000 to 2000 B.C.; but, we can be sure it was not Sumerian.

Pan-p'o in China was continuously occupied by farmers of distinctly Mongoloid type for at least five hundred years before the earliest date for the tower of Babel.⁵⁸ In addition, 113 potsherds were found at Pan-p'o incised with proto-Sinitic logographs. These logographs are archetypal to the Chinese language

⁵³ See the maps in *The Harper Atlas of the Bible* (ed. James Pritchard, New York: Harper & Row, 1987), 92-93, and in *The Zondervan XIV Atlas of the Bible* (ed. C. G. Rasmussen; Grand Rapids: Regency, 1989), 71.

⁵⁴ Paul H. Seely "The Geographical Meaning of 'earth' and 'seas' in Genesis 1:10," *WTJ* 59 (1997): 231-55.

⁵⁵ We know from ancient history that no one in the ancient world envisioned the inhabited world to be significantly larger than the extent delineated in Gen 10. It did not extend to the Far East, Australia, or the Americas.

⁵⁶ Robert M. W Dixon, *The Rise and Fall of Languages* (Cambridge: Cambridge University Press, 1997), 96; R. L. Trask, *Language Change* (New York: Routledge, 1994), 52, 67; Leonard Bloomfield, *Language* (New York: Holt, Rinehart and Winston, 1933), 13. Cf. "Language," *The New Encyclopedia Britannica* (1998), 22:569.

⁵⁷ Joyce C. White, "A Lost Bronze Age," *Natural History* (November 1984): 82; Ronald Schiller, "Where was the 'Cradle of Civilization'?" *Readers Digest* (August 1980): 67-71. sa Ping-ti Ho, *The Cradle of the East* (Chicago: University of Chicago Press, 1975), 16-18. It should be noted here that 3500 B.C. (the earliest date for the tower of Babel) would also have to

and testify clearly that a form of Chinese, unrelated to any language in the ancient Near East, was spoken before the tower of Babel was built, perhaps even thousands of years before it was built.⁵⁹

In Japan, the Jomon culture, which is evidenced at 25 different sites in Japan, seems to run in a continuous sequence from c. 10,000 B.C. to A.D. 1000. There are more than enough stratified sites and carbon-14 dates from 5000 to 2000 B.C. to show that the Ainu inhabited Japan well before the time that the tower of Babel began to be built and all during its building. The language which they spoke is not related even to Chinese, much less to Sumerian.⁶⁰

At Keniff Cave, Rocky Cave South, and numerous other sites in Australia, there are well-stratified stone and bone remains dating from c. 20,000 B.C. to A.D. 1500.⁶¹ Most relevant to our discussion are the dozen sites which are radiocarbon-dated from c. 5000 to 4000 B.C., i.e., before the tower of Babel began to be built.⁶² The people who left tools at these sites must have had a language; and the language they spoke may be related to other languages of Oceania, but certainly not to Sumerian, Chinese, or Japanese.⁶³

At numerous sites in North America, such as Danger Cave in Utah, stratified remains of Indian cultures are radiocarbon-dated from 9000 to 3000 B.C.⁶⁴ At Sierra Madre Oriental and other sites in Mexico, human and cultural remains are carbon-dated from 7000 to 1400 B.C.⁶⁵ Since these Indians apparently came from Asia originally, we would expect their languages around 5000 B.C. to relate to Asian languages, but not to ancient Near Eastern languages. In any case, whatever languages they may have spoken, they were in America speaking them before the tower of Babel began to be built and, all during the time from 3500 to 2000 B.C.

We can say then that there is firm archaeological ground based both on radiocarbon dates and stratified sites to support the conclusion that long before the tower of Babel began to be built and all during the fourth millennium B.C., men were scattered over the entire globe speaking a multitude of different languages. This conclusion is clearly opposed to the assumptions underlying Gen 11:1-9 and opposite to the statements in 11:1 and 6 in particular. At this point someone might suggest that perhaps the tower of Babel should be dated earlier. But, on what basis would anyone suppose that it should be dated earlier than c. 3500 B.C.? One might be tempted to refer to the fact that a

predate the origin of the Mongoloid, Negroid, and Australoid peoples, an idea which no anthropologist would accept.

⁵⁹ Ho, *Cradle*, 34, 366-67; Diakonof, *Early Antiquity*, 388.

⁶⁰ C. M. Aikens and T. Higuchi, *Prehistory of Japan* (New York: Academic, 1982), 18, 323. Cf. Ho, *Cradle*, 38.

⁶¹ Derek J. Mulvaney, *The Prehistory of Australia* (New York: Praeger, 1969), 111, 135, 179.

⁶² Mulvaney, *Prehistory*, 180.

⁶³ "Australian Aboriginal Languages," *The New Encyclopedia Britannica* (Chicago: 1908), 1:714.

⁶⁴ Gordon Randolph Willey, *An Introduction to American Archaeology* (Englewood Cliffs: Prentice-Hall, 1966), 1:29, 56-57; Robert J. Wenken, *Patterns in Prehistory* (Oxford: Oxford University Press, 1990), 220.

⁶⁵ Willey, *Introduction*, 79-80.

stone tower was built in Jericho c. 8500 B.C. But this really has no bearing on the tower of Babel because, as noted earlier, southern Mesopotamia where Babylon is located did not even have permanent settlements until c. 5500 B.C. and had no cities with architecture comparable to that of Jericho until c. 3500 B.C. at the very earliest.⁶⁶ Hence, no one familiar with ancient Near Eastern archaeology has been willing to date the tower of Babel any earlier than c. 3500 B.C. Also, the further back the date of the tower is pushed, the less it fits the archaeological data and the more improbable the date becomes. Nor are the archaeological architectural data the only problem.

The flood account in Scripture reflects a relationship with second millennial Mesopotamian accounts. Even granting a common ancestor to the biblical and Mesopotamian accounts, every year that you move the date of the tower of Babel (and the flood with it) earlier than 3500 B.C., the more improbable it becomes that the two flood accounts would be so similar to each other since they only would have been handed down orally.⁶⁷

The fact is, in order for the tower of Babel to have been the starting point for the division of one human family into varying races and language groups as Gen 11:1-9 demands, even a very conservative interpretation of the archaeological and anthropological evidence indicates that the tower would have to have been built long before 10,000 B. C. But the chances of a monumental tower and city being built in Babylon out of baked brick and bitumen before even the Neolithic age is so improbable from an archaeological point of view as to be virtually impossible.

One cannot date the tower of Babel early enough to fit all of the archaeological and anthropological data without implicitly espousing a methodology which favors bare possibility over probability; and, such a methodology is antithetical to serious scholarship.

VII. *Creation Science, Carbon-14 Dating, and the Tower of Babel*

In order to maintain the historical interpretation of the flood and the tower of Babel, creation science simply denies the validity of the trustworthiness of carbon-14 dating. The validity of carbon-14 dating sounds the death knell for creation science; so, many papers have been written by creation scientists attempting to throw doubt on its validity.⁶⁸ In the early decades of its use many of the dates that carbon-14 dating produced were erroneous for one reason or another; so, questioning was justified and non-Christians raised just as many

⁶⁶ Van De Mieroop, *The Ancient Mesopotamian City*, 23.

⁶⁷ Although there are important differences between the two accounts, no other flood account is so close to the biblical account as the Mesopotamian. Virtually every scholar agrees they are related to each other.

⁶⁸ Creationist papers on radiocarbon-dating written between 1950 and 1990 are reviewed in *CRSQ* 29 (1993): 170-83.

questions as Christians did.⁶⁹ But there has been a significant refinement of the method in the last two decades and most importantly, its essential validity has been confirmed objectively by comparison with dendrochronology and with annually produced varves.⁷⁰

By comparing carbon-14 dates with known dates from counting tree rings in trees linked together stretching back from the present to 9300 B.C., the essential validity of carbon-14 dating has been proven.⁷¹ This validation of carbon-14 dating through comparison with the ages given by counting tree rings rests upon two long sequences of tree rings linked together. These sequences were independently produced by different scientists in different parts of the world using different species of trees.

The major objection from creation science to the validity of the tree ring sequences is that due to varying weather conditions a tree might produce more than one ring in one year. A very meticulous study, however, showed that the bristlecone pine, upon which the first long dendrochronology was based, does not normally produce more than one ring per year.⁷² The oak trees, upon which the other major long dendrochronology is based, so rarely grow extra rings that one can almost say they never grow them.⁷³ Further, in order to be sure that no extra (or missing) ring has slipped into a sequence, each section of the sequence is based upon numerous trees growing over the same period of time, eliminating by comparison any trees that might have idiosyncratic rings. In addition, densities, which are independent of tree-ring widths, are compared as well. Because of this cross-checking, errors from extra or missing rings are eliminated.⁷⁴

⁶⁹ Alasdair Whittle, *Problems in Neolithic Archaeology* (Cambridge: Cambridge University Press, 1988), 19 n. 78.

⁷⁰ I say "essential validity" because contaminated samples and other problems can cause individual carbon-14 dates to be invalid, and with dates prior to c. 750 B.C. there is a systematic deviation of carbon-14 dates from accurate dates with the result that the earlier dates must be calibrated, and even then there is room for slippage; but, in spite of problems with some particular dates, no one today doubts on scientific grounds that carbon-14 dating gives a valid overall guide to chronological sequencing.

⁷¹ Minze Stuiver et al., "Radiocarbon Age Calibration Back to 13,300 Years BP and the 14 C Age Matching of the German Oak and US Bristlecone Pine Chronologies," *Radiocarbon* 28 (1986): 969-79; Bernd Becker, "An 11,000-Year German Oak and Pine Dendrochronology for Radiocarbon Calibration," *Radiocarbon* 35 (1993): 201-13. See the new optimism of two scholars who are aware of C-14's early problems: Fekri A. Hassan and Steven W. Robinson, "High Precision Radiocarbon Chronometry of Ancient Egypt, and Comparisons with Nubia, Palestine and Mesopotamia," *Antiquity* 61 (1987): 130.

⁷² V C. LaMarche, Jr., and T. P Harlan, "Accuracy of Tree Ring Dating of *Bristlecone Pine* for Calibration of the Radiocarbon Time Scale," *Journal of Geophysical Research* 78 (1973): 8849-58 n. 79.

⁷³ M. G. L. Baillie, *Tree-Ring Dating and Archaeology* (Chicago: University of Chicago Press, 1982), 52 n. 81.

⁷⁴ Jeffrey S. Dean, "Dendrochronology" in *Chronometric Dating in Archaeology* (ed. R. E. Taylor and Martin J. Aitken; New York: Plenum, 1997), 34-38; Baillie, *Tree-Ring Dating and Archaeology*, 52-53.

The patterns of tree rings which link the trees together in a sequence are kept from error by similar replication.⁷⁵ Since thousands of annual rings occur in each bristlecone pine (up to 6000 in the oldest tree), one only has to find the overlapping patterns of rings a few times in order to make a long sequence. In the oak series where the rings are only available in hundreds, the examination and comparison of numerous trees from the same period eliminates anomalies and establishes the valid unique patterns which are used to link the overlapping trees.⁷⁶ In addition to unique patterns of ring widths and densities, unique rings due to fire, flood, frost, or insect damage verify and validate the sequences. Carbon-14 dating, as it is applied to these dendrochronological sequences, is validated by the fact that the carbon-14 dates essentially agree with the tree-ring dates, systematically growing older as the older tree rings are tested. Also, although beginning around 750 B.C. the carbon-14 dates curve away from the tree ring dates, the curve of the dates obtained from dating the long European dendrochronological sequence matches the curve from dating the independent, long American tree-ring sequence.⁷⁷ In addition, because the production of carbon-14 in the atmosphere varies slightly over time, the carbon-14 dates oscillate along the length of the calibration curve, forming small peaks and valleys, popularly called "wiggles." In the independently produced European and American tree sequences, even these "wiggles" match up.⁷⁸ The fact that not only the long-term but even the short-term patterns in the carbon-14 dates match each other in two independently arrived at dendrochronological sequences is proof positive that the carbon-14 dating is valid.⁷⁹

So clear and irrefutable is this validation of carbon-14 dating that Dr. Gerald Aardsma, a nuclear physicist, a specialist in carbon-14 dating and a teacher at the Institute for Creation Research for five years, came to the conclusion that since carbon-14 dating according to creation science theory could be valid only after the flood, the flood must have occurred prior to 9300 B.C. Indeed, Aardsma calculates the date of the flood as close to 12,000 B.C., partly because it would take time after the flood for carbon-14 to stabilize in the ocean, which is necessary before carbon-14 dating can be accurate.

Aardsma set forth the evidence and his conclusions about the date of the flood in a paper published in 1990 and then in 1993 wrote a second paper

⁷⁵ Baillie, *Tree-Ring Dating and Archaeology*, 85-86; Martin Oberhofer, H. Y. Goksu, and D. Regulla, eds., *Scientific Dating Methods* (Dordrecht: Kluwer Academic, 1991), 201-6; J. R. Pilcher et al., "A 7, 272-Year Tree-Ring Chronology for Western Europe," *Nature* 312 (1984): 150-52.

⁷⁶ There is one section of the European oak chronology which is weak; but, even if it were shown to be inaccurate, the difference would be relatively insignificant.

⁷⁷ H. E. Suess and T W Linick, "The 14C Record in Bristlecone Pine Wood of the Past 8000 Years Based on the Dendrochronology of the Late C. W. Ferguson," *Phil. Trans. R. Soc. Lond. A* 330 (1990): 405.

⁷⁸ Gerald Aardsma, "Tree Ring Dating and Multiple Ring Growth Per Year," *CRSQ* 29 (1993): 186, figure 4; R. E. Taylor, Austin Long, and R. S. Kra, eds., *Radiocarbon After Four Decades* (New York: Springer-Verlag, 1992), 37, 44.

⁷⁹ Taylor, Long, and Kra, *Radiocarbon*, 20, 24-25, 37, 43; Goksu, Oberhofer; and Regulla, *Scientific Dating Methods*, 201-6.

answering objections which had been made to his reliance on dendrochronology in his 1990 paper.⁸⁰ He received two immediate replies to his 1993 paper. One still objected that the dendrochronological data was just tentative and a Christian should hold to the biblical chronology regardless. Aardsma replied that the biblical chronology was not certain.

The tree ring/radiocarbon data are not tentative; the tree rings really exist (in excess of 10,000 of them, one after the other), and the concentrations of radiocarbon in these rings will not be different tomorrow than it was measured to be yesterday. These data will not vanish.⁸¹

The other reply to his paper was from a Christian paleobotanist who said, As one who was raised with a belief in the accuracy of Ussher's chronology as modified by Edwin R. Thiele (1965), I have been led independently to the same conclusions with respect to the accuracy of dendrochronology as those reached by Gerald E. Aardsma.⁸²

We must say then that there is objective empirical proof of the validity of carbon-14 dating back to at least 9300 B.C.; and this is in addition to the fact that carbon-14 dating has also been objectively validated by comparison with the 10,000 years of annual varves found at the Lake of the Clouds in Minnesota.⁸³ With carbon-14 dating objectively proven to be essentially valid back to 9300 B.C., one would have every reason to expect it to continue to give valid dates even further back in history; and its correlations with varves and annual deposits in ice cores going back even further in history demonstrate its validity before 9300 B.C., but its proven validity back to 9300 B.C. is all that is necessary to sustain the dates we have given above for the tower of Babel and for the archaeological finds prior to it.

Creation science, therefore, has no scientifically sound basis for rejecting the dating of the tower of Babel sometime in the third millennium B.C. (or 3500 B.C. at the earliest) or for rejecting the dating of numerous sites around the world during the third millennium and earlier which indicate that mankind was speaking numerous languages before and while the tower of Babel was being built. This means that neither concordism nor creation science has any viable solution to the conflict which exists between Gen 11:1-9 and the archaeological data which show that many peoples were speaking different languages during

⁸⁰ Gerald Aardsma, "Radiocarbon, Dendrochronology and the Date of the Flood," in *Proceedings of the Second International Conference on Creationism* (ed. Robert E. Walsh and Chris L. Brooks; Pittsburgh, PA: The Fellowship, 1990), 1-10; and "Tree Ring Dating and Multiple Ring Growth Per Year," 184-89.

⁸¹ *CRSQ* 30 (1993): 127-30.

⁸² *CRSQ* 30 (1993): 127-31.

⁸³ Minze Stuiver, "Evidence for the Variation of Atmospheric C 14 Content in the Late Quaternary," in Karl K. Turekian, ed., *The Late Cenozoic Glacial Ages* (New Haven: Yale University Press, 1971), 61. Creation science attempts to show that varves are not annual, but they ignore the fact that since the pollen and diatoms vary annually, on those rare occasions when additional layers/ year occur, they can be identified and discounted.

and prior to the building of the tower of Babel. A more biblical approach is needed, and Reformed theology has pioneered just such an approach.

VIII. *Gracious Divine Accommodation to Limited Scientific Knowledge*

Whenever the word "earth" is used in the OT in a universal sense, such as in Gen 1:10, it is defined historico-grammatically as a flat disc floating on a very deep ocean.⁸⁴ This description of the earth reflects, in the words of Warfield, "an ordinary opinion of the writer's day"⁸⁵ The divine revelation of God as Creator and Ruler of all the earth is accommodated in Gen 1 and elsewhere in the OT to the writer's limited understanding of geography.

In Gen 11:1-9 the revelation of God as Sovereign over the affairs of men was also accommodated to the writer's limited understanding of geography. That is, the writer was able to speak of "all the earth" having just one language because he had no knowledge of the lands and peoples of the Americas, Australia, the Far East, or even of all of Africa or Europe. As far as he was concerned, the earth extended only from Sardinia to Afghanistan, and from the southern tip of the Arabian Peninsula to the northern boundaries of the Black and Caspian Seas (Gen 10)⁸⁶; and the descendants of Noah had not yet spread out over even this limited earth (Gen 11:4). The divine revelation of God was accommodated to the writer's limited understanding of geography and anthropology.

We see another example of such divine accommodation to the limited geographical knowledge of the times in the NT. In NT times educated people were aware that the earth was a globe, but believed that the extent of the land area which mankind inhabited was only slightly greater in longitude than the extent of the earth in Gen 10 and not significantly greater in latitude. This limited area of land was also believed, as in OT times, to be encircled by a great impassable ocean.⁸⁷ So in NT times just as in OT times, the southern coast of the Arabian Peninsula was understood to be the southern limit of the entire land continent including Africa, the place where the land inhabited by man literally came to an end.⁸⁸

When then we read Jesus' statement in Matt 12:42/Luke 11:41 that the Queen of Sheba came "from the ends of the earth," we may make the mistake

⁸⁴ Seely, "The geographical meaning," 231-55.

⁸⁵ B. B. Warfield, "The Real Problem of Inspiration," in *The Inspiration and Authority of the Bible* (ed. Samuel G. Craig; Philadelphia: Presbyterian & Reformed, 1948), 197.

⁸⁶ Historical evidence shows that this was the entire extent of the earth as far as the writer and his hearers were concerned. Kings in both Egypt and Mesopotamia often spoke of ruling the entire earth; but when you inquire as to the extent of this earth, it is no bigger than as described in Gen 10. For example, Naram Sin (2254-2218 B.C.) called himself "king of the four quarters, king of the universe," but his kingdom extended only from Cyprus to the Gulf of Oman. Cf. Strabo, *Geogr.* 1.1.6-8, 13; 1.3.22; Pliny, *Nat.* 2.166-67, 170, 242; 6.1, 36-37, 56-58; Seneca, *Nat.* 3.29.7; 4A.2.24; 5.18.10; 6.23.3.

⁸⁷ Strabo, Pliny, and Seneca as in note 86; Tacitus, *Germ.* 45; *Hist. Rech.* 2.7; Josephus, *AM.* 1.31.

⁸⁸ See the map of Strabo's world on left hand page opposite title page in volume 1 of *The Geography of Strabo* (LCL; 1917; repr., Cambridge: Harvard University Press, 1969).

of removing the statement from its historical context and understanding it in terms of our modern geographical knowledge as a merely *figurative* way of saying "a long distance." But the hearers of Jesus understood the statement *literally*. The "ends of the earth" referred to the boundary between the inhabited earth (essentially a single land mass) and the ocean that was believed to surround it.⁸⁹ To the south the earth was believed to end in the area of Sheba which is at the southwestern tip of the Arabian peninsula opposite Ethiopia. Thus Pliny speaks of "the coast of the Ethiopic Ocean where habitation just begins."⁹⁰ To the hearers of Jesus there was no land south of that for there was no land beyond "the ends of the earth."⁹¹ Hence, the hearers of Jesus would have understood Jesus' statement literally; and if they had thought that his inspired statement necessarily reflected God's omniscient knowledge of geography, it would have misled them into believing that God agreed there was no inhabited land south of the land of Sheba.

But Jesus did not mislead his hearers. He had no intention of revealing God's knowledge of geography or of correcting the science of the times. His statement was an accommodation pure and simple to the limited geographical understanding of the times. Thus, the inspired statements of Matt 12:42, Gen 1:14, and Gen 11:1 all reflect an understanding of the extent of the earth which did not include the Americas, Australia, the Far East, or even all of Africa or Europe. They are all accommodations to the geography of the times. The idea that God has thus accommodated his revelation to the knowledge of the times is not a new idea to Reformed theology. Warfield and others at "Old Princeton" allowed for such an understanding and Calvin fostered it.

Calvin, for example, understood Ps 72:8 to be describing the extent of the Messiah's kingdom as covering only the promised land. He commented, "David obviously accommodates his language to his own time, the amplitude of the kingdom of Christ not having been, as yet, fully unfolded."⁹² Calvin saw the description of the extent of the kingdom as being an accommodation to proximate knowledge available at the time. Although he saw the description as being limited by the revelation available at the time, the principle would be no different if he had seen it as being limited by the geographical knowledge available at the time. In the light of ancient Near Eastern literature not available to Calvin, the description of the earth in Ps 72:8, though very limited geographically, is a description of the entire earth in the mind of the writer.⁹³ If Calvin had realized this he might well have said, "David obviously accommodates his language

⁸⁹ Liddell & Scott define "end" (περάς) as "end, limit., boundary." Since περάς; and ἔσχατος are synonyms [Tob 13:13 LXX (S)], see E. Earle Ellis, "'The End of the Earth' (Acts 1:8)," *BBR* 1 (1991): 126.

⁹⁰ *Nat.* 2.245.

⁹¹ Thus Rom 10:18 speaks of "all the earth" as synonymous with "the ends of the inhabited world." So also Philo, *Legal.* 18.173. Cf. Ign. Rom. 6:1; Ps 66:8 LXX (H 67:7); Ps 71:8 LXX (H 72:8).

⁹² John Calvin, *Commentary on the Book of Psalms* (Grand Rapids: Eerdmans, 1949), 3:109.

⁹³ Tarshish and Sheba (v. 10) were the western and southern ends of the known earth (cf. Ps 2:8). Seely, "Geographical Meaning," 249.

to the limited geographical knowledge of his own time, the full extent of the earth not having been, as yet, discovered."

Calvin gives us another example in his discussion of the geography of Eden in Gen 2:8-14. It had been suggested in Calvin's time that the reason two of the four rivers which are mentioned in that passage cannot be identified is that the flood had changed the face of the earth so that the topography of the earth in the time of Adam was different than it was in the time of Moses, and it is that earlier, different topography that is being described in Gen 2:8-14. Calvin rejected this idea and said, "Moses (in my opinion) accommodated his topography to the capacity of his age."⁹⁴ Calvin believed that for the sake of being easily understood the description of the garden of Eden would be accommodated to the topographical knowledge available in the time of Moses. This is a reflection of Calvin's strong belief that Scripture was written in terms which any common Israelite could understand.

Similarly, when Gen 1 was criticized in Calvin's day for speaking of the sun and the moon as "two great lights" and the stars as small in comparison even though astronomers had proven that one of those stars, Saturn, was larger than the moon, Calvin acknowledged the validity of the scientific facts, but said,

Certainly in the first chapter he did not treat scientifically of the stars, as a philosopher would do; but he called them [the sun and moon] in a popular manner, according to their appearance to the uneducated, rather than according to truth, "two great lights."⁹⁵

Calvin did not expect the Scriptures to reflect modern scientific knowledge. In the quote above he even goes so far as to contrast the biblical description of nature given in Genesis with modern scientific knowledge. He refers to the biblical description as one of true appearance, but the modern scientific description as one of objective "truth." In addition, he presses this difference between the biblical description and the facts of modern science, saying, "The Holy Spirit had no intention to teach astronomy." He also invites those of his readers who might be interested in learning science to come not to Gen I but "to go elsewhere."⁹⁶ And he clearly delineates that "elsewhere" as referring to modern professional scientists.

Admittedly, Calvin did not say that Gen 1:16 is an accommodation to the science of the times, but only to the appearance which nature gives. But as was the case with Ps 72:8, Calvin did not have available the data from anthropology and ancient history that we have today. These data show clearly that it is not merely appearances but the prescientific conclusions drawn from those appearances which are in view in Gen 1. In the biblical period people did not think of the stars as merely appearing small, but as actually being as small as they appear.

⁹⁴ John Calvin, *Commentaries on the First Book of Moses Called Genesis* (Grand Rapids: Eerdmans, 1948), 1:119.

⁹⁵ *Ibid.*, 1:86-87, 256-57.

⁹⁶ John Calvin, *Commentaries VI, Psalms 93-150* (repr., Grand Rapids: Baker, 1979), 184 (on Ps 136); Calvin, *First Book of Moses Called Genesis*, 1:79.

For them the appearance was the reality. Stars could fall to the earth without destroying it (Dan 8:10).⁹⁷ The idea that one of those stars (Saturn) was larger than the moon would have seemed incredible to them.

In NT times even many educated people still believed the stars were as small as they appear. As sophisticated a thinker as Seneca could say of the stars, "Although you pack a thousand of them together in one place they would never equal the size of our sun."⁹⁸ In the *Sibylline Oracles* both in 5:514-31 (first century A.D.) and in 7:124-25 (second century A.D.), every star in heaven falls and hits the earth; and although they cause a conflagration, both earth and man remain.⁹⁹ In the NT, accordingly, the stars can fall and hit the earth (Rev 6:13, "into the earth," εἰς τὴν γῆν) without destroying it.¹⁰⁰ This verse, incidentally, is another example of accommodation to the limited scientific knowledge of the times.

As late as the end of the fourth century, Augustine, after raising the question whether the stars were really very large but a long distance off or really as small as they appeared, concluded that they were as small as they appeared.¹⁰¹ In his commentary on Genesis, when he considered the same question in the early fifth century, he continued to believe they were as small as they appeared, and he cited Gen 1:16 as evidence that the sun and moon really were larger than the stars, saying, "We do better when we believe that these two luminaries are greater [in size] than the others, since Holy Scripture says of them, *And God made the two great lights.*"

Given the fact that people as late and as sophisticated as Augustine understood Gen 1:16 literally, there can be no question that the original hearers of Gen 1:16 understood the words literally. The verse cannot be interpreted within its historical context as merely a reference to appearances, but rather as a reference to conclusions drawn from the appearances. To the original hearers, who believed the stars really were as small as they appear, the sun and moon really were literally "the two great lights." And if they had thought, as Augustine did, that this inspired statement in Gen 1:16 reflected God's omniscient knowledge of astronomy, it would have misled them, as it misled Augustine, into believing that God thought the sun and moon really were larger in size than the stars.

Calvin's understanding of the fact: that modern science is not being revealed in Gen 1:16 is a significant advance on Augustine's understanding. And, although Calvin's own limited knowledge prevented him from seeing that Gen 1:16 is not a reference merely to appearances but to conclusions drawn from those appearances, some of his comments on other passages show that his

⁹⁷ Cf. the Babylonian *Dream Book* 328, CAD K:48; *Ezek. Trag.* 79, 80.

⁹⁸ *Nat.* 7.1.

⁹⁹ Cf. Isaiah 34:4 LXX; *Sib. Or.* 2.202; 5.514-31; 7.124-25; Seneca, *Marc.* 26.6 and *Ben.* 6.1.

¹⁰⁰ I discuss Jesus' accommodation to the belief in the smallness of the stars (as well as other scientific beliefs of his day) in chapter three of my book, *Inerrant Wisdom* (Portland, Or.: Evangelical Reform, 1989).

¹⁰¹ Augustine, *Letters of St. Augustine* 14:3 (NPNF 1:231).

principle of accommodation can encompass false conclusions which people might draw merely from appearances. For example, in his comments on Jer 10:2 where the people are in awe of "signs" in the heavens, that is, supposed astrological omens given by the sun, moon, and stars, Calvin asks why the prophet speaks of "signs" in the sense of astrological omens when in fact there really are no such "signs." He answers that the prophet "accommodated himself to the notions which then prevailed."¹⁰² The accommodation is to a false conclusion drawn merely from the appearances of the sun, moon, and stars.

Calvin's comments on John 17:12 demonstrate this same understanding of accommodation. He first notes that the dignity of Judas's office gave him the appearance of being one of the elect and "no one would have formed a different opinion of him so long as he held that exalted rank." He then says that Jesus spoke of him in v. 12 as being one of the elect "in accommodation to the ordinary opinion of men."¹⁰³ Note that the accommodation to "the ordinary opinion of men" is to an opinion about Judas which was contrary to the facts because it was a belief based only on appearances.

So although Calvin did not apply his concept of accommodation to scientific beliefs which were based only on appearances, he did provide for that possibility in principle. Further, since Calvin had a deep commitment to interpreting the Bible within its historical and cultural context, I think it is probable that if he had had the anthropological and ancient Near Eastern data available which we have today, he would have done so. He would have realized that such ideas as the solid firmament (Gen 1:6), the water above (Gen 1:7), the earth founded upon the seas (Ps 24:2), and the sun and moon as the largest lights (Gen 1:16) are prescientific beliefs based on appearances.¹⁰⁴ Accordingly, instead of referring simply to appearances, I think he would have recognized they are really accommodations to the scientific "notions which then prevailed." In any case, our recognition of the fact that Scripture is accommodated to the scientific notions which then prevailed follows Calvin's understanding of accommodation in principle; and with the knowledge we have available today I do not believe we are really following Calvin if we are simply following him *ad literatam*. Calvin was a reformer willing to break with ecclesiastical tradition. Being true to him means that Reformed theology must ever continue to reform.

Calvin's willingness to break with ecclesiastical tradition is seen in his breaking with the Augustinian tradition that Scripture is a guide to science: where Augustine saw Gen 1:16 as a revelation of scientific truth, Calvin realized that Gen 1:16 was at best a reference simply to appearances and that the Holy Spirit

¹⁰² John Calvin, *Commentaries IX, Jeremiah 1-19* (repr., Grand Rapids: Baker, 1979), 7.

¹⁰³ John Calvin, *Commentaries XVIII, John 12-21, Acts 1-13* (reprs, Grand Rapids: Baker, 1979), 176.

¹⁰⁴ See my papers for a fuller discussion: "The Firmament and the Water above, Part 1: The Meaning of *raqia'* in Gen 1:6-8," *WTJ* 53 (1991): 227-40; "The Firmament and the Water above, Part 2: The Meaning of 'The Water above the Firmament'" in Gen 1:6-8," *WTJ* 54 (1992): 31-46; and "The Geographical Meaning," 231-55.

had "no intention to teach astronomy."¹⁰⁵ These are clearly two different approaches to the subject of the relationship of Scripture to modern scientific knowledge; and although Calvin did not realize that Scripture is accommodated to the science of the times, he certainly was moving in that direction. As Gerrish said with regard to Calvin's geocentric understanding of Ps 19:4-6, given his doctrine of accommodation, "Would it have been so difficult for Calvin to assimilate the new ideas [of Copernicanism] and admit that the Psalmist's language was rather *differently* accommodated than he had imagined?"¹⁰⁶

But, given that Scripture is accommodated to the science of the times, we would like to understand why it has been accommodated in this way. I believe one reason, as Calvin's understanding of accommodation stressed, is that it facilitated communication of the theological truths being revealed. People of differing cultures (and the OT did arise in a culture quite different from ours) can find it almost impossible to accept some concepts that are common in another culture. It is not so much a question of understanding the concepts as of being able to accept them. When Anna Leorlowens tried to tell the children of Siam that in some countries rain freezes as it falls and comes down as a white substance called snow, "the whole school was indignant at what they considered an obvious effort to stretch truth out of all reason and impose a ridiculous fantasy on them."¹⁰⁷ This proved to be a stumbling block to her authority as an educator until the king, who had been educated in England, assured the children that such a thing was possible. But, what if there had been no Western-educated king?

When anthropologist Paul Raffaele saw that the houses of the Indonesian Korowai Indians were built in the tops of trees, he tried to tell the Indians that in the country where he came from people live in buildings ten times taller than the trees. The Indians found this completely unbelievable. They snorted, "Humans cannot climb that high." The anthropologist tried to explain elevators, but the Indians found this just as unbelievable as the original story. Sometimes, because of a radical difference in cultural background, a modern concept simply cannot be accepted.

In our time, there has been so much emphasis upon outer space and space travel that we find it almost impossible to grasp how anyone could ever have believed the sky was solid. Yet, until the sixteenth century virtually everyone everywhere in the world believed the sky was solid and had so believed for thousands of years. The only exception to this belief before recent centuries was a philosophical school which arose in China around A.D. 200 that believed the sky was not solid. Yet, a Jesuit missionary coming upon this school of thought in the sixteenth century found this idea of a non-solid sky so impossible to accept that

¹⁰⁵ Calvin's break with the Augustinian tradition is also seen in the contrasting ways in which he and Augustine interpreted the firmament and the water above in Gen 1.

¹⁰⁶ B. A. Gerrish, "The Reformation and the Rise of Modern Science" in *The Impact of the Church upon its Culture* (ed. Jerald C. Brouer; Chicago: University of Chicago Press, 1968), 261-62.

¹⁰⁷ Margaret Landon, *Anna and the King of Siam* (New York: John Day, 1943), 229.

he wrote home saying the idea that the sky is not solid is "one of the absurdities of the Chinese."¹⁰⁸

The inability to understand a concept which does not fit a current paradigm is not a matter of intelligence, but of mentality, that is, of culturally ingrained concepts. I believe then, in line with Calvin, that for the sake of facilitating as opposed to hindering communication God wisely accommodated his revelation to ancient scientific paradigms and left to mankind the task of discovering the scientific truths which would change those paradigms. And this brings us to the second basic reason why God has accommodated his revelation to ancient science. He has endowed humankind with the grace, ability, and intellectual curiosity to discover the truths of the natural world, and more importantly, has delegated to humankind the responsibility to discover those truths and thus subdue the earth (Gen 1:26-28). God accordingly has not attempted in Scripture to correct the scientific "notions which then prevailed" but rather accommodated his revelation to them. Increasing the dominion of humankind over the natural world through the advance of scientific knowledge is our divinely delegated responsibility.

In summary, in order to avoid obstacles to communication which might become stumbling blocks, and to respect the divine decision to delegate to humankind the responsibility for the discovery of natural knowledge, Scripture is accommodated in Gen 11:1-9 (as well as in Gen 1 and Matt 12:42) to the limited geographical and anthropological knowledge available at the time. This is in accord with Calvin's understanding of accommodation for he showed in his expositions of Ps 72:8-10 and Gen 2:8-14 that he believed God accommodated his revelation to the limited knowledge available at the time. In addition, in his exposition of Gen 1:16 he broke with the old Augustinian belief that Scripture reveals modern scientific knowledge. He believed Scripture was accommodated in the realm of natural science to mere phenomenal appearances. But he also showed in his expositions of Jer 10:2 and John 17:12 that he believed Scripture could be accommodated to false conclusions which might be drawn from mere phenomenal appearances. It is thus in accord with the principles of Calvin's doctrine of accommodation to believe that Scripture is accommodated not just to phenomenal appearances, but to the limited scientific knowledge of the times, to the scientific "notions which then prevailed."

I would only add that this divine accommodation which we find in Scripture to the scientific "notions which then prevailed" does not reflect negatively upon God's character as Truth. It is logically invalid to equate accommodation with making an error or lying. Temporarily allowing a prescientific people to hold onto their ingrained beliefs about the natural world is not at all the same thing as lying to them. Rather, it is following the principle of becoming "all things to all men." It is a manifestation of amazing grace.

¹⁰⁸ Joseph Needham, "The Cosmology of Early China," in *Ancient Cosmologies* (ed. Carmen Blacker, Michael Loewe, and Martin J. Plumley; London: Allen & Unwin, 1975), 90-92.

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