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Archaeological science as a tool to constrain the dating of the Pentateuch's source documents[1]

Most modern scholars agree that the Pentateuch was woven together from multiple source documents. Linguistic and socio-political approaches to the dating of its source documents have not yet produced a consensus as to their composition dates. Here, I apply a different approach: utilization of the findings of archaeological science, under the principle that a passage is no older than the things that it mentions (towns, technologies, etc.). Within the framework of the Documentary Hypothesis, this approach finds a terminus post quem (TPQ) of the final redaction in the 10th or 9th century BC for the Elohist source (E), the 9th century BC for the Yahwist and Priestly sources (J and P), and the 8th century BC for the Deuteronomist source (D). These results cast doubt on previous hypotheses that these source documents were completed earlier and are consistent with hypotheses of later (e.g. post-exilic) composition. Researchers who prefer Pentateuchal composition hypotheses other than the Documentary Hypothesis can apply the results of this study within the frameworks of their preferred hypotheses by applying the TPQ of any given passage to its hypothesized source. This study shows that archaeological science is a useful tool to constrain the dating of biblical passages.

Keywords: archaeology, radiocarbon, camel, horse, cavalry, iron, Old Testament, Pentateuch, dating, Documentary Hypothesis

Introduction

Much disagreement exists among current scholars as to the date of composition of the Pentateuch (Genesis, Exodus, Leviticus, Numbers, and Deuteronomy). If the ancient view that Moses authored the Pentateuch is correct, then a strict reading of the biblical timeline places its composition in the 15th century BC,[2] and the less-strict reading that some prefer places it in the 13th century

1 Additional information is available online at www.scienceandchristianbelief.org/ . Appendix 1 is the Main Data Table; Appendix 2: Alleged evidence that domesticated Bactrian camels were used in Mesopotamia before the tenth century BC; Appendix 3: Problems with possible red herrings; Appendix 4; Data Table for possible red herrings; Appendix 5: Differences in results as per different scholars' source attributions

2 Jones, F.N. *The Chronology of the Old Testament*, rev. color ed., Green Forest, AR: Master Books

BC.[3] However, scholars have long pointed out problems with Mosaic authorship[4], and most current researchers agree that the Pentateuch was pieced together from previous, independent documents. An oft-cited form of this view is the Documentary Hypothesis (DH), under the umbrella of which I here include the revised version that biblical scholars call the Neo-Documentary Hypothesis. The DH posits that most of the Pentateuch comes from four sources that are designated J (the Yahwist or Jahwist source), E (the Elohist source), P (the Priestly source), and D (the Deuteronomist source). The Pentateuch is not unique in having been composed by combining smaller previous compositions. Other ancient Near Eastern works that were pieced together from previous works include the biblical books of Isaiah, Daniel, and Zechariah, in addition to other ancient works such as the *Epic of Gilgamesh*.[5]

Advocates of the DH accept the existence of the four sources but disagree on the answers to other questions. Was each source an individual writer, an individual compiler and redactor of shorter previous writings, or a short- or long-lived school of multiple authors and/or compilers/redactors? Was it P, a subsequent redactor (R), or school of redactors who produced the final redaction that spliced together the Pentateuch as a whole? When did the writing of each of the four sources take place? The first two of these three questions are beyond the scope of the present paper. The present paper addresses the third question.

There are some scholars who do not accept the DH, and readers who are interested in alternate hypotheses on Pentateuchal composition may consult the references in the footnote at the end of this sentence.[6] However, the DH is

(2016) pp.23–24.

3 Geraty, L.T. 'Exodus Dates and Theories', in Sparks, B.C. (ed.) *Israel's Exodus in Transdisciplinary Perspective*, New York: Springer (2015) pp. 55–64.

4 Dozeman, T.B. 'The Authorship of the Pentateuch', *Dialogue. A Journal of Mormon Thought* (1999) 32 no. 4, 87–112; Friedman, R.E. *Who Wrote the Bible?* New York: HarperCollins (1997) pp. 18–27; Collins, J.J. *Introduction to the Hebrew Bible. The Torah/Pentateuch*, Minneapolis: Fortres (2018) pp. 55–56.

5 Regarding Isaiah, Daniel, and Zechariah, see Collins*, ibid. Introduction to the Hebrew Bible*, pp. 431–433, 579–580. Regarding the *Epic of Gilgamesh*, see Dalley, S. *Myths from Mesopotamia. Creation, the Flood, Gilgamesh, and Others*, Oxford: Oxford University Press (1989) pp. 41–44. Regarding other ancient texts, see Curley, M.J. *Physiologus. A Medieval Book of Nature Lore*, Chicago: University of Chicago Press (1979) pp. xxii–xxxiii ; Kee, H.C. 'Testaments of the Twelve Patriarchs. A New Translation and Introduction', in Charlesworth, J.H. (ed.) *The Old Testament Pseudepigrapha, Volume One: Apocalyptic Literature and Testaments*, Peabody, Massachusetts: Hendrickson (1983) pp. 775–828; Nickelsburg, G.W.E. & VanderKam, J.C. *1 Enoch. The Hermeneia Translation*, Minneapolis: Fortress (2012) pp. 1–13. These examples demonstrate that composition in the manner described by the DH was not limited to the Pentateuch but was widespread in ancient Near Eastern literature.

6 Nicholson, E. *The Pentateuch in the Twentieth Century: The Legacy of Julius Wellhausen*, Oxford: Clarendon (1998) pp. 95–195; Viviano, P.A. 'Source Criticism', in McKenzie, S.L. & Haynes,

the most widely accepted hypothesis on Pentateuchal composition, and it is a useful framework in which to conduct the study presented here.

If the DH is correct, then the question of the Pentateuch's composition date becomes a question of the dates of composition of J, E, P, and D. In the last six decades, the dates to which scholars have assigned J, E, or P have ranged from the pre-Davidic period to the 5th century BC.[7] Modern scholars base their dating of the Pentateuch's sources mainly on the religious and political outlook of each source, its linguistic characteristics, and/or the dependence of one passage upon another. These approaches provide useful insights, but they have not generated a consensus as to the dates of the Pentateuch's sources. The large amount of disagreement suggests that another approach is needed.

Here, I apply a new approach, which is based on archaeological anachronisms. Numerous passages in the Pentateuch mention towns, larger political entities, and technologies that did not yet exist in the 13th century BC and are therefore anachronisms in the Pentateuch's narratives of Moses and his predecessors. The earliest appearance of each such phenomenon in the archaeological record establishes a *terminus post quem* (earliest possible date, hereafter abbreviated TPQ) for the final redaction of each Pentateuchal source document that mentions it. As one scholar has noted, 'the final form of a text can be no earlier than the latest element in it.'[8] Numerous attempts to date J, E, and P took

S.R. (eds) *To Each Its Own Meaning. An Introduction to Biblical Criticisms and Their Application*, Louisville: Westminster John Knox (1999) pp. 35–57; Schmid, K. 'Distinguishing the World of the Exodus Narrative from the World of Its Narrators: The Question of the Priestly Exodus Account and Its Historical Setting', in Sparks, B.C. (ed.) *Israel's Exodus in Transdisciplinary Perspective*, New York: Springer (2015) pp. 331–344; various papers in Gertz, J.C., Levinson, B., Rom-Shiloni, D. & Schmid K (eds.) *The Formation of the Pentateuch. Bridging the Academic Cultures of Europe, Israel, and North America*, Tübingen: Mohr Siebeck (2016).

7 Eissfeldt, O. *The Old Testament. An Introduction*, New York: Harper and Row (1965) p. 200; Noth, M. *A History of Pentateuchal Traditions*, Engelwood, New Jersey: Prentice-Hall (1972) pp. 229–231; Fohrer, G. *Introduction to the Old Testament*, Nashville: Abingdon (1978) p. 111–112, 185; Soggin, J.A. *Introduction to the Old Testament. From Its Origins to the Closing of the Alexandrian Canon*, rev. ed., Philadelphia: Westminster (1980) pp. 102–103, 106–107; McEvenue, S. *Interpreting the Pentateuch*, Collegeville, Minnesota: Liturgical (1990) pp. 5, 11–12, 64, 127; Coote, R.B. *In Defense of Revolution. The Elohist History*, Minneapolis: Fortress (1991) pp. 2–3; Whybray, R.N. *Introduction to the Pentateuch*, Grand Rapids: William B. Eerdmans (1995) pp. 16, 26; Friedman, *Who Wrote the Bible?* pp. 86–87, 207–216; Levin, C. 'The Pentateuch. A Compilation by Redactors', in Gertz, J.C., Levinson, B., Rom-Shiloni, D. & Schmid K (eds.) *The Formation of the Pentateuch. Bridging the Academic Cultures of Europe, Israel, and North America*, Tübingen: Mohr Siebeck (2016) pp. 579–587; Gnuse, R.K. *The Elohist. A Seventh-Century Theological Tradition,* Eugene, Oregon: Cascade (2017) p. 68–70; Collins, *op. cit.*, p. 63–64; Pitkänen, P. 'Reconstruction [sic.] the Social Contexts of the Priestly and Deuteronomic Materials in a Non-Wellhausian Setting', in Armgardt, M., B. & Zehnder, M (eds.) *Paradigm Change in Pentateuchal Research*, Wiesbaden: Harrassowitz (2019) pp. 323–338.

8 Grabbe, L.L. *Ancient Israel. What Do We Know and How Do We Know It?* rev. ed., London: Bloomsbury (2017) p. 97.

place before the plethora of relevant archaeological discoveries of the 1990s and the current century, and for the most part those recent discoveries have not been used to reevaluate the dating of J, E, and P. Some authors have used archaeological discoveries to place constraints on the date of the final redaction of P or of the Pentateuch as a whole,[9] but thus far the archaeological discoveries of the most recent three decades have not been used to date the final redactions of J or E, and there is much new archaeological information that has not yet been applied to the dating of P. Here, I use this approach to constrain the dates of the final redactions of J, E, P. Here, I do the same for D, although its date of completion is less controversial. There seems to be a general consensus among biblical scholars that an early version of D was the law book that was introduced during the reign of Josiah.[10]

Few authors have published a full breakdown of which parts of the Pentateuch represent which source documents. Appendix 1 includes the full breakdowns of which I am aware that have been published in the last 60 years. Between these breakdowns is disagreement on source attribution for some passages, but there is sufficient agreement overall to determine a consensus as to the source document, or the most likely two source documents, for most of the passages considered here (Appendix 1). The analysis below employs the assumption that for each passage, the consensus is correct. This assumption is not indisputable, but it provides a reasonable framework within which to conduct the analysis. Also, despite the assumption, the results of this study are applicable to alternate hypotheses of the origin of each passage, within or outside the paradigm of the DH. Scholars who hypothesize a source other than J, E, P, or D for a given passage may simply apply the TPQ to the alternate source.

Some advocates of the DH I in past decades have recognized a fifth source, N or L, within the material usually attributed to J.[11] Here, I treat this material as J material, because most current scholars do not recognize a separate N or L source.[12] However, a current scholar who accepts N or L may utilize the findings of this study by applying the TPQ found here for the relevant passages to N or L. Likewise, many current scholars recognize another source, H (the Holiness

9 e.g. Redford, D.B. 'An Egyptological Perspective on the Exodus Narrative', in Rainey, A.F. (ed.) *Egypt, Israel, Sinai. Archaeological and Historical Relationships in the Biblical Period*, Tel Aviv: Tel Aviv University (1987) pp. 137–161; Grabbe, L.L. 'Exodus and History', in Dozeman, T.B., Evans, C.A. & Lohr, J.N. (eds.) *The Book of Exodus. Composition, Reception, Interpretation*, Leiden: Brill (2014) pp. 61–87; Finkelstein, I. 'The Wilderness Narrative and Itineraries and the Evolution of the Exodus Tradition', in Sparks, B.C. (ed.) *Israel's Exodus in Transdisciplinary Perspective*, New York: Springer (2015) pp. 39–53.

10 Fohrer, *op. cit.*, pp. 167–168; Whybray, *op. cit.*, p. 85; Friedman, *Who Wrote the Bible?* pp. 101–116, 136–149; Friedman, *The Bible with Sources Revealed*, p. 5; Collins, *op. cit.*, pp. 166–168, 174–175.

11 e.g. Eissfeldt, *op. cit.*; Fohrer, *op. cit.*

12 see Whybray, *op. cit.*, pp. 16–17.

School), within the material usually attributed to P.[13] Here, I treat this material as P material, but a current scholar who accepts H may utilize the findings of this study by applying the TPQ found here for the relevant passages to H.

Here, I employ the assumptions that a reference to a town or other settlement will not occur until the site is occupied, and a reference to a fortress will not occur until its walls are built, but a reference to a larger region can occur before the region is settled. These three principles are too obvious to require justification and are unlikely to be controversial.

An important caveat to the use of the above three assumptions is that in some cases, it is not certain that an archaeological site that is thought to represent a place mentioned in the biblical narrative has been correctly identified as such. The conclusions presented here will need to be adjusted accordingly, if any such site is later determined to have been misidentified. A second caveat is that it is possible that in some cases, a late redactor may have updated the name of a place that was formerly known by another name, in which case there may not have been an anachronism in the original source document. Relevant conclusions reached here may need to be adjusted accordingly if such a case is confirmed. A third caveat is that neither the DH nor any of the plethora of alternate theories as to the composition of the Pentateuch are universally accepted, which highlights the difficulty in reconstructing the compositional history of the Pentateuch and the process by which it achieved its current form. The conclusions of this study, which uses the DH as a theoretical framework within which to operate, are therefore subject to change in accordance with future insights regarding the Pentateuch's compositional and redactional history.

Anachronisms that Establish a 13th-Century TPQ

Pi-Ramesses

The town that the Pentateuch calls Raamses or Rameses is the ancient Egyptian town of Pi-Ramesses at the site of Tel ed-Dabʿa in the eastern Nile Delta.[14]

13 e.g. Olyan, 'An Eternal Covenant with Circumcision as Its Sign'; Knohl, I. 'Who Edited the Pentateuch?' in Dozeman, T.B., Schmid, K. & Schwartz, B.J. (ed.) *The Pentateuch. International Perspectives on Current Research*, pp. 359–367; Stackert, J. 'Distinguishing Innerbiblical Exigesis from Pentateuchal Redaction: Leviticus 26 as a Test Case', in Dozeman, T.B., Schmid, K. & Schwartz, B.J. (ed.) *The Pentateuch. International Perspectives on Current Research*, pp. 369–386.

14 Van Seters, J. 'The Geography of the Exodus', in Dearman, J.A. & Graham, M.P. (eds.) *The Land that I Will Show You. Essays on the History and Archaeology of the Ancient Near East in Honor of J. Maxwell Miller*, Sheffield: Sheffield Academic Press (2001) pp. 255–276; Bietak, M. 'On the Historicity of the Exodus: What Egyptology Today Can Contribute to Assessing the Biblical Account of the Sojourn in Egypt', in Sparks, B.C. (ed.) *Israel's Exodus in Transdisciplinary Perspective*, New York: Springer (2015) pp. 17–37.

Pi-Ramesses was built during the reign of Rameses II (1279–1213 BC) as a royal residence. It was abandoned as a residence in the 11th century, briefly resurrected as a royal residence in the 10th century, and used as a quarry from the 10th to the 8th centuries.[15] Its construction date establishes a TPQ in the 13th century for the final redactions of the sources that mention it: J or E, and possibly P (Appendix 1).

Some scholars have pointed out that the 13th-century building of Pi-Ramesses is consistent with a 13th-century BC date for the exodus, which could mean that the Pentateuch's mention of Pi-Ramesses is not necessarily an anachronism.[16] However, a strict reading of the biblical timeline places the exodus in the 15th century BC.[17] Furthermore, there are several other anachronisms (reviewed below) that are not solved by placing the exodus in the 13th century BC.

Pithom

The name Pithom is derived from Per Atum (Egyptian for "House of Atum"), in reference to a temple of the god Atum. It refers either to the ancient fortress at the site of Tel el-Retabeh or the ancient fortress at the site of Tel el-Maskhuta. Each is in the eastern Nile Delta and has a temple of Atum.[18] The fortress at Tel el-Retabeh was built during the reign of Seti I (1294–1279 BC) or Rameses II (1279–1213 BC), used until the early 12th century, and razed and rebuilt under Rameses III (1184–1153 BC). The fortress was abandoned by the Third Intermediate Period (mid-11th to mid-10th century BC), but an agriculturally based settlement continued to occupy the site.[19] If Tel el-Retabeh is biblical Pithom, it establishes a TPQ in the 13th century for the final redaction of the one source that mentions Pithom: J or E (Appendix 1).

Some scholars have pointed out that the 13th-century building of the fortress at Tel el-Retabeh is consistent with a 13th-century BC date for the exodus, which could mean that the Pentateuch's mention of Pithom is not necessarily an anachronism.[20] However, as mentioned above, a strict reading of

15 Van Seters, *op. cit.*; Bietak, *op. cit.*

16 Hoffmeier, J.K. *Israel in Egypt. The Evidence for the Authenticity of the Exodus Tradition*, Oxford: Oxford University Press (1996) 116–119; Kitchen, K.A. *On the Reliability of the Old Testament*, Grand Rapids: William B. Eerdmans (2003) 255–256. For a review of the arguments that relate to Pi-Ramesses, see Davies, G.I. *A Critical and Exegetical Commentary on Exodus 1–18, Vol. 1*, London: T&& Clark (2020) pp. 155–157.

17 Jones, *op. cit.*, 23–24.

18 Van Seters, *op. cit.*; Bietak, *op. cit.*

19 Smoláriková, K. 'Fortified Delta—A Case Study from Tell el-Retaba', *Asian and African Studies* (2019) 28, 19–29, 109–112.

20 Hoffmeier, *op. cit.*, 119–121; Kitchen, *op. cit.*, 256–259. For a review of the arguments that relate to Pithom, see Davies, *op.cit., A Critical and Exegetical Commentary on Exodus 1–18, Vol.*

the biblical timeline places the exodus in the 15th century BC, and there are several other anachronisms (reviewed below) that are not solved by placing the exodus in the 13th century BC.

The fortress at Tel el-Maskhuta was not built until the end of the 7th century.[21] If Tel el-Maskhuta is biblical Pithom, it establishes a TPQ in the late 7th century for the final redaction of J or E (see below).

Anachronisms that Establish a 12th-Century TPQ

Beersheba

The site of Tel es-Sabaʿ is that of the biblical town of Beersheba. It was excavated down to the bedrock, revealing its earliest habitation layer. The ceramics from its earliest habitation are pottery of Iron Age I.[22] Radiocarbon dating places the beginning of Iron Age I in the Levant in the late 12th century BC,[23] and the ceramics from the earliest habitation are typical of the late 12th century.[24] The earliest occupation of Beersheba therefore establishes a TPQ in the late 12th century for the final redactions of the sources that mention it: J and E (Appendix 1).

Philistines

The Philistines were an ethnic group that dominated southwestern Canaan during the Iron Age. Genetic studies of their remains reveal a southern European ancestry.[25] They were one of the displaced Aegean island groups called Sea Peoples that invaded the eastern Mediterranean world at the end of the

1, pp. 152–157.

21 Van Seters, *op. cit*.

22 Herzog, Z. 'Beer-sheba of the Patriarchs', *Biblical Archaeology Review* (1980) 6 no. 6, 12–28; Herzog, Z. 'Enclosed Settlements in the Negeb and the Wilderness of Beer-sheba', *Bulletin of the American Schools of Oriental Research* (1983) 250, 41–49.

23 Hagens, G. 'Testing the Limits: Radiocarbon Dating and the End of the Late Bronze Age', *Radiocarbon* (2006) 48, 83–100; Finkelstein, I & Piasetzky, E. 'Radiocarbon Dating the Iron Age in the Levant: A Bayesian Model for Six Ceramic Phases and Six Transitions', *Antiquity* (2010) 84, 374–385; Martin, M.A.S., Finkelstein, I. & Piasetzky, E. 'Radiocarbon-Dating the Late Bronze Age: Cultural and Historical Considerations on Megiddo and Beyond', *Bulletin of the American Schools of Oriental Research* (2020) 384, 211–240.

24 Herzog, Z. 'Tel Beersheba', in Stern, E., Lewison-Gilboa, A. & Avriham, J. (eds.) *The New Encyclopedia of Archaeological Excavations in the Holy Land, Vol. 1*, Jerusalem: Israel Exploration Society (1993) pp. 167–173.

25 Feldman, M. et al., 'Ancient DNA Sheds Light on the Genetic Origins of Early Iron Age Philistines', *Science Advances* (2019) 5 no. eaax0061, 1–10.

Bronze Age. Radiocarbon dating places the fall of the kingdom of Ugarit in Syria during that series of invasions in the early 12th century.[26] Radiocarbon dates from a pair of recent studies placed the beginning of the Philistines' settling of southwestern Canaan in the 13th or early 12th century.[27] However, both studies were marred by methodological problems, and the association between their radiocarbon dates and Philistine arrival are dubious.[28] Radiocarbon dates pertaining to samples associated with Philistine material culture, from studies without such problems, place the Philistines' settling of southwestern Canaan in the late 12th century.[29]

J mentions Philistia as a land (Exod. 15:14) and mentions a Philistine king (Gen. 26:1; Gen. 26:8). E mentions the land of the Philistines (Gen. 21:32; Gen. 21:34; Exod. 13:17) and the sea of the Philistines (Exod. 23:31). There cannot have been a land or sea of the Philistines, nor a local Philistine ruler, until after the Philistines had established dominance over southwestern Canaan. The advent of their settlement there establishes a TPQ in the late 12th century for the final redactions of the sources that mention the land and sea of Philistia and a Philistine king: J and E (Appendix 1).

Medeba

The site of Tel Madaba, identified as the biblical town of Medeba in the land of Moab, has been excavated down to the bedrock. Its earliest occupation layer dates to the transition between the Late Bronze and the Iron Age,[30] which occurred in the late 12th century.[31] The earliest occupation of Medeba therefore establishes a TPQ in the late 12th century for the final redaction of the source

26 Kaniewski, D. et al., 'The Sea Peoples, from Cuneiform Tablets to Carbon Dating', *PLoS ONE* (2011) 6 no. 6:320232, 1–7.

27 Asscher, Y., Lehmann, G., Rosen, S.A., Weiner, S. & Boaretto, E. 'Absolute Dating of the Late Bronze to Iron Age Transition and the Appearance of Philistine Culture in Qubur el-Walaydah, Southern Levant', *Radiocarbon* (2015) 57, 77–97; Asscher, Y., Cabanes, D., Hitchcock, L.A., Maeir, A.M., Weiner, S & Boaretto, E. 'Radiocarbon Dating Shows an Early Appearance of Philistine Material Culture in Tell Es-Safi/Gath, Philistia', *Radiocarbon* (2015) 57, 825–850.

28 Finkelstein, I. 'To Date or Not to Date: Radiocarbon and the Arrival of the Philistines', *Egypt and the Levant* (2016) 26, 275–284.

29 Webster, L.C. et al., 'Preliminary Radiocarbon Results for Late Bronze Age Strata at Tel Azekah and Their Implications', *Radiocarbon* (2017) 60, 309–331; Finkelstein, I. 'Philistine Chronology: An Update', *Israel Exploration Journal* (2018) 68, 221–321; Levy, E., Finkelstein, I., Martin, M.A.S. & Piasetzky, E. 'The Date of Appearance of Philistine Pottery at Megiddo: A Computational Approach', *Bulletin of the American Society of Overseas Research* (2022) 387, 1–30.

30 Harrison, T.P. 'The Land of Mēdebaʾ and Early Iron Age Mādabā', in Bienkowski, P. (ed.) *Studies on Iron Age Moab and Neighbouring Areas in Honor of Michèle Daviau*, Leuven: Peeters (2009) pp. 27–45.

31 Hagens, *op. cit.*; Finkelstein and Piasetzky, *op. cit.*; Martin et al., *op. cit.*

that mentions it: J or E (Appendix 1).

Nomads' dwelling-tents

Contrary to popular belief, nomadic groups do not drift like phantoms through the desert without leaving archaeological traces. Even small groups of nomads leave visible archaeological signs that can last for millennia.[32] Present-day nomads of the Middle East leave recognizable traces when they break camp, and there are hundreds of archaeological sites in the Negev that are nomad camps from centuries past,[33] including several known Iron Age sites.[34] Such sites often reveal the sort of dwelling that the nomads used.

Archaeological traces reveal that nomadic dwellings in the Levant did not include tents until the Iron Age. By then, cultic and military tents had been in use for centuries, but Bronze Age nomads had not yet invented a sort of tent that was used as a portable dwelling. Their encampments show that before the Iron Age, they built non-portable huts with stone foundations as temporary dwellings.[35] Some such structures accrued additional construction through the centuries, indicating reuse.[36] This suggests that their occupants may have migrated seasonally instead of constantly, rotating through the year among a series of seasonal stations with permanent structures.

It has been argued that there is evidence of the use of dwelling-tents in the Middle East in the second millennium BC, and as early as the late third millennium BC, in the form of the words *kuštāru*, *zaratu*, *maškanu* (and its Sumerian equivalent ZA.LAM.GAR) in Sumerian and Babylonian texts, and in the mention of a tent in the Egyptian tale of Sinuhe.[37] However, the Sumerian and Babylonian words can refer to boat canopies, royal residences, military encampments, cultic tents, non-tent dwellings, and hide or fabric items of unknown use. Context suggests that the reference in the Sinuhe story is to a military encampment, not

32 Rosen, S.A. & Saidel, B.A. 'The Camel and the Tent: An Exploration of Technological Change among Early Pastoralists', *Journal of Near Eastern Studies* (2010) 69, 63–77.

33 *Ibid*.

34 Knabb, K.A., Jones, I.W.N., Najjar, M. & Levy, T.E. 'Patterns of Iron Age Mining and Settlement in Jordan's Faynan District. The Wadi al-Jariya Survey in Context', in Levy, T.E., Najjar, M. & Ben-Yosef, E. (eds.) *New Insights into the Iron Age Archaeology of Edom, Southern Jordan. Surveys, Excavations, and Research from the University of California, San Diego–Department of Antiquities of Jordan, Edom Lowlands Regional Archaeology Project (ELRAP)*, Los Angeles: Cotsen Institute of Archaeology Press (2014) pp. 577–625.

35 Rosen & Saidel, *op. cit.*

36 Rosen, S.A. 'The Physical Site. Stratigraphy, Architecture, and Site Features', in Rosen, S.A. (ed.) *An Investigation into Early Desert Pastoralism. Excavations at the Camel Site, Negev*, Los Angeles: Costsen Institute Press (2010) pp. 33–58.

37 D.J. Wiseman, 'They Lived in Tents', *in Biblical and Near Eastern Studies: Essays in Honor of William Sanford LaSor*, edited by G. A. Tuttle (Grand Rapids 1978) 195–200.

a nomadic dwelling-tent.[38] These arguments for nomads' use of dwelling-tents before the first millennium BC are therefore dubious.

Artistic depictions of dwelling-tents and archaeological traces of them are unknown before the first millennium BC. The earliest extrabiblical textual reference to tents as dwellings is a 12th-century Egyptian reference to the dwelling-tents of Shasu nomads of the southern Levant.[39] According to some scholars, the name Shasu means "tent-dwellers."[40] If that is correct, it implies that the Shasu already dwelled in tents when they were first called by that name, which occurred at least as early as the 15th century BC. However, on linguistic grounds, it is more likely that the name Shasu is derived from an Egyptian word meaning "wanderers."[41]

The list of Pentateuchal references to nomadic dwelling-tents in Appendix 1 omits references to the Tabernacle and only includes dwellings for humans. Even without the former, J, E, P, and D all mention dwelling-tents (Appendix 1). Their final redactions therefore are unlikely to have occurred before the 12th century BC.

Kadesh-Barnea

The site of Tel el-Qudeirat in the valley of Ain el Qudeirat, in northeast Sinai, is thought to be the biblical Kadesh, also called Kadesh-Barnea. The oldest settlement at Tel el-Qudeirat is a fortress that dates to the 12th century BC.[42] If the biblical Kadesh is that settlement, then its oldest occupation establishes a TPQ in the 12th century for the final redactions of the sources that mention it: P, D, and J or E (Appendix 1). At the least, it establishes a 12th-century TPQ for the source that mentions Kadesh as a town: J or E in Num. 20:16 (Appendix 1).

The other Pentateuchal references to Kadesh do not specify whether they mean the settlement or the region. If they are references to the region around the fortress, then their TPQ is earlier than the 12th century. This is because radiocarbon dating of an aqueduct that indicates farming activity in Ain el-Qudeirat places the aqueduct sometime between the mid-17th and late 15th

38 Rosen & Saidel, *op. cit.*, 71.

39 *Ibid*., 71.

40 e.g. Knauf, E.A. 'The Impact of the Late Bronze III Period on the Origins of Israel', in Grabbe, L.L. (ed.) *The Land of Canaan in the Late Bronze Age*, London: Bloomsbury (2016) pp. 125–132.

41 Giveon, R. *Les Bédouins Shosou des Documents Égyptiens*, Leiden: Brill (1971) pp. 9–10, 261–263.

42 Bruins, H.J. & van der Plicht, J. 'Radiocarbon Dating the 'Wilderness of Zin,'' *Radiocarbon* (2007) 49, 481–497.

centuries BC.[43]

Eziongeber

Eziongeber was a seaport on the Gulf of Aqaba that the Deuteronomistic History and the Chronicler mention in connection with trade in the days of King Solomon and the 9th-century reign of his descendant, Jehoshaphat (1 Kgs 9:26; 1 Kgs 22:48; 2 Chr 8:17; 2 Chr 20:36). Jazirat Fara'un (Pharaoh's Island), an island at the north end of the gulf, is the most likely location of biblical Eziongeber.[44] It has no evidence of sedentary occupation before the Iron Age,[45] which establishes a TPQ in the late 12th century for the sources that mention Eziongeber: D and possibly P (Appendix 1). This TPQ may move forward into the later Iron Age if future studies are able to further narrow the period of its earliest sedentary occupation.

Some researchers prefer to identify the site of Tel el-Kheleifeh as the biblical Eziongeber.[46] However, the site has no port structures. Tel el-Kheleifeh is more likely the biblical Elath,[47] about which see below.

Iron tools

Ironworking began in the Near East in the Late Bronze Age but remained rare for centuries.[48] It was at first restricted to prestige objects: rings, bracelets, anklets, and cultic knives. Utilitarian tools made of iron first appear in the archaeological record in the 12th century BC but remain rare until a sudden explosion of ironworking in the 10th century BC. It was not until that century that iron tools became common and iron began to replace bronze as the metal

43 *Ibid*.

44 MacDonald, B. *'East of the Jordan'. Territories and Sites of the Hebrew Scriptures*, Boston: American Schools of Oriental Research (2000) pp. 79–81.

45 Smith, N.G., Najjar, M. & Levy, T.E. 'New Perspectives on the Iron Age Edom Steppe and Highlands Khirbat al-Malayotah, Khirbat al-Kur, Khirbat al-Iraq Shmailya, and Tawilan', in Levy, T.E., Najjar, M. & Ben-Yosef, E. (eds.) *New Insights into the Iron Age Archaeology of Edom, Southern Jordan. Surveys, Excavations, and Research from the University of California, San Diego–Department of Antiquities of Jordan, Edom Lowlands Regional Archaeology Project (ELRAP)*, Los Angeles: Cotsen Institute of Archaeology Press (2014) pp. 247–295.

46 e.g. Glueck, N. 'Ezion-geber', *The Biblical Archaeologist* (1965) 28, 70–87; Finkelstein, 'The Wilderness Narrative and Itineraries'.

47 MacDonald, *op. cit.*, pp. 81–82

48 Muhly, J.D. 'Metalworking/Mining in the Levant', in Richard, S. (ed.) *Near Eastern Archaeology. A Reader*, Winona Lake, Indiana: Eisenbrauns (2003) pp. 174–183; Yahalom-Mack, N. & Eliyahu-Behar, A. 'The Transition from Bronze to Iron in Canaan: Chronology, Technology, and Context', *Radiocarbon* (2015) 57, 285–305.

of choice for utilitarian objects.[49] Even so, iron tools were present in the southern Levant in small numbers in the 12th century BC. Pentateuchal references to utilitarian objects made of iron in the Levant therefore establish a TPQ in that century.

D mentions iron objects that are unambiguously utilitarian: altar-making tools, an axe head, and a bedstead (Appendix 1). Those references establish a 12th-century TPQ for D. It has been argued that the "iron bedstead" may be an iron-*plated* bedstead,[50] in which case the iron pieces are prestige objects (decorations), not tools, and therefore consistent with Late Bronze Age usage of iron. However, iron plating is unknown from the Late Bronze and Iron Age I archaeological record of the Levant,[51] and the iron altar-making tool and iron axe head are unambiguously utilitarian tools.

J mentions ironworking in general (Appendix 1). P mentions iron booty and is possibly the source that mentions iron murder weapons (Appendix 1), which are consistent with jewelry and knives respectively. The rarity of ironworking in the Levant in the Bronze Age strongly suggests a 12th-century TPQ for J and P, but if we are to err on the side of caution, we must recognize an earlier, Bronze Age TPQ for their general references to iron and their possible references to non-utilitarian iron objects.

Anachronisms that Establish a 10th-Century TPQ

Domesticated camels

Captivity produces characteristic skeletal changes in an animal's body,[52] and pronounced morphological changes can occur through the generations in a

49 Eliyahu-Behar, A. et al., 'Iron and Bronze Production in Iron Age IIA Philistia: New Evidence from Tell es-Safi/Gath, Israel', *Journal of Archaeological Science* (2012) 39, 255–267; Eliyahu-Bihar, A., Yahalom-Mack, N., Gadot, Y. & Finkelstein, I. 'Iron Smithing and Smelting in Major Urban Centers in Israel during the Iron Age', *Journal of Archaeological Science* (2013) 40, 4319–4330; Yahalom-Mack & Eliyahu-Behar, *op. cit*.

50 Millard, A. 'King Og's Bed and Other Ancient Ironmongery', in Eslinger, L. & Taylor, G. (eds.) *Ascribe to the Lord. Biblical and Other Studies in Memory of Peter C. Craigie*, Bolton: Rutherford (1988) pp. 481–492.

51 Yahalom-Mack & Eliyahu-Behar, *op. cit*.

52 O'Regan, H.J. & Kitchener, A.C. 'The Effects of Captivity on the Morphology of Captive, Domesticated and Feral Animals', *Mammal Review*, (2005) 35, 215–230; Uerpmann, M. & Uerpmann, H.-P. 'Archaezoology of Camels in South-Eastern Arabia', in Knoll, E.M. & Burger, P. (eds.) *Camels in Asia and North Africa. Interdisciplinary Perspectives on Their Past and Present Significance*, Vienna: Österreichischen Akademie der Wissenschaften (2012) pp. 109–122; Hartstone-Rose, A. et al., 'The Three-dimensional Effects of Captivity', *PLoS ONE* (2014) 9 no. 11:e113437, 1–15.

captive animal population within the span of a human lifetime.[53] Domestication and selective breeding can enhance this process, increasing the speed and magnitude of the accumulation of heritable morphological change.[54] Examples of domesticated species in which morphological change through the generations is slow are known to exist,[55] but as a general rule, captivity and domestication produce morphological markers that distinguish wild from domesticated individuals in the zooarchaeological record soon after domestication begins.[56] In the dromedary camel (*Camelus dromedarius*), reduced body size distinguishes domesticated individuals from their wild counterparts.[57]

DNA evidence indicates that the dromedary camel was first domesticated on the Arabian Peninsula and that the use of domesticated dromedaries spread outward from there.[58] Radiocarbon dating of domesticated camel bones shows that the dromedary camel was domesticated no earlier than the 10th century BC, and artistic and textual evidence of domestic camels are consistent with that date,[59] as is morphological evidence from dromedary camel remains.[60] Dromedary camel remains from earlier periods are from wild camels, which archaeological evidence indicates were hunted in the ancient Near East for centuries before their domestication.[61] Radiocarbon dates earlier than the 10th

53 Wisely, S.M., Ososky, J.H. & Buskirk, S.W. 'Morphological Changes to Black-footed Ferrets (*Mustela nigripes*) Resulting from Captivity', *Canadian Journal of Zoology* (2002) 80, 1562–1568; O'Regan & Kitchener, 'The Effects of Captivity on the Morphology of Captive, Domesticated and Feral Animals'; Uerpmann & Uerpmann, *op. cit*.

54 Castle, W.E. 'Domestication of the Rat', *Proceedings of the National Academy of Sciences* (1947) 33, 109–117; Trut, L., Oskina, I. & Kharlamova, A. 'Animal Evolution during Domestication: The Domesticated Fox as a Model', *Bioessays* (2009) 31, 349–360.

55 Marshall, F. & Weissbrod, L. 'Domestication Processes and Morphological Change through the Lens of the Donkey and African Pastoralism', *Current Anthropology* (2011) 52, S397–S413.

56 Rossel, S. et al., 'Domestication of the Donkey: Timing, Processes and Indicators', *Proceedings of the National Academy of Sciences of the USA*, (2008) 105, 3715–3720; Uerpmann & Uerpmann, *op. cit*.

57 Uerpmann & Uerpmann, *op. cit*.

58 Almathen, F. et al. 'Ancient and Modern DNA Reveal Dynamics of Domestication and Cross-Continental Dispersal of the Dromedary', *Proceedings of the National Academy of Sciences of the USA* (2016) 113, 6707–6712; Harbors, H. et al., 'The Mark of Captivity: Plastic Responses in the Ankle Bone of a Wild Ungulate (*Sus scrofa*)', *Royal Society Open Science*, (2020) 7 no. 192039, 1–14.

59 Sapir-Hen, L. & Ben-Yosef, E. 'The Introduction of Domestic Camels to the Southern Levant: Evidence from the Aravah Valley', *Tel Aviv* (2013) 40, 277–285; Magee, P. 'When Was the Dromedary Domesticated in the Ancient Near East?' *Zeitschrift für Orient-Archäologie* (2015) 8, 252–277.

60 Uerpmann & Uerpmann, *op. cit*.

61 Uerpmann, H.-P. & Uerpmann, M. 'The Appearance of the Domestic Camel in South-east Arabia', *Journal of Oman Studies* (2002) 12, 235–260; Uerpmann & Uerpmann, 'Archaezoology of Camels in South-Eastern Arabia'; Heide, M. 'The Domestication of the Camel: Biological Archaeological, and Inscriptional Evidence from Mesopotamia, Egypt, Israel, and Arabia, and

century BC for dromedary remains are from remains without indications of domestication in some cases and from samples with too little organic material to produce reliable dates in other cases.[62]

A few recent publications list dates earlier than the 10th century for the domestication of the dromedary.[63] However, some of the references that they cite in support of the earlier dates list no evidence for the earlier dates, and the evidence listed in the other references consists of data that previous studies had already shown not to support the earlier dates.[64] Some scholars have alleged that domesticated camels are depicted on a few artifacts from Egypt and the Levant from before the 10th century.[65] However, the artifacts in question are cases in which the animal was misidentified or the artifact was misdated. The neck and torso morphology of two alleged depictions of domesticated dromedaries from before the 10th century, one from Tel Asmar in Mesopotamia and one from Taanach in Canaan, indicate that they are depictions of donkeys, and the position of the rider in each case is consistent with a donkey.[66] The evidence of misidentification and misdating in the other cases has been reviewed elsewhere and need not be repeated here.[67] Alleged remains of domesticated dromedaries from before the Iron Age in the Arabian Peninsula lack signs of domestication and are more likely the remains of wild camels.[68]

Domesticated dromedaries made their first appearance in Egypt in the 9th century BC.[69] J mentions domesticated camels from Egypt (Gen. 12:16), and it is tempting to suggest that this establishes a TPQ for J in the 9th century BC. However, to err on the side of caution, it would be prudent to recognize a TPQ for

Literary Evidence from the Hebrew Bible', *Ugarit-Forschungen* (2010) 42, 331–383.

62 Grigson, C. 'The History of the Camel Bone Dating Project', *Anthropozoologica*, (2014) 49, 225–235.

63 Almathen et al., 'Ancient and Modern DNA Reveal Dynamics of Domestication and Cross-Continental Dispersal of the Dromedary'; Sala, R. 'The Domestication of the Camel in the Literary, Archaeological and Petroglyph Records', *Journal of Arid Land Studies* (2017) 26 no. 4, 205–211.

64 Midant-Reynes, B. & Braunstein-Silvestre, F. 'Le Chameau en Égypte', *Orientalia* (1977) 46, 337–362; Uerpmann & Uerpmann, 'The Appearance of the Domestic Camel in South-east Arabia'.

65 Dostal, W. *Die Beduinen in Südarabien*, Vienna: Ferdinand Berger und Söhne (1967) p. 15; Kitchen, *op. cit.*, 339.

66 Dostal, *op cit.*, Abb. 4, 5. On the seated position of a donkey rider, see Archer, R. 'Chariotry to Cavalry: Developments in the Early First Millennium', in Fagan, G.G. & Trundle, M. (eds.) *New Perspectives on Ancient Warfare*, Leiden: Brill (2010) pp. 57–79.

67 Midant-Reynes & Braunstein-Silvestre, *op cit*.

68 Uerpmann & Uerpmann, 'The Appearance of the Domestic Camel in South-east Arabia'; Uerpmann & Uerpmann, 'Archaezoology of Camels in South-Eastern Arabia'.

69 Rowley-Conwy, P. 'The Camel in the Nile Valley: New Radiocarbon Accelerator (AMS) Dates from Qaṣr Ibrim', *Journal of Egyptian Archaeology* (1988) 74, 245–248.

Pentateuchal references to camels in the period in which domesticated camels appeared in the Levant: the 10th century BC. Even if Egypt had no camels then, it would not be surprising for a Levantine writer to have projected 10th- (or later-) century expectations upon his literary Egypt of centuries past.

The Bactrian camel (*Camelus bactrianus*) was domesticated in Central Asia before the beginning of the second millennium BC.[70] However, there is no evidence that domesticated Bactrian camels were in use west of present-day Iran before 10th century BC.[71] Previous suggestions to the contrary were based on insufficient evidence (Appendix 2). Any Pentateuchal mention of domesticated camels in the Levant is therefore in reference to dromedaries and establishes a TPQ in the 10th century for the sources that mention domesticated camels: J and possibly E (Appendix 1).

Kings of Israel

Pentateuchal references to kings of Israel or to kings descended from Abraham (which implies kings of Israel or Judah) establish a TPQ at the time of the emergence of the Israelite monarchy. Israel's Kings Saul and David reigned from Gibeah and Jerusalem respectively (1 Sam 13:16; 1 Sam 15:34; 1 Sam 23:19; 1 Sam 26:1; 2 Sam 5:5). After its secession, the northern kingdom of Israel was ruled from Shechem under Jeroboam in the late 10th century (1 Kgs 12:25), from Tirzah under Baasha, Elah, and Omri at the end of the 10th century and in the early 9th century (1 Kgs 15:33; 1 Kgs 16:8; 1 Kgs 16:23), and from Samaria in the mid-9th century and onward, beginning with King Omri (1 Kgs 16:23–28). The archaeological record supports these biblical attestations. Palaces and fortifications at Samaria, Megiddo, Jezreel, and Dan testify to the presence of monumental construction by a geographically extensive Israelite state in the 9th century.[72] At Tirzah, the presence of a settlement that was refortified, destroyed, and then rebuilt in the early 9th century is consistent with use as a capital that Omri's coup destroyed and then rebuilt.[73] At Shechem, a fortified town, built in the late 10th century on the remains of the town that Shoshenq I destroyed, is consistent with use as an authority center under Jero-

70 Heide, *op cit.*; Trinks, A., Burger, P., Benecke, N. & Burger, J. 'Ancient DNA Reveals Domestication Process: The Case of the Two-Humped Camel', in Knoll, E.-M. & Burger, P. (eds.) *Camels in Asia and North Africa. Interdisciplinary Perspectives on Their Past and Present Significance*, Vienna: Österreichischen Akademie der Wissenschaften (2012) pp. 79–96.

71 Magee, *op cit.*

72 Williamson, H.G.M. 'Tel Jezreel and the Dynasty of Omri', *Palestine Exploration Quarterly* (1996) 128, 41–51; Finkelstein, I., Adams, M.J., Hall, E. & Levy, E. 'The Iron Age Gates of Megiddo: New Evidence and Updated Interpretations', *Tel Aviv* (2019) 46, 167–191.

73 Chambon, A. 'Far-'ah, Tell el- (North). Late Bronze Age to the Roman Period', in Stern, E., Lewison-Gilboa, A. & Avriham, J. (eds.) *The New Encyclopedia of Archaeological Excavations in the Holy Land, Vol. 2*, Jerusalem: Israel Exploration Society (1993) pp. 439–440.

boam.[74] Fortifications built in the 10th century at Gibeah[75] and Jerusalem[76] are consistent with use as authority centers during the reigns of Saul and David, if the biblical attributions of 40 years apiece to Saul, David, and Solomon (1 Kgs 5, 4–5 1 Kgs 11:42; Acts 13:21) are symbolic attributions for reigns that were somewhat shorter. Even if the pre-Omride kings were authorities with small territories instead of kings of full-blown states, the archaeological record is consistent with the locations of their authority centers as listed in the biblical account. It would therefore be prudent to err on the side of caution and recognize a TPQ as early as the 10th century for Pentateuchal sources that mention or imply the existence of kings of Israel: P, D, and J or E (Appendix 1).

Six of the seven Pentateuchal passages that mention kings of Israel are passages in which the future existence of kings of Israel is prophesied. The TPQ given above for such passages applies only if the passages are examples of *vaticinium ex eventu* (a 'prophecy' written after the 'foretold' events had already happened). The other passage that mentions kings of Israel is Gen. 36:31, for which there is no consensus as to its source.

Arad

Tel 'Arad is identified as the site of the biblical town of Arad in Judah. Ceramic evidence indicates a 10th century date for the building of Arad.[77] This construction date establishes a TPQ in the 10th century for the final redaction of J, the one source that mentions Arad (Appendix 1).

Heshbon and Amorite king

Tel Hesban is identified as the biblical town of Heshbon. In the Late Bronze, it was unoccupied, and the surrounding area was only sparsely inhabited. In the Iron Age I, Tel Hesban was occupied by a village, and there were a few other villages and larger settlements in the surrounding area. The village at Tel Hesban did not grow into a fortified town until the Iron IIA, at which time it ap-

74 Campbell, E.F. 'Shechem. Tel Balâtah', in Stern, E., Lewison-Gilboa, A. & Avriham, J. (eds.) *The New Encyclopedia of Archaeological Excavations in the Holy Land, Vol. 4*, Jerusalem: Israel Exploration Society (1993) pp. 1345–1354.

75 Lapp', N.L. Fûl, Tel el-', in Stern, E., Lewison-Gilboa, A. & Avriham, J. (eds.) *The New Encyclopedia of Archaeological Excavations in the Holy Land, Vol. 2*, Jerusalem: Israel Exploration Society (1993) pp. 445–448.

76 Mazar, E. 'The Solomonic Wall in Jerusalem', in Maeir A.M. & de Miroschedji, P. *I Will Speak the Riddles of Ancient Times. Archaeological and Historical Studies in Honor of Amihai Mazar on the Occasion of His Sixtieth Birthday*, Winona Lake, Indiana: Eisenbrauns (2006) pp. 775–786.

77 Herzog, Z. 'The Fortress Mound at Tel Arad. An Interim Report', *Tel Aviv* (2002) 29, 3–109; Singer-Avitz, L. 'Arad: The Iron Age Pottery Assemblages', *Tel Aviv* (2002) 29, 110–214.

pears to have served as the regional center for a tribal kingdom. Radiocarbon dating places the beginning of Iron IIA in the Levant in the mid to late 10th century. The town was abandoned by the end of the Iron IIA, and Tel Hesban was occupied by a Moabite squatter settlement in the Iron IIB, the beginning of which radiocarbon dating places at the end of the 9th century. An Ammonite settlement grew on the site with the arrival of the Assyrians in the late 8th century, and the settlement was once again part of a tribal kingdom.[78]

According to the Pentateuchal narrative, Heshbon was the location from which the Amorite king Sihon ruled. The concept of Heshbon as a town with a king is unlikely to have arisen before the advent of the Iron IIA town. That town was short-lived, and the concept may instead have arisen after the building of the subsequent settlement in the 8th century. But to err on the side of caution, it would be prudent to recognize a TPQ in the mid to late 10th century, rather than the 8th, for the final redaction of sources that mention Sihon and Heshbon: D, and J or E (Appendix 1).

Ataroth

The site of Khirbat ʿAtaruz is identified as the biblical location of Ataroth, an Israelite town with a temple east of the Dead Sea. According to the Mesha Stele, it was built by an Israelite king and was later captured by Mesha's forces during the Moabite rebellion of the 9th century and resettled with Moabites. Ceramic evidence dates the earliest occupation level at Ataroth to the Iron IIA.[79] Radiocarbon dating places the beginning of Iron IIA in the Levant in the mid to late 10th century and the end of Iron IIA at the end of the 9th century.[80] This establishes a TPQ in the mid to late 10th century for the final redaction of sources that mention Ataroth, which consensus does not identify (Appendix 1).

Another settlement called Ataroth is mentioned in Jos. 16:2, Jos. 16:7, and 1 Chr 2:54. It is an Iron Age settlement west of the Jordan River.[81] There is no mention of this western Ataroth in the Pentateuch.

78 Ray, P.J. *Tell Hesban and Vicinity in the Iron Age*, Berrien Springs, Michigan: Andrews University Press (2001) pp. 57, 70, 111–112, 114, 155, 167. For the radiocarbon dates, see Finkelstein & Piasetzky, *op cit*.; Lee, S., Bronk Ramsey, C., & Mazar, A. 'Iron Age Chronology in Israel: Results from Modeling with a Trapezoidal Bayesian Framework', *Radiocarbon*, (2013) 55, 731–740.

79 Lemaire, A. ''House of David' Restored in Moabite Inscription', *Biblical Archaeology Review* (1994) 20 no. 3, 30–37; Ji, C. & Bates, R.D., 'Khirbat ʿAtaruz 2011–2012: A Preliminary Report', *Andrews University Seminary Studies* (2014) 52, 47–91.

80 Finkelstein & Piasetzky, *op cit*.; Lee et al., *op cit*.

81 Zertal, A., Ben-Josef, D, Cohen, O. & Be'eri, R. 'Kh. ʿAujah el-Foqa (Ataroth)—An Iron Age Fortified City in the Jordan Valley', *Palestine Exploration Quarterly* (2009) 141, 104–123.

Bethnimrah

Tel Nimrin, east of the Jordan River, is identified as the biblical town of Bethnimrah. It was built in the Iron Age upon the ruins of an abandoned Middle Bronze town. Radiocarbon dating places the earliest occupation of the Iron Age settlement in the 10th century BC.[82] This establishes a TPQ in the 10th century for the final redaction of sources that mention Bethnimrah, which consensus does not identify (Appendix 1).

Anachronisms that Establish a 9th-Century TPQ

Aroer

Khirbet ʿAraʿir, east of the Dead Sea, is the site of the biblical town of Aroer. It was occupied in the Early Bronze, abandoned through the Middle Bronze, and reoccupied in the Late Bronze. Fortification walls were built onto the bedrock in the Iron Age. Their architectural similarity to the walls of Samaria indicate construction during the Omride period, which began in the early 9th century BC. The Omride settlement was replaced by a Moabite fortress during the reign of Mesha in the mid-9th century.[83] The archaeological evidence establishes a TPQ in the early 9th century for the final redaction of sources that mention Aroer: D and another source that consensus does not identify (Appendix 1).

Dibon

In the 9th century BC, Mesha chose to convert a village in the land of Moab into the capital of the state that he established. Its fortifications were built during his reign, and the fortified town was called Karchoh. It later came to be called by the name of Mesha's tribe: Dibon (Dhiban).[84] The town was not called Dibon until after Mesha established it as his capital. Any Pentateuchal reference to Dibon as a town, as opposed to a tribe, therefore establishes a 9th-century TPQ for the final redactions of the sources: J or E, and possibly P (Appendix 1).

82 Flanagan, J.W., McCreery, D.W. & Yassine, K. N. 'Tall Nimrīn: Preliminary Report on the 1995 Excavation and Geological Survey', *Annual of the Department of Antiquities of Jordan* (1996) 40, 271–292.

83 Olávarri, E. 'Sondages à 'Aroʿer sur l'Arnon', *Revue Biblique* (1965) 72, 77–94 ; Finkelstein, I. & Lipschits, O. 'Omride Architecture in Moab. Jahaz and Ataroth', *Zeitschrift des Deutschen Palästina-Vereins* (2010) 126, 292–42.

84 Van der Steen, E.J. & Smelik, K.A.D. 'King Mesha and the Tribe of Dibon', *Journal for the Study of the Old Testament* (2007) 32, 139–162.

Part of an inscription listing battle locations of Rameses II in the 13th century BC has been mistaken for a listing of Dibon in Moab long before the 9th century BC.[85] However, the inscription is a record of battles in Syria, not Moab.[86]

Jahaz

The site of Khirbet al-Mudayna ath-Thamad is identified as the biblical town of Jahaz.[87] Ceramic evidence indicates that the settlement was first occupied in the Iron IIA, the Mesha Stele states that it was built by the Israelite king who fought against Mesha, and radiocarbon dates are consistent with a late 9th century BC date for the establishment of the town.[88] This establishes a TPQ in the 9th century for the final redaction of sources that mention Jahaz: D, and J or E (Appendix 1).

Ur of the Chaldees

The Kasdim or Kaldiun (rendered as Chaldees or Chaldeans in English) are an ethnic group that dominated southwestern Mesopotamia during and after the time of the Neo-Assyrian Empire and included the first dynasty of the Neo-Babylonian Empire.[89] The Iron Age Mesopotamian powers kept meticulous records with copious demographic details, so it stands to reason that a Mesopotamian people with a distinct group name (or, at least, the group name) arose not long before the earliest textual record of the group by that name in Mesopotamia. The earliest record of the Chaldeans occurs in Assyrian annals of Shalmaneser III from the 9th century BC.[90]

The town of Ur was within Chaldean territory.[91] Therefore, whether the biblical phrase 'Ur of the Chaldees' refers to the town of Ur or, as has been suggested, to the region that the Chaldeans occupied,[92] the phrase establishes

85 Kitchen, *op cit*., 195.

86 Naʿaman, N. 'Did Ramesses II Wage Campaign against the Land of Moab?' *Göttinger Miszellen* 209 (2006) 63–69.

87 Finkelstein & Lipschits, *op cit*.

88 Lemaire, *op cit* ; Steiner, M.L. 'Khirbat al-Mudayna and Moabite Pottery Production', in Bienkowski, P. (ed.) *Studies on Iron Age Moab and Neighbouring Areas in Honor of Michèle Daviau*, Leuven: Peeters (2009) pp. 145–163; Daviau, P.M.M. et al., 'Excavation at Khirbat al-Mudayna and Survey in the Wādī ath-Thamad: Preliminary Report on the 2008, 2010 and 2011 Seasons', *Annual of the Department of Antiquities of Jordan* (2012) 56, 269–308.

89 Beulieu, P.-A. 'Arameans, Chaldeans, and Arabs in Cuneiform Sources from the Late Babylonian Period', *Leipziger Altorientalische Studien*, (2013) 3, 31–55.

90 King, L.W. *Bronze Reliefs from the Gates of Shalmaneser, King of Assyria, B.C. 860 – 825*, London: British Museum (1915).

91 Beulieu, *op cit*.

92 Shanks, H. 'Abraham's Ur—Is the Pope Going to the Wrong Place?' *Biblical Archaeology*

a TPQ of the 9th century BC for the Pentateuch sources that mention 'Ur of the Chaldees': J, P, and possibly E (Appendix 1).

Mounted cavalry

Horseback riding was part of the culture of the Eurasian steppe from as early as the late Chalcolithic period and was part of Mycenaean culture from as early as the Middle Bronze Age.[93] Domesticated horses were a minor part of Canaanite culture in the Early and Middle Bronze Ages.[94] In the Late Bronze Age, horseback riding occurred in the Levant and Egypt as a rare prestige activity among the elite and was used by military scouts.[95] But despite the early appearance of horseback riding, it was not used by military fighters until the Iron Age. The earliest extrabiblical textual reference to mounted cavalry is a 9th-century Assyrian record that the forces of Shalmaneser III had captured cavalry from the opposing armies of Damascus and Hamath in the Battle of Qarqar in 853 BC.[96] The earliest pictorial representation of mounted cavalry is among the bronze reliefs of the Balawat gates, which show that the army of Shalmaneser III had begun to incorporate mounted cavalry. Early experiments with mounted cavalry in the 9th century involved small numbers of mounted combatants, because riders were seated toward the rear of the horse with their knees high, in the posture typical of donkey riding. The 'donkey seat' is awkward for a horse rider and is not conducive to the maneuverability that a fighter requires.[97] As a result, the numbers of mounted fighters did not begin to vastly exceed those of chariots in Near Eastern armies until the advent of effective horse riding in the mid-8th century in the Near East. However, in some armies, the number of mounted horsemen equaled the number of chariots by the mid-9th century.[98] This places a TPQ for sources that mention mounted cavalry in the 9th century.

The Hyksos introduced horses and chariotry into Egypt in the 17th century BC, and they were a significant part of the Egyptian military from the 16th century onward.[99] Textual references to Egyptian forces after the 12th-century fall

Review (2000) 26 no. 2, 16–19, 66–67.

93 Archer, *op cit* ; Kelder, J.M. 'Horseback Riding and Cavalry in Mycenaean Greece', *Ancient West and East* (2012) 11, 1–28.

94 Shev, E.T. 'The Introduction of the Domesticated Horse in Southwest Asia', *Archaeology, Ethnology and Anthropology of Eurasia* (2016) 44, 123–136.

95 Archer, *op cit*.

96 Dalley, S. 'Foreign Chariotry and Cavalry in the Armies of Tiglath-Pileser III and Sargon II', *Iraq* (1985) 47, 31–48.

97 Archer, *op cit*.

98 Dalley, *op cit*.

99 Raulwing, P. & Clutton-Brock, J. 'The Buhen Horse: Fifty Years after Its Discovery (1958–2008)', *Journal of Egyptian History* (2009) 2, 1–106.

of Egyptian hegemony in the Levant suggest that the Egyptian army ceased to use chariots at that time—before the advent of mounted cavalry—and instead relied on foot soldiers.[100] The use of horses in the Egyptian army was revived in the second half of the 8th century BC by the Kushite rulers of the 25th Dynasty, who valued horses, which had been introduced into Kush from Egypt in the Late Bronze Age.[101] Textual and pictorial evidence indicates that such usage included both chariots and mounted cavalry.[102] Speculation that mounted fighters were part of the Egyptian army before then[103] are not supported by the available evidence.[104] This makes it tempting to suggest that references to mounted cavalry in the Egyptian military establish a TPQ in the second half of the 8th century. However, to err on the side of caution, it would be prudent to recognize a TPQ for Pentateuchal references to mounted cavalry in the period in which mounted cavalry became an expected part of a Near Eastern military force: the 9th century. Even if Egypt had no mounted cavalry then, it would not be surprising for a Levantine writer to have projected 9th- (or later-) century expectations upon his literary Egypt of centuries past.

The term 'horsemen' (פָּרָשִׁים, *pārāshîm*) in the Pentateuch deserves comment. At first glance, it seems versatile enough to refer to either mounted cavalry or charioteers. However, in the Pentateuch the term exists as part of the formula 'chariots and horsemen' (Gen. 50:9; Exod. 14; Exod. 15:1). The same formula occurs in Assyrian records and in several books of the Hebrew scriptures outside the Pentateuch. The mismatch between numbers of chariots and numbers of horsemen when this formula occurs in Assyrian records[105] and in the Hebrew scriptures (1 Sam 13:5; 2 Sam 8:4; 2 Sam 10:18; 1 Kgs 4:26; 1 Chr 18:4; 2 Chr 9:25; 2 Chr 12:3) indicates that the 'horsemen' in the formula are not charioteers. They are therefore mounted cavalrymen. This indicates that Gen. 50:9, Exod. 14, and Exod. 15:19 contain references to mounted cavalry, which establishes a TPQ in the 9th century for the final redactions of their sources: J or E for Gen. 50:9, P for Exod. 14, and a source that consensus does not identify for Exod. 15:19 (Appendix 1).

100 Archer, *op cit*.

101 Spalinger, A.J. 'Note on the Military in Egypt during the XXVth Dynasty', *Journal of the Society for the Study of Egyptian Antiquities* (1981) 11, 37–58; Schrader, S.A., Tyson Smith, S., Olsen, S. & Buzon, M. 'Symbolic Equids and Kushite State Formation: A Horse Burial at Tombos', *Antiquity* (2018) 92, 383–397.

102 Spalinger, *op cit*.

103 e.g. Kelder, *op cit*.

104 Archer, *op cit*.

105 Dalley, *op cit*.

Anachronisms that Establish an 8th-Century TPQ

Elath

The fortress of Tel el-Kheleifeh, on the north end of the Gulf of Aqaba, is identified as the biblical site of Elath.[106] According to the Deuteronomistic History, it was near Eziongeber (1 Kgs 9:26) and was built during the 8th-century reign of Azariah/Uzziah (2 Kgs 14:22). Consistent with this, Tel el-Kheleifeh is near Jazirat Fara'un, and ceramic evidence from its earliest settlement indicates Iron Age occupation. The ceramics of the earliest occupation are not diagnostic of a particular sub-period within the Iron Age, but if 2 Kings 9:26 is trustworthy, then its earliest occupation was in the 8th century BC. Consistent with this, pottery from a larger settlement that was built atop the first settlement dates to the 8th century at the earliest.[107] D mentions Elath (Appendix 1), which establishes a TPQ in the 8th century for the latest redaction of D, if 2 Kgs 14:22 accurately reports its construction date.

Anachronisms that Establish a 7th-Century TPQ

Pithom

As mentioned above in the section on the 12th century, it is possible that biblical Pithom is the ancient settlement of Per Atum at Tel el-Maskhuta in the eastern Nile Delta. That settlement was founded in the 7th century.[108] If biblical Pithom is the ancient settlement at Tel el-Maskhuta, it establishes a TPQ in the 7th century for the final redaction of the source that mentions Pithom: J or E (Appendix 1).

Possible Red Herrings

Ije-Abarim, Migdol, Punon, and Goshen have been cited as anachronistic references in the Pentateuch.[109] However, there are problems with considering

106 MacDonald, *op cit.*, pp. 81–82.

107 Pratico, G.D. 'A Reappraisal of Glueck's Conclusions', in Stern, E., Lewison-Gilboa, A. & Avriham, J. (eds.) *The New Encyclopedia of Archaeological Excavations in the Holy Land, Vol. 3*, Jerusalem: Israel Exploration Society (1993) pp. 869–870.

108 Van Seters, *op cit*.

109 Redford, *op cit.*; Dever, W.G. *Who Were the Early Israelites and Where Did They Come From?* Grand Rapids: William B. Eerdmans (2003) p. 19; Finkelstein, 'The Wilderness Narrative and Itineraries'; Dever, W.G. *Beyond the Texts. An Archaeological Portrait of Ancient Israel and Judah*, Atlanta: SBL (2017) p. 121.

these references anachronistic. There are also problems with several other potentially anachronistic references: Succoth, Bethel, the phrase 'horse and rider,' and references to kings of Moab and Edom. The problems with these possible anachronistic references are discussed in Appendix 3.

Variation in Source Attributions

There are some Pentateuchal passages that some scholars attribute to one source and other scholars attribute to another source (Appendices 1 and 4). This makes a difference in the TPQ of each source (Appendix 5). For example, Baden's E includes passages that mention Aroer, Dibon, Jahaz, and Chaldeans, all of which establish a TPQ in the 9th century, whereas Fohrer's E does not include such passages and has a TPQ in the 12th century (Appendix 5). The real TPQ for any given source may therefore be different from what the consensus suggests, if the consensus is wrong and one of the scholars holding a minority opinion is correct. Appendix 5 reveals the TPQ of each source according to the anachronisms present in the passages attributed to each source by each of several modern scholars. Thus, if a reader agrees with one such scholar over another, the reader can find the consequent TPQ in Appendix 5.

Despite the occasional disagreements between scholars as to which source authored which passage, scholars' attributions of passages to sources reveal broad agreement on the TPQ of each source. As Appendix 5 shows, J and P have a TPQ in the 9th century BC, and D has a TPQ in the 8th century BC, no matter which of the nine scholars whose work is tabulated in Appendix 1 is considered. Only in the case of E do the different attributions of passages result in differences in TPQ, but even for E, there is broad agreement that the TPQ is in the 10th or 9th century BC. As Appendix 5 shows, one of the nine scholars places the TPQ of E in the 12th century, but three place it in the 10th century, and five place it in the 9th century. Furthermore, a recent study on E attributes passages that mention domesticated camels (Gen. 31:17), kings of Israel (Num. 24:7), and kings descended from Abraham (Gen. 35:11) to E,[110] indicating a TPQ in the 10th century. Similarly, another recent study on E attributes a passage that mentions mounted cavalry (Gen. 50:9) to E,[111] indicating a TPQ in the 9th century. The weight of modern scholarship therefore suggests that E was completed no earlier than the 10th or 9th century BC.

Here, it is worth mentioning that scholars who do not accept the DH will still find this study's results useful for dating Pentateuchal source documents. For each passage, scholars who hypothesize a source other than J, E, P, or D may simply apply the TPQ found here to the hypothesized source.

110 Gnuse, *op cit*., pp. 109–110, 113, 126–127.

111 Yoreh, Tz. L. *The First Book of God*, Berlin: De Gruyter (2010) pp. 156–157.

Conclusions

Anachronisms that scholarly consensus attributes to J include references to Philistines (12th century BC), dwelling-tents (12th), domesticated camels (10th), Arad (10th), and Chaldeans (9th). Therefore, if the DH is correct, the final redaction of J most likely did not occur before the 9th century BC.

Anachronisms that scholarly consensus attributes to E include references to Beersheba (12th century), Philistines (12th), and dwelling-tents (12th). Anachronisms from later centuries are attributed to E by some scholars and not others, but there is broad agreement that anachronisms indicate that if the DH is correct, the final redaction of E did not occur before the 10th or 9th century BC.

Anachronisms that scholarly consensus attributes to P include references to dwelling-tents (12th), kings descended from Abraham (10th), Chaldeans (9th), and mounted cavalry (9th). Therefore, if the DH is correct, the final redaction of P most likely did not occur before the 9th century BC.

Anachronisms that scholarly consensus attributes to D include references to dwelling-tents (12th century), Eziongeber (12th), iron tools (12th), kings of Israel (10th), Heshbon (10th), Aroer (10th), Jahaz (9th), and Elath (8th). Therefore, if the DH is correct, the final redaction of the Pentateuchal portion of D most likely did not occur before the 8th century BC. Outside the Pentateuch, the Deuteronomistic History mentions the Babylonian king Evil-Merodach (2 Kgs 25:27), establishing a TPQ in the mid-6th century BC for the Deuteronomistic History as a whole.

All four Pentateuchal sources postdate the 13th century and were therefore not composed by a 15th- or 13th-century Moses. Anachronisms indicate that all four Pentateuchal sources were completed after the advent of the Divided Monarchy.

Further Thoughts

Several modern scholars advocate dating the Pentateuch's narratives to the Saite Period (late 6th–early 7th century BC) or the Persian Period (late 7th–late 4th century BC).[112] The TPQs found here for each Pentateuchal source are compatible with such dates. However, they are also compatible with earlier dates. Some possible archaeological anachronisms that putatively push the TPQs forward to the Saite and Persian Periods (Ije-abarim, Migdol, Punon, and Goshen) are problematic (Appendix 3). Likewise, the reference to Pithom in Exod. 1:11

112 Redford, *op cit.*; Grabbe, 'Exodus and History'; Finkelstein, 'The Wilderness Narrative and Itineraries'; Schmid, 'Distinguishing the World of the Exodus Narrative from the World of Its Narrators'.

establishes a TPQ in the 7th century BC if Tel el-Maskhuta is biblical Pithom, but that identification is uncertain. Also, scholarly consensus does not identify the source of Exod. 1:11, except that it could be J or E (Appendix 1). The possibility that anachronisms could narrow the TPQs of the Pentateuch's sources further forward than the 8th century is tantalizing, and it is unfortunate that for each putative anachronism, there is uncertainty as to the TPQ, the source, or both.

The Song of the Sea (Exod. 15:1–18) is widely considered part of the J text (Appendix 1). However, it is possible that it is an earlier composition that J incorporated. Many modern scholars consider it one of the oldest compositions of the Hebrew Bible.[113] Its mention of Philistia in verse 14 establishes a TPQ for it in the late 12th century BC. Some other passages within the Pentateuch may also be older compositions: the Blessing of Jacob (Gen. 49:1–27), the denunciation of Amalek (Exod. 17:16), the oracles of Balaam (in Num. 23 and 24), the Song of the Well (Num. 21:17–18), the Song of Heshbon (Num. 21:27–30), and the Blessing of Moses (Deut. 33:1–29).[114] Only two of those compositions contain archaeological references that could establish a TPQ. The Song of Heshbon mentions Dibon (Num. 21:30), establishing a 9th-century TPQ. One of the oracles of Balaam mentions dwelling tents (Num. 24:5), establishing a 12th-century TPQ.

The TPQs of J, E, P, and D place constraints on the final redactions of those sources but not upon the origins of the stories that the sources recorded. The stories that were woven into the Pentateuchal narrative may have originated much earlier than they were written down by J, E, P, and D. For example, the story of Joseph's chariot ride (Gen. 41:42–43) must have originated much earlier than the final redaction of any of the Pentateuchal sources. The Egyptian practice of honoring a man by giving him a gold necklace and a public chariot ride was unique to pharaohs of the 18th–20th Dynasties (1550–1069 BC).[115]

113 Freedman, D.N. '"Who Is Like Thee among the Gods?" The Religion of Early Israel', in Miller, P.D., Hanson, P.D. & McBride, S.D. (eds.) *Ancient Israelite Religion. Essays in Honor of Frank Moore Cross*, Minneapolis: Fortress (1987) pp. 315–335; Hendel, R. 'The Exodus as Cultural Memory: Egyptian Bondage and the Song of the Sea', in Sparks, B.C. (ed.) *Israel's Exodus in Transdisciplinary Perspective*, New York: Springer (2015) pp. 65–77; but see Bloch, Y. 'The Third-Person Masculine Plural Suffixed Pronoun *-mw* and Its Implications for the Dating of Biblical Hebrew Poetry', in Miller-Naudé, C.L. & Zevit, Z. (eds.) *Diachrony in Biblical Hebrew*, Winona Lake, Indiana: Eisenbrauns (2012) pp. 147–170.

114 Freedman, *ibid.* '"Who Is Like Thee among the Gods?"'; Heck, J.D. 'A History of Interpretation of Genesis 49 and Deuteronomy 33', *Bibliotheca Sacra*, (1990) 147, 16–31; Sanders, P. *The Provenance of Deuteronomy 32*, Leiden: Brill (1996); Friedman, *The Bible with Sources Revealed*, p. 114.

115 Binder, S. 'Joseph's Rewarding and Investiture (Genesis 41:41–43) and the Gold of Honour in Bar, S., Kahn, D. & Shirley, J.J. (eds.) New Kingdom Egypt', in *Egypt, Canaan and Israel: History, Imperialism, Ideology and Literature*, Leiden: Brill (2011) pp. 44–64.

This part of the Joseph story must therefore have originated between the mid-16th and mid-11th centuries. This study's results indicate that it was most likely not written down until the 10th century at the earliest, so it appears to preserve a cultural memory of a phenomenon that had long ceased by the time the writing occurred. Such would not be unexpected. The Deuteronomistic History in its final form cannot be earlier than the 6th century BC, yet it preserves the cultural memory of a loose confederation of Israelite tribes that lacked central authority and lived amid other Canaanite peoples,[116] a situation that existed in the 12th century and came to an end in the 10th.[117]

The TPQs for each Pentateuchal source, as found here, support the widespread tendency of modern scholars to date the Pentateuchal sources later than the 9th century BC. This is because it is unlikely that any of the ancient writers would have projected Iron Age phenomena into their descriptions of the Bronze Age past if they knew that such phenomena had not yet arisen in the Bronze Age. It is therefore unlikely that any of the anachronisms in the Pentateuchal sources represent phenomena that were brand-new when the Pentateuchal sources wrote of them. It is more likely that by the time the Pentateuchal sources wrote, the peoples and towns and technologies of which they wrote had been established for enough generations that their times of origin had been forgotten. It is therefore plausible to suggest that each Pentateuchal source wrote at least a century after the TPQ found in this study. If this is correct, the final redaction of E occurred no earlier than the 9th century BC, and the final redaction of J and P occurred no earlier than the 8th century BC. It also means that the final redaction of the Pentateuchal portion of D occurred no earlier than the 7th century BC, the century in which Josiah ruled. This is consistent with the widespread scholarly opinion that the Pentateuchal portion of D was composed during the reign of Josiah.

The subject matter of this paper is controversial in some circles, because some modern scholars insist that the Pentateuch's narratives of the Genesis patriarchs and the exodus are accurate records of past history.[118] However, even a deservedly reputable scholar with a generally solid and reliable body of work is capable of an occasional error, and the large number of anachronisms listed here justifies caution toward acceptance of the Pentateuch's narratives as accurate history.

116 Fritz, V. 'The Complex of Traditions in Judges 4 and 5 and the Religion of Pre-State Israel', in Maeir A.M. & de Miroschedji, P. *I Will Speak the Riddles of Ancient Times. Archaeological and Historical Studies in Honor of Amihai Mazar on the Occasion of His Sixtieth Birthday*, Winona Lake, Indiana: Eisenbrauns (2006) pp. 689–698.

117 Dever, *op.cit., Who Were the Early Israelites and Where Did They Come From?* pp. 167–189; Dever, *op.cit., Beyond the Texts*, pp. 170–173, 298 – 301, 341–366.

118 See, for example: Hoffmeier, *op cit.*; Kitchen, *op cit.*; Hoffmeier, J.K. *Ancient Israel in Sinai*, Oxford: Oxford University Press (2005).

Some readers may balk at the idea that there are anachronisms in the Pentateuch, due to the widespread idea that all of scripture is error-free. However, anachronisms are not errors if the text was not meant as a record of actual events. In such a case, an anachronism is not a falsehood but a literary device. The text of the Pentateuch contains abundant clues that it was meant as a work of theology and was not intended to be mistaken for a record of past events. Such clues include several instances of alternate versions of a story. For example, there are two different creation stories (Gen. 1:1 – 2:3 and Gen. 2:4–25), two different stories of how Beersheba was named (Gen. 21:25–31 and Gen. 26:25–32), three different stories of a king taking possession of the wife of a patriarch who had called her his sister (Gen. 12:10–18, Gen. 20, and Gen. 26:1–11), two different stories of how Jacob acquired the name Israel (Gen. 32:24–28 and Gen. 35:1–13), and two different stories of the making of the Ark of the Covenant (Exod. 34 + 37:1–9 and Deut. 10:1–5).[119] The differences between the alternate versions in these and other examples are too prominent to have been missed by the redactors who pieced the Pentateuch together. The redactors were apparently more concerned with compiling all the sacred stories together in one big collection than with choosing one version of a story over another. They even retained stories that ancient readers and hearers would have recognized as unrealistic, such as Jacob's breeding of different coat patterns on his sheep by having them mate near branches with bark that he had peeled into the desired patterns (Gen. 30:37–41), a method that is at odds with how sheep coat color works, as any hearer familiar with livestock would have known.

Numerous Church Fathers recognized such elements in the Pentateuch as signs that it was meant as something other than a record of history. They considered it, instead, a work of theology in story form.[120] Such elements have prompted several modern scholars to come to a similar conclusion.[121] This conclusion is consistent with biblical commentary on the Pentateuch in both

119 Senter, P.J. 'Apparent Conflict between the Pentateuch and Modern Science: The Early Church's Solution, the Solution's Biblical Origin, and Ancient Christian Approval of Evidence-based Reasoning', *Science and Christian Belief* (2022) 34, 7–28.

120 Senter, P.J. 'Cognitive Styles Used in Evidence Citation by Ancient Christian Authors: The Psychology of a Major Ancient Controversy over the Historicity of the Pentateuch, and its Implications for Science Education Today', *Open Library of Humanities* (2017) 3, no. 1:3, 1–50; Senter, *op.cit.,* 'Apparent Conflict'.

121 Miller, J.M. & Hayes, J.H, *A History of Ancient Israel and Judah*, Louisville, West Virginia: Westminster John Knox (1986) p. 78; Friedman, R. E. *Who Wrote the Bible?* New York: HarperCollins (1997); Finkelstein, I. & Silberman, N. *The Bible Unearthed: Archaeology's New Vision of Ancient Israel and the Origin of Its Sacred Texts*, New York: Touchstone (2001); Grabbe, *op.cit., Ancient Israel*, 268; Collins, *op.cit., Introduction to the Hebrew Bible*; Senter, *op.cit.,* 'Apparent Conflict'.

the Old and New Testaments.[122] Modern readers therefore need not hesitate to accept the implications of archaeological findings that appear to contradict the narratives in the Pentateuch. There is no contradiction if the text was meant as a set of theology lessons in story form, rather than as a historical record.

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122 Senter, *op.cit.,* 'Apparent Conflict'.