

The Gezer Calendar, Rahab, and Agricultural Reality in Ancient Israel

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Biblical and inscriptional Hebrew can illuminate each other. In this paper, I aim to show that examining a much-discussed problem in the Gezer Calendar together with a less-discussed problem in the book of Joshua can lead to a solution for both problems, add to the recognized Hebrew lexicon, and correct a significant misunderstanding pertaining to agricultural reality in ancient Israel.

The Gezer Calendar

The Gezer Calendar is a short, Iron Age, Hebrew or Canaanite inscription discovered in 1908. Its most troublesome part is its third line, which reads ירה עצד פשת. Immediately after the Calendar's discovery, the line was interpreted almost unanimously in the sense of "month of cutting (i.e., harvesting) flax," after the Biblical Hebrew words פשתה,¹ "flax, linen," and מעצד, a kind of cutting

¹ This is the singular absolute form explicitly attested in the Masoretic Text (Exod 9:31[×2]; Isa 42:3; 43:17). Some scholars vocalize the word in the Gezer Calendar as פשת, which would be a defective spelling of this form (Gustaf Dalman, "Notes on the Old Hebrew Calendar-Inscription from Gezer," *PEFQS* 41 [1909]: 118; William F. Albright, "The Gezer Calendar," *BASOR* 92 [1943]: 22; Shmuel Ahituv, *Echoes from the Past: Hebrew and Cognate Inscriptions from the Biblical Period* [Jerusalem: Carta, 2008], 252; idem, *HaKetav VeHamiktav: Handbook of Ancient Inscriptions from the Land of Israel and the Trans-Jordanian Kingdoms from the First Commonwealth Period* [Jerusalem: Bialik, 2012], 250) (Hebrew). Others prefer פשת, a by-form implied by the twice-occurring masoretic פשת (Hos 2:7, 11) (Mark Lidzbarski, "An Old Hebrew Calendar-Inscription from Gezer," *PEFQS* 41 [1909]: 28; Karl Marti, "Ein altpalästinensischer landwirtschaftlicher Kalendar," *ZAW* 29 [1909]: 225; Amikam Gai, "Linguistical Remarks on Hebrew Inscriptions," *Tarbiz* 65 [1996]: 532 [Hebrew]). It is disputed whether these two occurrences should be emended to read פשת (Albright, "Gezer" [*BASOR*; see above], 22 n. 34; David N. Freedman, "פשת in Hosea 2:7," *JBL* 74 [1955]: 275) or regarded as original (K. A. Tångberg, "A Note on *Pištī* in Hosea II 7, 11," *VT* 27 [1977]: 222–224; Richard C. Steiner, "On the Monophthongization of *ay to ī in Phoenician and Northern Hebrew and the Preservation of Archaic/Dialectal Forms in the Masoretic Vocalization," *Orientalia* 76 [2007]: 81–83).

tool, along with Arabic *ʿdd*, “to cut or lop trees.”² This interpretation has since been endorsed in most major handbooks of Hebrew inscriptions³ and many relevant encyclopedia entries.⁴ However, scholars have raised three objections against it.

How Flax Is Harvested

The first objection is that, while the apparent cognates of עִצַּד suggest that it signifies cutting, flax is not harvested by cutting but by uprooting.⁵ Accordingly, the Mishnaic Hebrew verb that signifies flax harvesting is תִּלַּשׁ (m. Bava Batra 5:7), while Jewish Babylonian Aramaic uses עִקַּר (b. Mo’ed Qatan 12b). The Hebrew Bible never mentions flax harvesting, but it has several roots that express the concept of uprooting, including נָתַשׁ (Jer 1:10; 24:6; 31:28; 42:10; 45:4; Amos 9:15), שָׂרַשׁ (Ps 52:7; Job 31:8, 12), מָרַט (Lev 13:40, 41; Isa 50:6; Ezra 9:3), and עִקַּר (Qoh 3:2).

Some scholars responded to this objection by pointing to instances in which flax was allegedly harvested by cutting.⁶ However, even if these instances could be verified, they would still be anomalies. Other scholars suggested that flax was pulled out with an instrument that was also used for

² Lidzbarski, “Old Hebrew,” 28; G. B. Gray, “An Old Hebrew Calendar-Inscription from Gezer,” *PEFQS* 41 (1909): 31; E. J. Pilcher, “An Old Hebrew Calendar Inscription from Gezer,” *PEFQS* 41 (1909): 34; S. Ronzevalle, “The Gezer Hebrew Inscription,” *PEFQS* 41 (1909): 110; H. Vincent, “Un calendrier agricole Israélite,” *RB* 6 (1909): 243–269 at unpaginated table.

³ William F. Albright, “The Gezer Calendar” (*ANET*, 320); *KAI* 1:181; John L. Gibson, *Textbook of Syrian Semitic Inscriptions* (3 vols.; Oxford: Clarendon, 1971), 1:3; Klaas A. D. Smelik, *Writings from Ancient Israel: A Handbook of Historical and Religious Documents* (Louisville, KY: Westminster John Knox, 1991), 23–24; Johannes Renz, *Handbuch der althebraischen Epigraphik* (3 vols.; Darmstadt: Wissenschaftliche Buchgesellschaft, 1995), 35; P. Kyle McCarter, “The Gezer Calendar,” *COS* 2.85:222; Ahituv, *Echoes*, 255; idem, *HaKetav*, 251.

⁴ Moshe D. Cassuto, “Gezer, Gezer Tablet,” *Encyclopaedia Biblica* 2:473 (Hebrew); Michael Zohary, “Flax, Linen,” *Encyclopaedia Biblica* 6:636 (Hebrew); Jehuda Feliks, “Flax,” *EncJud* 7:70; Bustenay Oded, “Gezer Calendar,” *EncJud* 7:569; Jonathan Kaplan, “Flax,” *EBR* 9:167.

⁵ Lidzbarski, “Old Hebrew,” 28; Gray, “Old Hebrew,” 31; Shemaryahu Talmon, “The Gezer Calendar and the Seasonal Cycle of Ancient Canaan,” *JAOS* 83 (1963): 178; idem, “The Gezer Calendar and the Seasonal Cycle of Ancient Canaan,” *Beit Mikra* 12 (1966): 5 (Hebrew).

⁶ Lidzbarski, “Old Hebrew,” 28; R. A. Stewart Macalister, “Twenty-First Quarterly Report on the Excavation of Gezer,” *PEFQS* 41 (1909): 90.

hewing wood.⁷ However, these scholars did not adduce any evidence that this was so. On the contrary, pictorial evidence from ancient Egypt shows that flax was pulled by hand,⁸ and it was still harvested this way in the nineteenth and twentieth centuries CE.⁹

A third suggestion is that עֲצַד in the Calendar does not mean “cutting” per se but has the more general meaning of “harvesting.”¹⁰ Some proponents of this view maintain that עֲצַד is not cognate with Biblical Hebrew מַעְצָד and Arabic ‘*ḍd* at all, but rather with Akkadian *eṣēdu*, Aramaic and (rare) post-biblical Hebrew חֲצַד, and Arabic ḥṣd, all of which mean “harvest” or “ingathering.”¹¹ An obvious weakness of this view is that it disregards the semantics of an identical root in Biblical Hebrew in favor of a different root from more distant languages. Moreover, the fact remains that neither ‘*ḍd* nor ḥṣd is used elsewhere in any Semitic language in connection to harvesting flax. A single exception is Jewish Palestinian Aramaic חֲצַד in y. Megillah 4:1, where,

⁷ Dalman, “Notes,” 118; Marti, “altpalästinischer,” 225; Albright, “Gezer” (*BASOR*), 22; Saul Lieberman, *Tosefta ki-Fshuṭa: Order Zera’im, Part I* (New York: Jewish Theological Seminary of America, 1955), 140 (Hebrew); Oded, “Gezer,” 569.

⁸ Aaron Koller, “Ancient Hebrew מַעְצָד and עֲצַד in the Gezer Calendar,” *JNES* 72 (2013): 186–187.

⁹ *Description de l’Égypte* (no cited author or editor), 37 vols (Paris: Panckoucke, 1821–1826), 17:98; Alex J. Warden, *The Linen Trade: Ancient and Modern* (London: Longman, Green, Longman, Roberts & Green, 1864), 19; Fred Bradbury, *Flax Culture and Preparation* (London: Pitman & Sons, 1920), 66–68; H. R. Carter, *Flax and Its Products* (London: John Bale, Sons & Danielsson, 1920), 17; Frank C. Miles, *Fiber Flax* (Washington, DC: Government Printing Office, 1925), 9.

¹⁰ Vincent, “calendrier,” 248; Chaim Gil’adi, “The Gezer Tablets in the Light of the Realia of Agriculture,” *Beit Mikra* 21 (1976): 547–549 (Hebrew).

¹¹ Samuel Daiches, “Notes on the Gezer Calendar and Some Babylonian Parallels,” *PEFQS* 41 (1909): 116; Koller, “Ancient Hebrew,” 188–192. It has been noted that there is a single, dubious occurrence of the verb עֲצַד in Mishnaic Hebrew, which does not relate to flax: the Sifra on Lev 19:9 reads, אין לי אלא קוצר תולש מנין ... קוטר מנין, “I know only of one who reaps. Whence one who uproots? [...] Whence one who plucks?” The word קוטר, “one who plucks,” has many variants in the textual witnesses to this passage and to its parallels in y. Pe’ah 1:4 and b. Hullin 137a. One of these is a text cited in a commentary ascribed to R. Samson of Sens, which reads עוצד (Louis Finkelstein, “A Talmudic Note on the Word for Cutting Flax in the Gezer Calendar,” *BASOR* 94 [1944]: 29). If this reading is merely a scribal error or a by-form of חוצד, as seems likely (Koller, “Ancient Hebrew,” 190 n. 79), then it does not affect the present discussion. If it is original (Finkelstein, “Talmudic,” 30; Lieberman, *Tosefta*, 140; Aharon Maman, “Rav Hai Gaon’s ‘Kitāb al-Hāwī’: A Source for Original Versions and Meanings,” *Leš* 77 [2014/5]: 209 [Hebrew]), then it shows that in Mishnaic Hebrew עֲצַד had a *different* meaning than תולש, “uproot,” the Mishnaic Hebrew verb for harvesting flax. According to R. Samson of Sens himself and Lieberman (*Tosefta*, 139–140), the meaning of עֲצַד would be “to uproot with a מעצד.” As I stated above, such a verb could not apply to flax, which is uprooted by hand.

however, flax is mentioned only incidentally and where there is no impetus to use precise terminology.

Yet another suggestion is that the flax in the view of the inscription's author was harvested by cutting because it was cultivated for its seed rather than its stalks.¹² But it is difficult to believe that flax would be grown in the Iron Age in significant quantities *without* its stalks being used for fiber; and, as far as I know, there is no evidence that this happened. It may be noted in conclusion that none of these suggestions counters the two other objections, which will be presented below, against the interpretation of the relevant words as "cutting flax."

When Flax Is Harvested

The second objection relates to the season in which flax is harvested. The Calendar seems to list months of the year in their actual order, and ירח עצד פשת is immediately followed in the text by ירח קצר שערמ, which indisputably means "month of reaping barley." Thus, our line is generally assumed to describe the time of March-April.¹³ Flax, however, is supposed to have been sown only in the Hebrew month of Adar, just before this period, and harvested in the summer. This was the decisive objection for Torczyner, Borowski, and others,¹⁴ and it was cited also by Talmon.¹⁵

¹² Hans-Peter Müller, "Notizen zu althebräischen Inschriften I," *UF* 2 (1970): 229–231; Smelik, *Writings*, 24; Renz, *Handbuch*, 35.

¹³ Lidzbarski, "Old Hebrew," 28; Gray, "Old Hebrew," 31; Dalman, "Notes," 118; Vincent, "calendrier," unpaginated table.

¹⁴ Harry Torczyner, "Peshet," in *A Complete Dictionary of Ancient and Modern Hebrew* (Jerusalem: Hemda and Ehud Benyehuda, 1945), 11:5290–5291 at 5290 n. 2 (Hebrew); idem, "The Canaanite Letter to 'zrb'l of Byblos: An Ancient Hebrew Letter," *Lš* 14 (1946): 164 (Hebrew); idem, "A New Interpretation of the Gezer Calendar," *BJPES* 13 (1947): 4 (Hebrew); Naphtali H. Tur-Sinai (idem), *The Language and the Book*, 3 vols. (Jerusalem: Bialik, 1956), 1:44 (Hebrew); Oded Borowski, *Agriculture in Iron Age Israel* (Winona Lake, IN: Eisenbrauns, 1987), 34–35; F. W. Dobbs-Allsopp, *Hebrew Inscriptions: Texts from the Biblical Period of the Monarchy with Concordance* (New Haven: Yale, 2005), 160–161; Jacqueline Vayntrub, "'Observe Due Measure': The Gezer Inscription and Dividing a Trip Around the Sun," in *Epigraphy, Philology, and the Hebrew Bible: Methodological Perspectives on the Comparative Study of the Hebrew Bible in Honor of Jo Ann Hackett*, ed. Jeremy M. Hutton and Aaron D. Rubin, *ANEM* 12 (Atlanta: Society of Biblical Literature, 2015), 198–199 n. 25.

¹⁵ Shemaryahu Talmon, "ירח עצד פשת," *Lš* 25 (1961): 199 (Hebrew); idem, "Gezer" (*JAOS*), 178; idem, "Gezer" (*Beit Mikra*), 6.

This objection provides a good example of an invalid argument that has managed to gain traction in scholarship. The notion that flax was sown in Adar is ultimately based on a single talmudic passage that recounts a case where someone sowed flax on Purim, in mid-Adar (b. Megillah 5b). But the passage probably relates to Babylonia, not Eretz Israel; and, moreover, it does not indicate that this case reflected the norm. The notion may also be latently influenced by the fact that flax is a summer crop in the more northerly regions where it is more commonly cultivated today, typically being sown in April or May and harvested in July or August.¹⁶ However, in climates like that of Eretz Israel, flax, which benefits from cool, wet conditions, is unambiguously a winter crop.¹⁷

The evidence tends to confirm that flax was a winter crop in the ancient Near East as well. It is indicated in the Hebrew Bible that, in Egypt, flax was an early crop whose development was roughly coterminous with that of barley (Exod 9:31). Accordingly, in Egypt of the nineteenth century CE, flax was recorded as being sown in December and harvested in late March or early April depending on the region,¹⁸ or sown in mid-November and harvested about 110 days later – i.e., early March.¹⁹ In twentieth-century Egypt, flax was sown from the end of October to the middle of November and harvested at the end of March and in April.²⁰ These considerations seem to be the ultimate sources for scholars who say that in ancient Egypt flax was harvested in March or April.²¹

¹⁶ Bradbury, *Flax*, 42–43; Carter, *Flax*, 13–14; Miles, *Fiber Flax*, 7, 8.

¹⁷ Avishalom Marani, “The Effect of Growing Methods on Yield and Quality of Fiber-Flax in Israel,” (Ph.D. diss., Hebrew University of Jerusalem, 1954), 1 (Hebrew); idem, “Flax,” *The Encyclopedia of Agriculture* 2:175 (Hebrew); Yosef Benbaji and Yaakov Orbach, “Flax, Linen,” *Encyclopaedia Hebraica* 28:460 (Hebrew).

¹⁸ *Description*, 98–103.

¹⁹ Warden, *Linen*, 146.

²⁰ Marani, “Effect,” 5.

²¹ Oswald Heer, *Ueber den Flachs und die Flachskultur im Alterthum: Eine kulturhistorische Skizze* (Zurich: Zürcher und Furrer, 1872), 4; R. J. Forbes, *Fibres and Fabrics of Antiquity*, vol. 4 of *Studies in Ancient Technology*, ed. R. J. Forbes (Leiden: Brill, 1956), 29; Douglas J. Brewer, Donald B. Redford, and Susan Redford, *Domestic Plants and Animals: The Egyptian Origins* (Warminster: Aris & Phillips, 1993), 35; Gillian Vogelsang-Eastwood, “Textiles,” in *Ancient*

In Italy in antiquity, flax could be sown around early March and harvested in the summer (Pliny, *Natural History* 18.56, 19.2). It seems, however, that this was only done in “rich” soil (Columella, *De Re Rustica* 2.10.17; Palladius, *Opus Agriculturae* 3.22), and that it was more typically sown, like barley, around October-November (Virgil, *Georgics* 1.208; Columella, *De Re Rustica* 2.10.17; Palladius, *Opus Agriculturae* 11.2, 12.1, 13.1). Information concerning Eretz Israel is sparse, but it seems that here, too, flax was sown in the rainy season (y. Mo’ed Qatan 2:1), namely sometime between November and January; and, as noted by Talmon,²² it was typically developed enough by Purim to be sold on the stalk (y. Bava Metzi’a 5:6).

Nevertheless, the objection relating to the time of harvesting flax has force. Empirical research in different lowland areas of Israel shows that dry-farmed fiber flax is best sown in December and that it is best harvested 39 days after full flowering and in the two weeks leading up to that day, which, if the flax was sown in December, are typically in May or early June.²³ Accordingly, modern Israeli agricultural manuals have recommended sowing flax in December and harvesting it in May,²⁴ and an early twentieth-century author stated that seed flax in Eretz Israel ripens at the end of May or the beginning of June.²⁵ This is not before but during or after the barley harvest, which is traditionally in April in the lowlands of Eretz Israel²⁶ and in Gezer.²⁷

Egyptian Materials and Technology, ed. Paul T. Nicholson and Ian Shaw (Cambridge: Cambridge University Press, 2000), 270.

²² Talmon, “Gezer” (JAOS), 178.

²³ Marani, “Effect,” 8, 12, 16–17, 21, 1*–3*; idem, “Flax,” 175.

²⁴ *Daybook: The Organization of Field Crop Workers* (יומן: ארגון עובדי הפלחה) (no cited author, editor, or publisher; Tel Aviv, 1960/1), 16–17 (Hebrew); *Daybook: The Organization of Field Crop Workers* (Tel Aviv, 1961/2), 14–15 (Hebrew). Borowski (*Agriculture*, 35) cites *Daybook* 1960/1, 16–17 as saying that flax should be harvested in July. But this is a mistake due to the confusing layout of the relevant table in the source.

²⁵ Shlomo Zemach, *Seed Flax Growing* (גידול פשתה לגרעינים) (Tel Aviv: Hapoel Hatzair, 1928), 9 (Hebrew).

²⁶ Leonhard Bauer, *Volksleben im Lande der Bibel* (Leipzig: H. G. Wallmann, 1903), 142–143; Dalman, “Notes,” 118.

²⁷ Macalister, “Twenty-First,” 23.

Where Flax Is Harvested

The final objection is that it is unlikely that flax would have been cultivated in the Iron Age in Gezer, or anywhere in the Levant, to an extent that would justify naming a month of the year after its harvest.²⁸ In support of this argument, Talmon made the following comments. First, as opposed to the other activities listed in the Gezer Calendar, the cultivation of flax in Eretz Israel is not mentioned a single time in the Hebrew Bible, although flax products are mentioned dozens of times. On the contrary, flax growing and processing as well as linen export are associated in the Hebrew Bible with Egypt (Exod 9:31; Isa 19:9; Ezek 27:7).²⁹ Second, flax in Eretz Israel would have been retted by dew and would thus be inferior to Egyptian flax, which could be retted in the water of the Nile. Third, presumably for this reason, fiber flax was not grown in Eretz Israel in the first half of the twentieth century.³⁰ While it was cultivated there in Roman times, this cultivation was dependent on “highly developed systems of water preservation”³¹ that would not have existed at the time of the Gezer Calendar’s writing.

There are additional facts that support this argument. First, flax has long been believed to deplete the soil (Virgil, *Georgics* 1.77–78; Pliny, *Natural History* 19.1; Columella, *De Re Rustica* 2.10.17, 2.13.3; Palladius, *Opus Agriculturae* 11.2; m. Bava Metzi’a 9:9; y. Bava Metzi’a 9:8).³² This extra cost means that it would be especially unlikely to be grown where inferior

²⁸ Talmon, “Gezer” (JAOS), 179–182; idem, “Gezer” (Beit Mikra), 6–10.

²⁹ Flax seeds found in early Iron Age Tel Beth-Shean (Mordechai E. Kislev, Orit Simchoni, Yoel Melamed, and Lior Maroz, “Flax Seed Production: Evidence from the Early Iron Age of Tel Beth-Shean, Israel and from Written Sources,” *Vegetation History and Archaeobotany* 20 [2011]: 579–584) were presumably exported from Egypt as well. No flax seeds were found at Gezer (R. A. Stewart Macalister, *The Excavation of Gezer*, 3 vols. [London: John Murray, 1912], 2:27).

³⁰ Macalister, “Twenty-First,” 90; Immanuel Löw, *Die Flora der Juden*, 4 vols. (Vienna and Leipzig: Lowit and Kohut, 1924–1934), 2:212; Zemach, *Seed Flax*, 3; Gustaf Dalman, *Der Ackerbau*, vol. 2 of *Arbeit und Sitte in Palästina*, ed. Gustaf Dalman (Gütersloh: C. Bertelsmann, 1932), 298; Lucian Turkowski, “Peasant Agriculture in the Judean Hills,” *PEQ* 101 (1969): 27, 112.

³¹ Talmon, “Gezer” (JAOS), 182; idem, “Gezer” (Beit Mikra), 9.

³² For this belief in modern times, see Warden, *Linen*, 32; Bradbury, *Flax*, 28; Zemach, *Seed Flax*, 10.

conditions would lead to an inferior product. Second, flax was not cultivated in Eretz Israel even in the post-biblical era until the first or second century CE, and even then it was grown around the Sea of Galilee, not in the region of Gezer.³³ This cultivation ended with the seventh-century CE Arab conquest.³⁴ Various experimental attempts by Jews in Eretz Israel to grow fiber and seed flax from the 1920s onward failed, and a program of cultivating fiber flax in southern Israel from 1952 to 1962 was discontinued for lack of profitability.³⁵

Alternative Readings

Following the second objection, Torczyner proposed that פשת in the Gezer Calendar does not refer to flax at all but to “sundry herbs and grass.” He inferred from Josh 2:6 that פשת originally had a broader range of meaning than just “flax, linen” and that it is related to the Biblical Hebrew root פִּשֵּׁה, “to grow.”³⁶ Talmon developed and modified this suggestion, translating פשת in the Gezer Calendar as “verdurous growth” and relating it rather to the Biblical Hebrew root פִּוּשׁ/פִּשֵּׁה (Mal 3:20; Jer 50:11), which he understood as meaning “to grow, to spread.” Talmon further proposed that Biblical Hebrew פִּשְׁתָּה may derive from this root as well.³⁷

This suggestion has been accepted in one or the other of its forms by Borowski and some other scholars.³⁸ In contrast, Dobbs-Allsopp characterizes its philological basis as problematic, noting that the roots פִּשֵּׁה and פִּוּשׁ/פִּשֵּׁה do

³³ Ze'ev Safrai, “The Linen Industry in the Time of the Mishna and the Talmud,” in *Settlements, Population, and Economics in the Land of Israel in Antiquity*, ed. Shlomo Bunimovitz, Moshe Kochavi, and Aryeh Kasher; Tel Aviv: Tel Aviv University Press, 1988), 205–211 (Hebrew); Patrick S. Geyer, “Evidence of Flax Cultivation from the Temple-Granary Complex et-Tell (Bethsaida/Julias),” *IEJ* 51 (2001): 231–234.

³⁴ Benbaji and Orbach, “Flax, Linen,” 461; Zohar Amar, “The ‘Textile Revolution’ in Eretz Israel and Syria in the Middle Ages,” *Cathedra* 87 (1998): 39–40 (Hebrew).

³⁵ Zemach, *Seed Flax*, 3–4; Marani, “Flax,” 174; Benbaji and Orbach, “Flax, Linen,” 461.

³⁶ Torczyner, “Canaanite,” 164; idem, “New Interpretation,” 4; idem, *Language*, 44; see also Talmon, “ירח עצד פשת.”

³⁷ Talmon, “Gezer” (*JAOS*), 182–187; idem, “Gezer” (*Beit Mikra*), 10–17.

³⁸ Borowski, *Agriculture*, 34–35; idem, “Agriculture,” *ABD* 1:97; idem, *Daily Life in Biblical Times*, ABS 5 (Atlanta: Society of Biblical Literature, 2003), 27–28; Mark K. George, *Israel's Tabernacle as Social Space*, AIL 2 (Atlanta: Society of Biblical Literature, 2009), 96; Vayntrub, “Observe,” 188–189; William M. Schniedewind, “The Gezer Calendar as an Adaptation of the Mesopotamian Lexical Tradition (Ura 1),” *Semitica* 61 (2019): 17; idem, *The Finger of the Scribe: How Scribes Learned to Write the Bible* (Oxford: Oxford University Press, 2019), 80.

not have the meanings that this suggestion attributes to them “in any Semitic lexicon.”³⁹ Indeed, the contexts of their occurrences indicate that Biblical Hebrew פִּשָּׁה (Lev 13:5–14:48[×22]) is a technical term that does not really mean “to grow” but “to spread,” while פִּוּשׁ/פִּשָּׁה (aforementioned verses; Hab 1:8) means something like “to leap.”

A second alternative reading was proposed by Lipiński, who translated עִצָּד פִּשָּׁה as “cutting with a hatchet” and interpreted it as a reference to pruning, apparently of grapevines. (Following Lemaire and others, he translated זָמַר in Line 6 of the Calendar, which is usually understood to denote pruning, as “vintage.”) Lipiński stated that the cognates of עִצָּד “suggest the idea of cutting with a tool,” and he proposed Akkadian *pāštu/pāšu*, “axe, hatchet,” and Arabic *faʿs* or *fās*, “axe, hatchet, hoe,” as cognates for פִּשָּׁה.⁴⁰ I am not aware that this proposal has been addressed by any scholar since.

Joshua 2:6

A biblical verse that is often brought into the discussion of פִּשָּׁה in the Gezer Calendar is Josh 2:6, though it is generally unnoticed that the latter passage is even more problematic than the first. This verse is part of a pericope (Joshua 2) that tells of the Israelites sending two spies into Canaan just before entering it, and it describes Rahab, a prostitute in Jericho, hiding the spies בְּפִשְׁתֵּי הָעֵץ בְּעֵרְכֹתָ לָהּ עַל־הַגָּג, literally “in the tree-flax (alternatively: wood-flax, tree-linen, or wood-linen) that was arranged on her roof.”

When and Where Flax Is Harvested

The first problem with the verse is that flax is even less likely to have been cultivated in the Jericho area than in Gezer, as the former experiences low annual rainfall, and any irrigation capacity there could be used more profitably for crops that cannot be dry farmed or that would benefit from Jericho’s

³⁹ Dobbs-Allsopp, *Hebrew Inscriptions*, 160–161.

⁴⁰ Edouard Lipiński, “North-West Semitic Inscriptions,” *OLP* 8 (1977): 83–84.

exceptionally hot climate.⁴¹ Indeed, the city was known rather for its date palm cultivation in the biblical era (Deut 34:3; 2 Chr 28:15) and still is today.

Second, while the time of year is not specified in the story itself, the larger narrative in which the story is set indicates that it was the time of grain harvest (Josh 3:15; 5:11), specifically in the first half of “the first month” (4:19; 5:10), which is the month of ripe barley (Exod 13:4; 23:15; 34:18; Deut 16:1). The timing thus matches that of the Gezer Calendar, and the aforementioned objection that flax is not harvested at this time has about the same force here.

Other Problems

Third, and perhaps most problematic, is the very term *פִּשְׁתֵּי הָעֵץ*, “the tree-flax.” The difficulty of this term is illustrated by the Peshitta and Targum Jonathan, which essentially ignore the element *עֵץ* and, guessing according to the context, translate the term respectively as *krsbn² dkt²n*, “bundles of flax/linen,” and *טַעוּנֵי כְתָנָא*, “loads of flax/linen.” The standard maneuver for dealing with the element *עֵץ* is exemplified by Rashi and David Kimhi with their rendering *פִּשְׁתֵּי הָעֵץ* as *פִּשְׁתֵּי הָעֵץ*, “flax in the stalk,”⁴² the idea being that the unprocessed stalks can be called “wood” (cf. b. Berakhot 43b; y. Berakhot 6:6; b. Shabbat 27b). This was likely the thinking also behind the Septuagint’s rendering *λινοκαλάμη* and the Vulgate’s *lini stipula*, both of which mean “flax stalks.” The interpretation has been adopted by almost all English Bible translations with “stalks of flax.”

However, flax stalks are about 1–2 millimeters in diameter⁴³ and can scarcely be called “wood,” as already noted by Aḥituv.⁴⁴ Moreover, even if they could be, the proper term would be *עֵצֵי הַפִּשְׁתָּה*, not *פִּשְׁתֵּי הָעֵץ*. David Kimhi and Joseph Ibn Kaspi conceded this latter point and responded by noting that the Hebrew Bible contains the construct form *שְׁנֵי תוֹלְעֵת* (Lev 14:4, 6, 49, 51, 52;

⁴¹ Shahal Abbo, personal communication, August 2020.

⁴² Commentaries ad loc., in “Mikra’ot Gedolot Haketer,” <https://mgketer.org> (Hebrew).

⁴³ Carter, *Flax*, 4; Marani, “Effect,” 13, 19.

⁴⁴ Shmuel Aḥituv, *Joshua: A Commentary*, Mikra LeYisra’el (Tel Aviv: Am Oved, 1995, 84 (Hebrew)).

Num 19:6) as well as תולעת שני (Exod 25:4; 26:1, 31, 36; etc.).⁴⁵ But a single pair of construct forms in which the governing noun and governed noun trade places does not mean that these positions are truly interchangeable. The two cited forms actually mean different things: שני תולעת, literally “worm crimson,” always refers to a finished product, while תולעת שני, literally “crimson worm,” always refers to an unfinished material.

Another proposal is to translate פשתי העץ as “cotton,” which grows on large shrubs (*Gossypium arboreum*) and is called *Baumwolle*, “tree wool,” in German.⁴⁶ But cotton would not be a remotely plausible element in the story: the material is mentioned even in late biblical literature only as a rare luxury found in the Persian imperial palace (Esth 1:6 פָּרֶס), and the fifth-century Greek writer Herodotus regarded it as an exotic marvel found in India (*Histories* 3.106, 7.65).

A fourth problem is that the story does not offer any explanation for the presence of פשתי העץ on Rahab’s roof in a large enough quantity to hide two grown men in, indicating that this element was not supposed to elicit surprise in the reader. Although women in the world of the biblical authors could moonlight in textile production (Prov 31:13, cf. vv. 18–25), this still seems excessive for flax and even more so for linen.

A final problem is that the verse has פשתי העץ as the subject of the passive *qal* participle עָרְכוֹת, “arranged, arrayed, laid out.” In the Hebrew Bible, the *qal* verb עָרַךְ only ever applies to elements that are set out in a particular, fixed pattern, such as food and utensils on a table (Exod 40:4, 23; Lev 24:8; Isa 21:5; 65:11; Ezek 23:41; Ps 23:5; 78:19; Prov 9:2) or sacrificial animal parts on firewood (Lev 1:8, 12; 6:5). It is difficult to see how it could apply to flax or linen on a roof.

⁴⁵ Commentaries ad loc., in “Mikra’ot Gedolot Haketer,” <https://mgketer.org> (Hebrew).

⁴⁶ Malbim, commentary ad loc., in “AlHaTorah,” <https://mg.alhatorah.org> (Hebrew); Martin Noth, *Das Buch Joshua*, HAT 1/7 (Tübingen: J. C. B. Mohr, 1953), 24. This idea was anticipated in a way by the medieval tosafists, who interpreted פשתי העץ as קנבוס, “hemp” (Da’at Zeqenim commentary on Gen 41:42, in “AlHaTorah,” <https://mg.alhatorah.org> [Hebrew]).

New Proposal

The peculiar aspect that Line 3 of the Gezer Calendar and Josh 2:6 have in common is that the word פֶּשֶׁת/פִּשְׁתִּים in both passages is strongly connected by its immediate context to the semantic domain of wood. In Joshua, the word occurs in a construct form governing עֵץ, “wood.” In the Gezer Calendar, it occurs as the object of the verbal noun עִצָּד, whose most likely cognates relate to chopping wood (among other things): Arabic *ʿadada*, “to cut or lop trees”; *ʿadad*, “what is cut or lopped of trees”; *ʿadid*, “a cutter or lopper of trees”; and *miʿdad*, “an instrument with which trees are cut or lopped”;⁴⁷ and perhaps also Syriac *ʿdd*, “to prune”; and *ʿddʿ*, “pruning.”⁴⁸ Hebrew מַעְצָד, the counterpart of Arabic *miʿdad*, denotes a tool that is used for cutting wood (Jer 10:3; m. Bava Qamma 10:10; Sipre Deuteronomy 308) and apparently also for lopping boughs (Isa 10:33 MT מַעְרָצָה, Targum Jonathan מַעְצָרָא; *BHS*); Koller defines it as “adze.”⁴⁹

Thus, the principle of prioritizing context would seem to make the most likely solution to our problems the addition of a new word to the Classical Hebrew lexicon: II פֶּשֶׁתָּה, whose two occurrences are in Line 3 of the Gezer Calendar and in Josh 2:6. The meaning of the word would be “brush,” namely, lopped tree branches. In the Gezer Calendar, there is a “month of lopping branches” or “month of cutting brush.” In Joshua, Rahab hides the spies “in the tree-branches” or “in the brushwood” that were/was arranged on her roof.

It is easy to see that none of the difficulties encountered with flax in either passage pertain to brush. Brush was certainly cut in Iron Age Gezer and Jericho: the biblical authors were familiar with the practice of obtaining wood for fuel by gathering (Num 15:32; 1 Kgs 17:10; Jer 7:18; Ezek 39:10aaa) or

⁴⁷ Lane 1:2071–2073.

⁴⁸ *LexSyr* 511; Michael Sokoloff, *A Syriac Lexicon: A Translation from the Latin, Correction, Expansion, and Update of C. Brockelmann's Lexicon Syriacum* (Winona Lake, IN: Eisenbrauns, 2009), 1070.

⁴⁹ Aaron Koller, *The Semantic Field of Cutting Tools in Biblical Hebrew: The Interface of Philological, Semantic, and Archaeological Evidence*, CBQMS 49 (Washington, DC: Catholic Biblical Association of America, 2012), 61–70; idem, “Ancient Hebrew,” 180–185.

cutting (Isa 44:14–16 כרת; Ezek 39:10 חטב), and specifically by breaking off dry branches, an activity associated with women (Isa 27:11 שבר).

While I have not been able to ascertain what time of year branches were typically lopped in the Iron Age, it is thought today that, generally, the best time for pruning non-fruit trees is winter or early spring.⁵⁰ The end of this period, which is the month before the barley harvest, has advantages over the rest of it in Eretz Israel: low risk that rain will wet the cut wood, as well as pleasant weather and an absence of other heavy field work. The similar practice of grapevine pruning was, in the world of the biblical authors, certainly done before the harvest (Isa 18:5) and after the rainy season (Song 2:12–13). Accordingly, in the early twentieth century, in the hill-country of Eretz Israel, grapevines were pruned in February-March, and the removed shoots and dry trunk parts were stored as firewood for winter.⁵¹

As for the Rahab story, a woman who lived alone would be expected to have a store of firewood on hand for heating and cooking. After the rainy season, the roof would be the most natural place to store it. And the *qal* verb ערך refers elsewhere in the Hebrew Bible to pieces of firewood (Gen 22:9; Lev 1:7; 1 Kgs 18:33).

Regarding etymology, Akkadian *pāštu*, “double-headed axe,”⁵² and *pāšu*, “axe, hatchet,”⁵³ as well as Arabic *faʿs* or *fās*, “hoe, adze, axe,”⁵⁴ have already been noted as possible cognates of the Gezer Calendar’s פשת by Lipiński.⁵⁵ Three pertinent facts unstated by Lipiński may be added. First,

⁵⁰ W. H. Chandler and Ralph D. Cornell, *Pruning Ornamental Trees, Shrubs, and Vines* (Berkeley: College of Agriculture, University of California, 1952), 9.

⁵¹ Gustaf Dalman, *Brot, Öl und Wein*, vol. 5 of *Arbeit und Sitte in Palästina*, ed. Gustaf Dalman (Gütersloh: C. Bertelsmann, 1935), 312–313. In the Second Temple period, much or most of the wood offered to the temple (Neh 10:35) was brought there in the summer (*Temple Scroll* XXIII–XXIV; XLIII, 4; Josephus, *Wars* 2.425; Megillat Ta’anit 5:1; m. Ta’anit 4:5). This is explained as due to the wood being driest then and thus in its optimal state (b. Ta’anit 31a; b. Bava Batra 121b). It is not evidence that wood for household use, whether timber or brush, was cut in the summer.

⁵² CAD P 265–266.

⁵³ CAD P 267–268.

⁵⁴ Lane 1:2325 (“the *ə* in this word may be suppressed”); Turkowski, “Peasant,” 25.

⁵⁵ Lipiński, “North-West,” 83.

there is a related Arabic verb *faʿasa*, which means “to strike, cut, cleave, split” and can refer in particular to an action on a tree or a piece of wood.⁵⁶ Second, the thirteenth-century sage Bar Hebraus used the words *pwstʿ* and *psttʿ* in Syriac to mean “axe.”⁵⁷ These are clearly cognates of the Arabic words, but they are more similar to Akkadian *pāštu*, the Gezer Calendar’s פשת, and Biblical Hebrew פִּשְׁתִּי in that they have a *t* and no radical ʿ. Third, the tenth/eleventh-century Jewish sage Hai Gaon, followed by Jonah ibn Janah and Maimonides, used Judeo-Arabic פאס as a translation of Hebrew מַעֲצָד,⁵⁸ which, as seen above, is a tool for cutting wood. This last fact has extra significance because it instantiates an association between words similar to the Gezer Calendar’s עצד and פשת, independently of the Calendar and in the clear semantic domain of cutting wood.

Thus, Classical Hebrew II פִּשְׁתָּה may have been derived from Akkadian *pāštu* or a close cognate: the product was named after something that brought it to mind, in this case the tool that was typically used to create it. The Hebrew word would then fit the overall pattern of other Classical Hebrew “natural product” nouns such as שְׁעֵרָה, “barley,” from שֹׁעַר, “hair,” and חֲטָה, “wheat,” from חנַט, “to ripen” or “to embalm.”

In closing, it may be noted that Ugaritic *ptt*, “linen,”⁵⁹ proves that the *ṣ* of the recognized Biblical Hebrew word פִּשְׁתָּה is *t*, whereas the aforementioned Akkadian and Arabic words show that the *ṣ* of the proposed II פִּשְׁתָּה would be *ṣ*. Hence, these would be two completely different words that happened to be spelled the same way.

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⁵⁶ Lane 1:2325.

⁵⁷ Paul de Lagarde, *Praetermissorum libri duo* (Göttingen: Dieterich, 1879), 185; *LexSyr* 585; Sokoloff, *Syriac*, 1167, 1216.

⁵⁸ Maman, “Rav Hai,” 208, 210–211.

⁵⁹ Gregorio del Olmo Lete and Joaquín Sanmartín, *Dictionary of the Ugaritic Language in the Alphabetic Tradition* (Leiden: Brill, 2003), 2:688.