Were the ends of the yoke braces then brought inward to form the binding of the pole-and-yoke area, as the latter stage is described in Homer? We simply do not know.[10] But if they were, it would account for both the length of the *zugodesmon* and its use here as a pole-yoke binding. The wooden peg that pierced both the yoke and the underlying pole and was often used in antiquity in conjunction with yoke lashings, may also have been present on Priam's wagon, as suggested by the word *hestōr*—'pin' (line 272).

Is it possible to reconcile this interpretation of Homer's *zugodesmon* with the term when it appears again almost a millennium later in Arrian and Plutarch? In the former's *Anabasis of Alexander*, ii 3, we find the story of how Alexander solved the riddle of the 'Gordian knot'. The question was 'who could untie the binding of the yoke of the wagon/cart?' (τοῦ ζυγοῦ τῆς ἁμάξης τὸν δεσμόν). The vehicle is described as having been ox-drawn and the binding as made of cornel bark; neither the beginning nor the end of the lashing could be seen. Arrian gives two versions of Alexander's solution. In the first, he simply cut the knot with his sword. In the second version 'he took out the pin (ἔστωρ) of the pole, a wooden peg which was driven right through the pole, holding the binding together, and so removed the yoke from the pole'. Both versions are repeated by Plutarch (*Life of Alexander* xviii), who actually uses the word *zugodesmon*.

It would seem as if the sense of *zugodesmon* was by now restricted to mean simply pole-and-yoke binding. The vehicle, an ox-drawn *hamaxa*, was certainly not for fast driving and pole bindings and yoke braces would have been quite superfluous. Cornel bark seems a peculiar material for binding and would be difficult to tie, but it seems possible that the ends had been slipped under the binding when the material was wetted, to be pliable when applied. When it dried, the end would be invisible.

The same meaning may well obtain in the few other instances in which the term *zugodesmon* appears (either in the singular or the plural, diminutive or in the variant *zugodesmos*).[11] Two papyri from Egypt are of special interest. The relevant passage in one of these, a letter from a certain Sabinus to Geminus dated *ca.* 100 AD, reads: 'Kindly give Vestinus for his yoke a new, strong *zugodesmon*, which you will carefully grease, from those in the box of skins which you have with you . . . for his own is cut.'[12] The other passage, also in a letter, reads: 'Send to me at Aphroditopolis a *zugodesmon* for the oxen, strong and broad, as the one they have is cut.'[13] Leather or hide would be a normal material for any kind of harness bindings and it is not clear from the first passage what type of vehicle or draught animals were intended. But in the case where oxen are mentioned, the binding would certainly have been restricted to the yoke and pole.

It is possible to suggest that the word *zugodesmon* changed its meaning over the centuries or was used very loosely, the *zugodesmon* of a chariot or a fast mule team being more elaborate and including much more than that of a simple ox-drawn vehicle.

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Some ghost facts from Achaemenid Babylonian texts

The remarks below on UET 4 193 aim to correct the published accounts of that text in response to inquiries about its chronological implications. The long epigraphic comments are necessary to explain what might otherwise seem to readers unfamiliar with cuneiform script to be a suspiciously sharp discrepancy in interpretation. I take the occasion to append comments on two other 'ghost facts', a term meant as an analogy to 'ghost words'.

The Evidence of Cuneiform Texts for the Date of Xerxes' Death

The most exact known evidence for the date of Xerxes' death is the Babylonian astronomical text BM 32234, containing reports of lunar eclipses arranged in eighteen year groups.[1] The pertinent portion of the text, the beginning of column iv of the reverse, describes an eclipse on 5–6 June 465 BC, adding:

IZI 14(+x) *Ḫi(?)-ši(?)-ár-šú* DUMU-*šú* GAZ-*šú*
Abu (=month V) (day) 14(+x) Xerxes' son killed him

where 14(+x) may be any numeral between 14 and 18. This statement puts Xerxes' death between 4th and 8th August 465.

An apparent contradiction of this dating has been found in the Babylonian legal text UET 4 193, as interpreted by Figulla, UET 4, p. 15, and characterized and expounded by Horn and Woods, *Journal of Near Eastern Studies* xiii (1954) 9. The text is a legal agreement recording the redistribution of parcels of land among four brothers. It was concluded in the thirteenth year of Artaxerxes I, but it refers to an earlier arrangement made in the twenty-first regnal year of Xerxes. On Figulla's reading, the earlier arrangement was made in Kislimu (Babylonian month IX), beginning 17th December 465.[2] If this reading were accurate, UET 4

[10] Lines 273–4 are hard to explain in detail, but they suggest that the *zugodesmon* was wound around both the yoke, which was fitted with a knob (τρὶς δ' ἑκάτερθεν ἔδησαν ἐπ' ὀμφαλόν), and the pole (αὐτὰρ ἔπειτα ἐξείης κατέδησαν). *Cf.* Reichel's reconstruction (n. 1) fig. 69, and also Wiesner (n. 1) 16–18.

[11] *LSJ* s.v. 'ζυγοδέσμιον' etc.

[12] *P. Fayum* 121, 5, ed. B. P. Grenfell, A. S. Hunt, D. G. Hogarth (London 1900).

[13] *P. Fayum* 115, 15.

[1] Cited by Parker and Dubberstein, *Babylonian Chronology* (Providence 1956) 17, described in Pinches *et al.*, *Late Babylonian astronomical and related texts* (Providence 1955) xxxi, No. *1419 and still unpublished. The tablet was displayed at the British Museum in 1985 as part of the exhibition 'Halley's Comet in History.' I am indebted to C. B. F. Walker for the text of the excerpt given here.

[2] UET 4=H. H. Figulla, *Business documents of the New-Babylonian Period*, Ur Excavations, Texts, vol. iv (London 1949). Horn and Woods (9 n. 24) acknowledge a translation of UET 4 193 supplied by Oppenheim without saying that Oppenheim endorsed Figulla's reading of the text's chronological information. Oppenheim's review of UET 4 (*Journal of Cuneiform Studies* iv [1950] 188–195) did not comment on the chronological issue.

193 and the earlier document to which it refers would imply that Xerxes was alive as much as four months after the date on which BM 32234 says that he was killed. The reading is, however, erroneous.

UET 4 193 belongs to a group of texts dated between the reigns of Nebuchadnezzar II and Philip Arrhidaeus that constitute a family archive.[3] The members of the family, including the brothers involved in UET 4 193, are identified as descendants of an ancestor called 'the barber.' The ancestor's title, in Akkadian *gallābu*, is written throughout the texts of the archive with a Sumerogram, occasionally with a personal name marker, ^{m}LÚ.ŠU.I.

The only part of UET 4 193 that is germane to the Xerxes chronology is the first three and a half lines, referring to the earlier distribution of property. The beginnings and ends of these opening lines are damaged. What was actually on the tablet, according to the published autograph, is:

(2) [(break)]-*zu*-DIN-*iṭ* ^{m}*Ba-la-ṭu* ^{md}*Sin*-ŠEŠ-MEŠ-MU *u* ^{m}*Bul-luṭ* ⌜DUMU.MEŠ⌝ [(break)]
(3) [(break)] × *ina* MU.21.KAM ^{m}*Ḫi-ši-ia-ár-šú* LUGAL . . .

[Nina]zu-uballiṭ, Balāṭu, Sin-aḫḫē-iddin and Bulluṭ, sons of [(break)] [(break)] × in year twenty-one of King Xerxes . . . (made a sworn agreement)

Figulla's month Kislimu can only result from interpreting the incomplete sign that closes the break at the beginning of line 3 as the end of the logogram for the month name. That is, Figulla read:

(3) [*ina* ITI.GA]N *ina* MU.21.KAM ^{m}*Ḫi-ši-ia-ár-šú* LUGAL

in Kislimu (=month IX), in year twenty-one of King Xerxes . . .

It would be a lapse or an oddity to have the preposition (*ina*) between the month name and the year number, as this restoration requires. The normal way of construing such dates is intact in the following line:

ár-ki ina ITI.ŠU MU.13.KAM ^{m}*Ár-taḫ-sá-as-ú-su* LUGAL

later, in Du'uzu (=month IV), year thirteen of King Artaxerxes (the brothers initiated the action that redistributed the property).

Furthermore, restoring the month name at the beginning of line 3 would leave only enough space for restoring the brothers' patronym at the end of line 2, in the space following the signs DUMU.MEŠ, 'sons (of),' but not enough space for restoring their family name (that is, their ancestor's professional title, 'barber'). The brothers would then be identified in full only on their second mention (line 5, with names, patronym, and family name), while their first mention would be abridged to names and patronym, again an implausible stylistic lapse.

A different restoration of the broken ends of the lines, however, avoids these flaws and gives a more straightforward reading of the text and a better fit with the context, the preserved traces shown in the copy, and the normal usage of late Babylonian business documents: the three horizontal wedges shown in the copy after the break at the beginning of line 3 are not the end of the sign GAN (𒄭) (that is, the Sumerogram for the month name Kislimu), but the end of the sign I (𒄩) (that is, the last sign of the Sumerogram for the family name *gallābu*); the broken beginning of line 3 contained the beginning of the family name; the broken end of line 2, following 'sons of,' contained the brothers' patronym. Hence:

(2) [^{md}*Nin-a*]-*zu*-DIN-*iṭ* ^{m}*Ba-la-ṭu* ^{md}*Sin*-ŠEŠ-MEŠ-MU *u* ^{m}*Bul-luṭ* ⌜DUMU.MEŠ⌝ [*šá* ^{m}BA-*šá-a*]
(3) [A ^{m}LÚ.ŠU].⌜I⌝ *ina* MU.21.KAM ^{m}*Ḫi-ši-ia-ár-šú* LUGAL . . .

[Nina]zu-uballiṭ, Balāṭu, Sin-aḫḫē-iddin and Bulluṭ, sons of [Iqīšâ the descendant of the Barber] in year twenty-one of King Xerxes . . . (made a sworn agreement).

Dr. Jeremy Black has collated the original tablet in the Iraq Museum, finding it much deteriorated since Figulla's copy was made. At the end of line 2, there remains only a trace of the sign given by Figulla's copy as DUMU ('son') and no trace at all of the following MEŠ (plural). At the beginning of line 3, nothing is clearly visible before *ina* MU.21.KAM, and even the beginning of the single horizontal wedge that indicates *ina*, 'in', is missing. The breaks at the end of line 2 and the beginning of line 3 correspond fairly well in length to the space used in line 5 to write the patronym and family name of the brothers.

In sum, there is not now on the original tablet, nor was there in Figulla's autograph, any support for the contention that UET 4 193 mentions Kislimu or any other month in Xerxes' twenty-first regnal year. The most straightforward reading of the tablet does not admit a month name. This passage cannot be seriously considered as evidence for Achaemenid chronology and political history.

Of other cuneiform texts from the late years of Xerxes' reign, A 23253, cited by Parker and Dubberstein (p. 17) as an unpublished text documenting months ten through twelve of Xerxes' twentieth regnal year, is not a Babylonian text, but an Achaemenid Elamite administrative letter, published by Cameron, *Persepolis treasury tablets* (Chicago 1948) No. 75. A recently published Babylonian legal text dated in Xerxes' twenty-first regnal year is OECT 10 185 (at Hursagkalama, day 27, month broken away).[4]

A Supposed Reference to Revolts against Ochos

Kuhrt (in *Achaemenid history* i 149, with references) has already remarked that Unger's citation (*Babylon*

[3] See G. Van Driel in *Achaemenid history* i: *sources, structures and synthesis*, Proceedings of the Groningen 1983 Achaemenid History Workshop, ed. by H. Sancisi-Weerdenburg (Leiden 1987) 164–7.

[4] OECT 10=G. J. P. McEwan, *Late Babylonian texts in the Ashmolean Museum*, Oxford Editions of Cuneiform Texts, vol. x (1984). For OECT 10 185 see S. Graziani, *I Testi Mesopotamici datati al regno di Serse*, Suppl. 47 to *Annali dell'Istituto Universitario Orientale di Napoli* 46 (1986) 102 f. no. 80. The text stipulates that a debt is to be repaid in the seventh month, implying that it was drafted earlier in the year. In OECT 10 326 (day 9, month 1, year 21), the ruler's name is not indicated, but for reasons of prosopography this text is probably also to be assigned to the last year of Xerxes' reign.

[Berlin 1933] 318 n. 3) of the astronomical text VAT 4924, dated in the fifth year of Umasu (i.e., Ochos) must be corrected: the text has subsequently been published, and its astronomical contents date it firmly to the reign of Darius II Ochos, 419/18 BC. It should also be observed that Unger's translation of the final line as 'angesichts des Aufstandes' and the reading on which it was based (*ana pân zi-ḫi*) were erroneous. As Hermann Hunger tells me, the passage in question is a brief colophon that identifies the contents of the text as

ana amāri (IGI) *našḫi* (ZI-*ḫi*)
excerpted for study

without reference to any revolt (Babylonian *sīḫu*) or other political circumstances.

A Missing Text from the End of the Reign of Artaxerxes II

The text accessioned by the Babylonian Section of the University Museum, Philadelphia as Kh² 420 (now numbered CBS 1420) was published by Barton, *American Journal of Semitic Languages* xvi (1899–1900) 67 no. 2. Barton (p. 65 n. 2) attributed it to the reign of Cambyses. A summary catalogue of the holdings of the Babylonian Section by Hilprecht and others attributes it (with a query) to the reign of Darius I. A collation of lines 4 f. establishes clearly that the text comes from the end of the reign of Artaxerxes II:

(4) . . . *ina* ITI.GUD MU.45.[KAM] (5) ^{m}*Ar-taḫ-šat-su* LUGAL
(a debtor is to make a repayment at Babylon) in Ajaru (month II), year 45 of King Artaxerxes (II).

Oelsner, *Die Welt des Orients* viii (1976) 315 n. 18 cites a reference in a manuscript of Hilprecht to Kh² 541, an unpublished tablet in Philadelphia dated in the forty-fifth regnal year of Artaxerxes II. The summary catalogue by Hilprecht and others, however, identifies CBS 1541 (=Kh² 541) as a fragment of an Old Babylonian tablet, and a note in the appropriate cabinet in the Babylonian Section indicates that this tablet has been 'missing since 1909', shortly before the notorious 'Hilprecht-Peters controversy', when the ownership and whereabouts of some of the Philadelphia tablets came into question.

It is apparent that the Hilprecht catalogue's entry for CBS 1541 refers to a different tablet from the one that the Hilprecht manuscript refers to as Kh² 541, and it is therefore probable that Hilprecht's manuscript refers by an erroneous number to the text already published but erroneously dated by Barton.

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The Harbor at Pylos, 425 BC*

Thucydides' full description of the harbor at Pylos is part of his discussion of the Spartan strategy for the campaign (iv 8).[1]

> . . . and the Lacedaimonians . . . expected the Attic fleet from Zacynthos to come to the rescue and intended, if they had not captured Pylos by that time, to block up the entrances to the harbor, so that the Athenians could not sail in and use it as an anchorage. (The island called Sphacteria extends alongside the harbor, and lies close to it: hence the anchorage is safe and the entrances narrow—the entrance by Pylos and the Athenian fortifications giving a passage for two ships through the channel, and the entrance by the mainland on the other side a passage for eight or nine . . .) These entrances then, they intended to block up tightly with ships lying parallel to each other, prows to the enemy: and since they were frightened that the Athenians might use Sphacteria as a military base, they ferried hoplites across to it, and stationed others along the mainland. By this plan, they thought, the Athenians would find both the island to be enemy-occupied and the mainland, which gave them no chance of landing (for the coast of Pylos itself, outside the entrance and towards the open sea, is harborless, and would give them no base of operations to help their troops): and equally they themselves would probably be able to capture the place by siege, without a sea-battle or any unnecessary danger—there was no food in it, and it had not been properly prepared for a siege. This, then, was their agreed plan . . .

Although one would think this a clear and detailed geographic description, historians have not yet found a location at Pylos for the harbor which satisfactorily matches it. Except for Grundy (whose lagoon harbor was discredited by Pritchett),[2] all historians have identified Thucydides' harbor as the entire Navarino Bay (Figure 1), despite the following and long recognized difficulties: (1) the south entrance to the bay is too wide and deep to be blocked by triremes, particularly by a Peloponnesian fleet which consisted of fewer than 60 of them (8.2, 13.1), and it is far too wide to be described as allowing passage for only 8 or 9 of them (8.6); (2) the entrances to the bay do not fit the 4:1 width ratio enumerated in 8.6, and (3) the bay is too large to be considered a classical harbor or for its waters to be called sheltered. Furthermore, the Spartan strategy for blocking the entrances to the harbor, which so sensibly fits the limited capabilities of the Peloponnesian fleet, and which Thucydides mentions three times (8.5, 8.7, 13.4), cannot be implemented in the way he describes if the bay with its southern entrance is the harbor he means. This discrepancy renders other parts of the text difficult to interpret or comprehend. The naval battle of chapters 13–14, which he says takes place in the harbor, and which will be reassessed at the end of this Note, is particularly obscure in the absence of a clear and plausible idea of where and under what circumstances it occurred. Heretofore, scholars have either ignored these problems or explained them as products of Thucydidean errors.

A preferable location for Thucydides' harbor at Pylos has been overlooked. It is not without difficulties, but it

* I am grateful to Drs Boeghold and Ackerman and to my son Matthew for their help with this note.

[1] All Thucydidean references are from book iv unless otherwise noted, and all translations from Thucydides are from J. B. Wilson, *Pylos 425 BC, a historical and topographical study of Thucydides' account of the campaign* (Warminster, Wilts. 1979).

[2] G. B. Grundy, *JHS* xvi (1896) 1–51. W. K. Pritchett, *Studies in ancient Greek topography i* (Berkeley 1965) 6–29. Pritchett's evaluation, that in 425 the sandbar was in existence and the lagoon could not have been a harbor, was also corroborated by William G. Loy and H. E. Wright, Jr., 'The Physical Setting', William A. McDonald and George R. Rapp, Jr. (edd.), *The Minnesota Messenia expedition* (Minneapolis 1972) 46.