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OBSERVATIONS ON PYLIAN EPIGRAPHY *

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The need for paying close attention to the epigraphical details of the Linear B documents in forming linguistic or historical interpretations from them has been stressed by many scholars.¹ Here I shall consider two such

* I shall use the following abbreviated references:

- Docs:* J. Chadwick, M. Ventris, *Documents in Mycenaean Greek*, 2nd ed. (Cambridge, 1973)
IG: Incunabula Graeca
Les Scribes: J.-P. Olivier, *Les Scribes de Cnossos*, IG 17 (Rome, 1967)
PTT I: E.L. Bennett, J.-P. Olivier, *The Pylos Tablets Transcribed, Part I: Texts and Notes*, IG 51 (Rome, 1973)
PTT II: Bennett, Olivier, *The Pylos Tablets Transcribed, Part II: Hands, Concordances, Indices*, IG 59 (Rome, 1976).

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¹ For example, on the linguistic side one may note E. Risch's study of Mycenaean dialects in *Proceedings of the Cambridge Colloquium on Mycenaean Studies*, ed. L.R. Palmer, J. Chadwick (Cambridge, 1966) 150-157, with A. Heubeck's comments (*Kratylos* 21 (1976) 201-202) and the debate whether certain spelling variations constitute scribal errors or non-Greek elements in Linear B: S. Levin, "Greek and Non-Greek Inflexions in Linear B," *Mycenaean Studies*, ed. E.L. Bennett (Madison, 1964) 146-159, and "Greek with Substrate Phenomena, or a 'Jargon'," *Kadmos* 11 (1972) 133-137, with P. Ilievski, "Non-Greek Inflexions or Scribal Errors in the Mycenaean Texts," *Ziva Antika* 15 (1965) 45-59. On the historical side one may cite Olivier's conclusions on Knossian bureaucratic methods in *Les Scribes*, 101-136, with C.J. Ruijgh's review in *Mnemosyne* N.S. 21 (1968) 293-294.

epigraphical points although in the course of this treatment I shall touch upon several other points as well.

pu (50) on PY An427 and PY Vn10

P. Ilievski in an attentive study of sign variants and ideograms noted that the sign at that time read as *pu* in the words *pi-pu-te* (PY An427) and *e-pi-pu-ta* (PY Vn10) differed in form from the usual *pu* (50).² He then proposed that, since *pi-pu-te* in An427.3 was probably an unidentified place-name and since the explanation offered for *e-pi-pu-ta* in Vn10.2 and .5 was not entirely satisfactory,³ the matter "must be reexamined from the standpoint that here we probably have some other sign instead of *pu*."⁴

Ilievski's arguments, such as they are, may have had some influence. For although the latest edition of *Docs* adheres to the initial reading and interpretation for Vn10.2,.5: *e-pi-pu-ta* = *epiphuta*,⁵ the recent transcription of the texts is more cautious. In An427.3 one now reads *pi-[.]te* (PTT I,49) with the following note:

. -te , *pu-ka-wo*, and perhaps VIR 3, over erasure; the sign between *pi-* and *-te*, though it somewhat resembles a *pu*, remains unidentified with any known sign, and can hardly be listed and given a number as a new sign while it is uncertain which strokes belong to it and which to the erased signs under it. (PTT I,58)

In Vn10.2,.5 one finds a similar change to *e-pi-[.]ta* (PTT I,253) with the comment that "the sign seen in *e-pi-[.]ta* in both instances is probably not *pu*; perhaps cf. *19." (PTT I,257)

I think that an examination of the shape of sign 50 (*pu*) together with a reexamination of Ilievski's epigraphical arguments will indicate that the greatest probability rests with reading *pu* in these instances, whatever one's opinion of the interpretation in *Docs* may be, as opposed to the alternatives: 1) listing a new sign in the syllabary, 2) equating the sign with *19, 3) remaining undecided particularly about An427.3.⁶

² "Some Observations on Mycenaean Epigraphy (Achievements and Problems)," *Klio* 50 (1968) 42.

³ *Docs*, 392: "young trees, saplings," to which Ilievski contrasts A. Morpurgo, *Mycenaeae Graecitatis Lexicon*, IG 3 (Rome, 1963) 88: "Quid verbo proprie significetur parum liquet." Ilievski stresses that no sure explanation has been offered for the use of saplings in the context of chariots and their axles. *Klio* 50 (1968) 43.

⁴ *Klio* 50 (1968) 43.

⁵ *Docs*, 252, 544.

⁶ The similarity of the sign in An427.3 to the signs in Vn10.2,.5 should remove much of the uncertainty regarding which strokes belong to it and which to the erased signs beneath it.

Ilievski's analysis reads as follows:

The superior semicircular line here is closed in a circle under which there is a horizontal line with three feet descending from it. The sign is written with 6 or 8 strokes. The ordinary *pu*, usually written with only three strokes, has a semicircular line turned on the top from right to left, and then downwards. In MY Go610 only, this strokes is turned in the opposite direction. From this line two legs descend in both cases. As we can see, the sign in the places mentioned (PY An427, Vn10) is quite different from *pu*.⁷

He then argues from formal comparison with sign 50 on tablets inscribed by the same hand,⁸ especially with *pu* in *pu-ka-wo* on An427.3.⁹

First, the formal differences between the signs in question and the ordinary *pu* have here been somewhat exaggerated. In none of the three instances is the superior semicircular line closed in a circle.¹⁰ In all three cases the sign is formed as follows: a superior semicircular line incised "cup down"; below this, with discernible intervening space, a horizontal stroke; below this, again with discernible space, three not quite vertical legs; at the bases of the legs are incised three horizontal feet in Vn10 and apparently a single horizontal base intersected by the middle leg in An427.¹¹ The sign therefore appears as (1) in Vn10 and as (2) in An427. It is written in 6 or 8 strokes and more closely resembles the typical *pu* than the upper circle in Ilievski's drawing indicates. The absence of an upper circle, the presence of a middle leg, and the relative verticality of the legs oppose equating the forms with sign *19: (3).¹²

⁷ *Klio* 50 (1968) 42.

⁸ An35, 424, and 427 were then as now assigned to hand 3. Vn10, formerly assigned to hand 3, is now classified simply under Class i. See *PTT* II, 45, 64 and Bennett, "Tentative Identification of the Hands of the Pylos Tablets," *Athenaeum* N.S. 36 (1958) 328-331.

⁹ *Klio* 50 (1968) 42.

¹⁰ In the following discussion numbers in parenthesis, thus (1), refer to the table of signs. The reader should also consult the plate of photographs for the important sections of tablets under examination (An427, Ea28, Jn415, Vn10). For permission to use these photographs I thank the University of Cincinnati Archaeological Excavations. Otherwise, a full photograph of Jn605 appears in *AJA* 63 (1959) plate 26; a photograph and drawing of Ta709 in *AJA* 62 (1958) plate 40, fig. 11.

¹¹ The erasure and lumping of clay from the intersecting middle leg make it possible that the sign may have been written with two, or even three, separate feet. Autopsy is needed.

¹² Contrast *19 on Ag90. *Les Scribes*, plate XXVIII.

Next we must compare this sign with the ordinary *pu*. Here I must say that, if the three horizontal feet in Vn10 are properly considered strokes, then so must the horizontal feet of the typical *pu*. Consequently, we only have a difference between the eight-stroke sign in Vn10 and the ordinary *pu* of 6 (not 3) strokes. The feet are originally part of sign 50, though occasionally a given scribe will dispense with them in order to simplify its writing.¹³ Its predecessor in Linear A, L64, has three feet: (4).¹⁴ Moreover, of those hands at Knossos in which sign 50 occurs in a definite shape, sixteen use a version of sign 50 with feet as opposed to only seven without feet.¹⁵ Both varieties occur at Pylos.¹⁶ On the tablets at Mycenae an elongated footless variety (5) occurs in all cases except in Go610.4: (6).¹⁷ But the vase fragment MY Z713 (Sacconi) bears a fragmented *pu* with feet.¹⁸ Sign 50 does not occur at all on the small number of tablets from Thebes and Tiryns.¹⁹ Thus I think we may say that *pu* is usually written with six

¹³ On the process of sign simplification see E.L. Bennett, "Some Local Differences in the Linear B Script," *Hesperia* 35 (1966) 300.

¹⁴ For convenient tables consult D.W. Packard, *Minoan Linear A* (Berkeley, 1974) 34, fig. 5, and *Docs*, 33, fig. 6. For graphic variants of L64 see J. Raison, M. Pope, *Index transnumérée du Linéaire A*, BCILL 11 (Louvain, 1977) 49. The only footless example occurs on HT 31.2 as an adjunct to an ideogram. See Raison-Pope, *Index*, 56, no. 564.

¹⁵ See the tables numbered according to hand following page 320 in *Les Scribes*.

¹⁶ See *Docs*, 41, fig. 9; Bennett, *Hesperia* 35 (1966) 305, table IV.

¹⁷ See the drawings and plates for X508, Fo101, Ge603, Ge604, V662, and Go610 in A. Sacconi, *Corpus delle iscrizioni in lineare B di Micene*, IG 58 (Rome, 1974).

¹⁸ A. Sacconi, *Corpus delle iscrizioni vascolari in lineare B*, IG 57 (Rome, 1974) 73. J. Raison, *Les Vases à inscriptions peintes de l'âge mycénien et leur contexte archéologique*, IG 19 (Rome, 1968) 138-139, 149-150, is less positive about the orientation of the fragment (MY Z711 (Raison)) and the signs upon it. Sacconi's reading to me seems sound. The provenience of the inscribed vases found on the mainland is still a moot point. Raison, 202-209, favored local sources for these vases *contra* the theory of Cretan manufacture supported by L.R. Palmer (*The Interpretation of Mycenaean Greek Texts* (Oxford, 1963) 275-277, and "Mycenaean Inscribed Vases: II. The Mainland Finds," *Kadmos* 11 (1972) 27-46) on textual grounds and by H.W. Catling and A. Millett ("A Study of the Inscribed Stirrup Jars from Thebes," *Archaeometry* 8 (1965), 3-85) on the basis of clay analysis. Recently similar inscribed vase finds at Khania (E. Hallager, "Linear A and Linear B Inscriptions from the Excavations at Kastelli, Chania, 1964-1972," *Opuscula Atheniensia* 11 (1974) 53-86) and a new analysis of clay samples (H.W. Catling, R.E. Jones, "A Reinvestigation of the Provenience of the Inscribed Stirrup Jars Found at Thebes," *Archaeometry* 19 (1977) 137-146) point strongly to western Crete as the source for the Theban vases. Palmer (*Kadmos* 11 (1972) 41-46) argues cogently that the vases found at Eleusis, Tiryns, and Mycenae also come from western Crete. MY Z713 (Sacconi), therefore, may not be evidence of scribal practice at Mycenae.

¹⁹ For the negative evidence see L. Godart, A. Sacconi, *Les Tablettes en Linéaire*

strokes: (7). Still one must admit that the typical form of *pu* with its severely sloping and continuous stroke running from the upper curve down the left side does look by design very different from the sign forms under discussion. Here we reach a point where only a close familiarity with the epigraphy of the tablets and with the idiosyncrasies of different scribal hands can help us.

In Linear A, we have seen, L64, from which Linear B sign 50 evolved, normally looks very unlike the signs in question on An 427 and Vn10. L64 has an even more severely sloping left stroke, and its legs usually ascend from left to right; its upper loop in many cases is barely turned inward: (8).²⁰ Yet on TY 2.2 L64 is incised with an extremely closed upper semicircle which turns into a horizontal cross line and then turns once again at a nearly right angle to form the left leg: (9).²¹ Similarly for Linear B sign 50 one can find modified forms approximating the peculiar features of the odd signs on An427 and Vn10. Hand 211 on KN L474 incises the first *pu* with the upper curve made into a "cup down" semicircle: (10), although his succeeding signs on the same tablet correspond to a more usual shape: (11).²² Hand 103 alternates his typical footless *pu*: (12), with a shape having a horizontal cross line and an angular turn into the left leg: (13). Hand 104 shows an almost closed semicircle together with the horizontal cross line: (14). Hand 109 varies between (15) and (16). At Pylos similar examples can be cited. In fact, within the hand of An427, hand 3, in the word *pu-ka-wo* on An424.1, *pu* has the "cup down" semicircle, the straight horizontal, and the nearly vertical legs of equal length found on the doubtful sign in An427 and Vn10: (17). On An35.2 *pu* has a nicely closed loop, an approximately horizontal cross line, and a neat right angle turn: (18). In tablets assigned to hand 2 the *pu* on Ta709.2 even has the single bottom stroke in place of the three separate feet as may occur on An427: (19). The *pu* on Jn605.3 has a closed top loop, a horizontal cross line, and straight vertical legs with two bottom strokes approximating the line on Ta709.2: (20).

So we have in the Minoan-Mycenaean tradition graphic variants of L64-Linear B 50 (*pu*) showing the distinctive features of the aberrant signs

B de Thèbes, IG 71 (Rome, 1978) and L. Godart, J.-P. Olivier, "Nouveaux Textes en Linéaire B de Tirynthe," *AAA* 7 (1974) 25-26, with U. Naumann, L. Godart, J.-P. Olivier, "Un Cinquième Fragment de tablette en Linéaire B de Tirynthe," *BCH* 101 (1977) 229-234.

²⁰ See Raison-Pope, *Index*, 49, variant 64b, and, for example, HT 9a in L. Godart, J.-P. Olivier, *Recueil des inscriptions en Linéaire A, Volume 1*, Études Crétoises 21 (École Française d'Athènes, 1976).

²¹ See Godart, Olivier, *Recueil*, 324-325.

²² See *Les Scribes*, hand 211 plate and table. For the next examples from Knossos consult the tables in *Les Scribes*.

on An427 and Vn10. The very scribe of An427 incises *pu* with the features described above on the same line of An427 as the atypical *pu*: (21). What remains peculiar to the unusual signs is the separation of the elements of the sign: (1). This, I think, is explained by the tendency, observed and documented by Ilievski, for a scribe to modify the shape of a sign, or even to write the wrong sign, due to the influence of a similarly shaped sign in close proximity.²³ On Vn10 the unusual sign is found both times in the sequence: (22); on An427 in the sequence: (23). It is very likely that the shape of *pu* was influenced by that of the preceding sign 39 (*pi*): (24). The scribe imitates the separate horizontal and leg strokes of sign 39 (*pi*) and thus segments the normally continuous sign 50 (*pu*). On the other hand, in the examples of continuously formed *pu* from Pylos cited above, the *pu* comes in the initial position of a word, at least after a word-divider and sometimes at the beginning of a line:

An424.1 VIR 12 pu-ka-wo
 An35.2 pu-ro
 Jn605.3 AES M 1 N 2 pu-ra-ta
 Ta709.2 au-te 1 pu-ra-u-to-ro
 An427.3 pi-[.]te , pu-ka-wo.

So placed, they are neither influenced by a preceding sign, nor do they even have a *pi* nearby.

Within the nucleus of hand 2, Stylus 310, we have two parallel examples of this process. On Jn415 the scribe lists in two vertical columns the names of bronzesmiths to whom quantities of bronze have been allotted. In the second column on line three he enters the name *ke-ti-ro*. Immediately below in line four he begins to write *pa-ti-* and then, noticing his mistake, he modifies the outline of sign 37 (*ti*)²⁴ in order to enter the correct name *pa-pu-so*. The result is an abnormally shaped *pu*: (25). In this case, however, the cause for the abnormality- visual influence of the sign directly above- and the identification of the sign are certain.

On Jn605 in line six the same scribe is writing out the common formula *a-ta-ra-si-jo* , *ka-ke-we*. He incises sign 44 (*ke*) thus: (26), with exactly the base, including the horizontal stroke, of sign 52 (*no*) directly below in line, and straight vertical legs with two bottom strokes approximating the line that a visual influence acted upon the scribe. Moreover, he incised the upper portion of the aberrant *ke* allotting the proper amount of space for the smaller base of the *no*. This mistake may indicate that the scribe was copying onto this page-shaped tablet from another document in which, too,

²³ *Živa Antika* 15 (1965) 47-48. For the occurrence of such errors in Greek manuscripts see M.L. West, *Textual Criticism and Editorial Technique* (Stuttgart, 1973) 25.

²⁴ Compare the shape of sign 37 (*ti*) on Jn605.7.

the *ke* and the *no* were vertically or otherwise juxtaposed.²⁵ At the end of line seven the scribe, freed from visual influence, writes a perfectly normal *ke*: (28). From the formulaic context of Jn605.6 the reading of the atypical *ke* is certain.

On Jn415 and Jn605 the scribe of Stylus 310 exhibits the tendency to make a mistake caused by the visual influence of a juxtaposed sign. On these tablets the lesser extent of sign modification and the formulaic context confirm the proper readings. In An427.3 and Vn10.2,.5 we lack such certain proof. Yet for the epigraphical reasons I have given *pi-pu-te* and *e-pi-pu-ta* should be read.

[[*o*]] on Ea28

Besides being visually influenced by signs within a particular context, a scribe is also often affected by formulaic patterns. Ilievski has discussed pure mistakes made in the Pylos E- tablets which deal with land holdings. In these tablets the word *o-na-to* appears almost 200 times, usually in a set position. It is hardly surprising, therefore, that there are instances in which the word is quite simply misspelled: *o-na* (Ea 460, Ea757); *o-to* (Ea814); *-na-to*, *to* (Ea 305); or omitted entirely (En74.4, Ea224.6).²⁶

On Ea28 instead of omitting this term the scribe began to write it where it did not belong. The complete text in *PTT* I reads:

ti-ri-da-ro ra-pte , e-ke , ka-ma GRA[

without further comment in the apparatus. Yet on the tablet and visible in photographs are traces of erasure beneath the *ka* and unmistakable vestiges of an *o* incised beneath: (29).²⁷ The scribe on Ea28 wrote name (*ti-ri-da-ro*), occupation (*ra-pte*), verb (*e-ke*) and began to write *o-na-to* in accordance with the more common formula of the Ea series. He then noticed that *ti-ri-da-ro* here "held" not *o-na-to* land but *ka-ma* land, and so promptly but not completely- erased his initial *o*. Elsewhere within the Ea series we find that *ti-ri-da-ro*, *ra-pte* does hold *o-na-to* land also: *pa-ro da-mo* (Ea460) and *ko-do-jo* (Ea754). Therefore, the scribe's corrected mistake is even more understandable.

Addendum on Vn10: Interpretation

Reading *e-pi-pu-ta* on Vn10.2,.5 once again raises the problem of interpretation posed by Ilievski. Let us consider the full text of the tablet:

Vn10 .1 o-di-do-si , du-ru-to-mo ,
 .2 a-mo-te-jo-na-de , e-pi-pu-ta 50

²⁵ Cf. the correspondences between tablets of the various A- and E- series at Pylos: Aa, Ab, and Ad; Ep and Eb; En and Eo; *PTT* I, 20-21, 114, 127.

²⁶ *Ziva Antika* 15 (1965) 52.

²⁷ The back and seat of the "throne" of sign 61 (*o*) are still visible and exactly match those found on other tablets of hand 43, e.g. Ea59.3,.4,.7.

- .3 a-ko-so-ne-qe 50
 .4 to-sa-de , ro-u-si-jo , a-ko-ro , a-ko-so-ne
 .5 100 , to-sa-de , e-pi-pu-ta 100

This text can be safely interpreted along broad lines as follows:

Thus the woodcutters contribute *a-mo-te-jo-na-de*
 50 *e-pi-pu-ta*, 50 axles.

So many the “fields of Lousos” (contribute):
 100 axles, and so many *e-pi-pu-ta* 100.²⁸

The major question concerns the meaning of *e-pi-pu-ta*, a word found only here in the Mycenaean corpus. *Docs* conjectures the meaning “saplings,” and Morpurgo concurs: “fortasse ‘arbores’ vel ‘rami novelli’ (cf. Theophr. *Hist. Plant.* I 1.2).” At the same time, however, the exact use of “saplings” in the context of chariot axles remains unclear, as Morpurgo admits (above note 3). *Docs* suggests that “these were presumably used for the bent-wood parts of the chariot assembly, like the νέους ὄπρηκας of *Il.* XXI, 38” or even as “pliant branches for felloes.” Palmer observes that in both entries the number of *e-pi-pu-ta* equals the number of axles. He, therefore, proposes that *e-pi-pu-ta* “must be some corresponding part of the chariot (chassis)” and that “saplings” does not suffice.

The word *a-mo-te-jo-na-de* makes for further difficulties. This word is certainly, as *Docs* explains, “an allative in *-de* of a workshop noun in *-ewon* (cf. Hom. χαλκείων ‘smithy’) formed from the word *a-mo-ta*”;²⁹ yet it has been variously rendered as “to the wheelshop,” “to the chariot department,” and “to the chariot (or undercarriage) maker’s.”³⁰ The restriction of this word to a narrower or broader sense respectively limits or expands the number of possible interpretations for *e-pi-pu-ta*. It also bears upon the

²⁸ Cf. *Docs*, 350, 371; Palmer, *Interpretation*, 368. Mention of *Docs* and Palmer in the following discussion refers to these citations unless otherwise noted. Mention of Morpurgo refers to *Lexicon*, 18, 88. The reader may also consult the entries in J. Chadwick, L. Baumbach, “The Mycenaean Greek Vocabulary,” *Glotta* 41 (1963) 157-271. *e-pi-pu-ta* is treated under φύω.

²⁹ Morpurgo, 18, and Palmer, *Interpretation*, 368, concur.

³⁰ L. Baumbach ed., *Studies in Mycenaean Inscriptions and Dialect 1953-1964*, IG 20 (Rome, 1964) 135. See D.J.N. Lee “A RA RO MO TE ME NA,” *BICS* 5 (1958) 61-64, for the first interpretation. P. Chantraine alternates: “a l’atelier des chars” (*Minos* 4 (1956) 60) and “a l’atelier des charrons” (*Revue de Philologie* 37 (1963) 15). M. Lejeune, *Mémoires de philologie mycénienne III*, IG 43 (Rome, 1972) 289-290, explains that *a-mo* properly means “ajustage” but had become semantically specialized as “roue.” In regard to related words such as *a-ra-ro-mo-te-me-na* and *a-na-mo-to*, Lejeune admits that such words could have either the proper or the specialized meaning. Consequently, *a-mo-te-jo-na-de* can mean either “the workshop of assemblage (the assembler)” (proper) or “the workshop of the wheelwright” (specialized).

interpretation of a *du-ru-to-mo* here as either “qui arbores caedit” or “faber lignarius,”³¹ which in turn affects *e-pi-pu-ta* again.

The first domino in the series is *e-pi-pu-ta*. Let us specify an acceptable interpretation and use for the word in the context of Vn10, and the rest of the text can be cleared up accordingly. Å. Åkerström in a recent, thorough study of Mycenaean chariot representations analyzes the peculiar structural features of the Mycenaean two-wheeled chariot.³² A distinctive feature of the Mycenaean chariot was a system of “arcades,” visible most clearly in fresco fragments from Mycenae and on tablets Se880, 881, and 883 from Knossos,³³ used in the triangular space between the pole and the horizontal stay-piece (or “pole-stay” *Docs*, 363) of the chariot.³⁴ Åkerström writes:

These ‘arcades’ look like shipbuilders’ ribs turned upside down. Their character indicates that they were made of *flexible pieces of wood* (cf. Fig. 13:4). Their purpose is to give additional strength to the “triangle” in tension as well as in compression, i.e. when quickly starting and when suddenly holding the horses.³⁵

e-pi-pu-ta “saplings” would be ideally suited to such a use. The “arcades” are continuous pieces of wood bowed and strapped at the top of their arc to the horizontal stay-piece and inserted at their two ends into grooves carved in the pole of the chariot.³⁶ Only saplings would have the required resiliency and flexibility along with the limited diameter necessary to accommodate insertion into the pole. This interpretation would also accord with Palmer’s view that the *e-pi-pu-ta* “must be some corresponding constituent of the chariot (chassis).” *a-mo-te-jo-na-de* then may no longer be taken in the narrow sense as “to the wheelshop,” for which interpretation *Docs* conjectured that *e-pi-pu-ta* might be “pliant branches for felloes.” The word must be taken in the broader sense as “to the workshop for chariot assemblage.” In respect to *du-ru-to-mo*, the more general meaning “qui arbores caedunt” is more appropriate to the context and to the fundamental sense

³¹ Morpurgo, 75.

³² Å. Åkerström, “Mycenaean Problems: I. On the Mycenaean Chariot,” *Opuscula Atheniensia* 12 (1978) 19-37. This study encompasses: the fresco representations from Knossos, Tiryns, Mycenae, and Pylos; the Hagia Triada sarcophagus; engraved stones; the amphoroid chariot kraters from Cyprus and the mainland; and, of course, the Knossos chariot tablets.

³³ See Åkerström, figs. 4, 12. For the Knossos tablets see *Scripta Minoa II*, nos. 880, 881, and 883, or *Les Scribes*, table XXVIII, plate XXXVIII.

³⁴ Åkerström, 33-35, figs. 13, 16.

³⁵ Åkerström, 35 and note 39, where he remarks that F. Schachermeyr had previously identified the series of “arcades” as strengthening elements. Italics mine.

³⁶ Åkerström, fig. 16.

of the term.³⁷ For “faber lignarius” we might expect a compound in *-wo-ko* (cf. *to-ko-so-wo-ko*, *ku-ru-so-wo-ko*, *to-ro-no-wo-ko*). More importantly the woodcutters are supplying “saplings,” i.e. only the raw material for the finished product, “arcades.” The “arcades,” as components of the Mycenaean chariot, probably had a technical name in Mycenaean.³⁸

Regarding *a-ko-so-ne* there are two equally acceptable alternatives. The first is that the *e-pi-pu-ta* are saplings, from each of which would be cut the number of “arcades” of differing size necessary for a single chariot.³⁹ By this view, then, one of the *e-pi-pu-ta* and one of the *a-ko-so-ne* would suffice for one chariot. Here we need not imagine that the woodcutters would deliver a finished axle to the chariot assembly shop, but merely a piece of timber of proper size and shape which could be finished off according to the specifications of a given chariot.⁴⁰

A second interpretation would be that the woodcutters were responsible for the delivery of the specified amounts of raw material for the “arcades” and the axles. These could vary in length, size, and quality, and be used for the production of more or less than fifty, or one hundred, chariots. In this case the equal number of *e-pi-pu-ta* and *a-ko-so-ne* could be a matter of administrative convenience whereby deliveries would be made in multiples of fifty. We might compare here the round figures on the sheep tablets

³⁷ Cf. LSJ δρυσομία: *felling of trees for timber* Pl. Lg. 678d. In Hesiod *Op.* 422ff. ὕλοτομεῖν comprises at one point searching in the mountain and the field (*Op.* 428); and, although the eventual finished products are referred to by name (mortar, pestle, axle), the lines reflect “the viewpoint of the man who is sorting tree-trunks of different lengths and deciding what they will make.” M.L. West, *Hesiod Works and Days* (Oxford, 1978) 264, note on line 423. Likewise in *Il.* 11.86 ff. the δρυσοτόμος is described as taking his meal in the dells of a mountain wearied from cutting tall trees. In *Op.* 807-809 the ὕλοτόμος is enjoined to cut timbers suitable for ships. These timbers are most likely unfinished planks which would be trimmed and fitted (πήγνυσθαι) in the actual construction of the ship. It is clear from these passages that at least from the eighth century B.C. onward the δρυσοτόμος was not what we would call a wood finisher or woodworker, but a woodcutter or lumberjack.

³⁸ For a thorough discussion of such terminology see M. Lejeune, “Essais de philologie mycénienne: (2) Les inventaires de roues,” *Revue de Phil.* 29 (1955) 153-171.

³⁹ The “arcade” nearest the juncture of pole and horizontal stay-piece is shortest in length; that nearest the body of the chariot is longest. See Åkerström, fig. 13:4.

⁴⁰ See above note 37. In Hesiod *Op.* 424 the word ἄξονα seems to have this general sense. The farmer is instructed to cut wood for various implements. The “axle” should be seven feet in length, but if cut longer, the excess length can be used for another utensil. So ἄξονα does not mean a finished axle, but a piece of wood able to be cut down to the appropriate measurements. West, 264, note on line 425, agrees with my view: “This show[s] that Hesiod is thinking not of the axle itself but of the raw timber being chosen.”

(D- series) at Knossos and the fixed proportions of the Ma series at Pylos.⁴¹ We must also beware of assuming that fifty appropriate saplings would be easier to obtain than fifty pieces of timber suitable for axles and so of being surprised that they are demanded in equal quantities from the lumbermen. In Hesiod *Op.* 422-436 we see that ὑλοτομία for specific items was a complicated task. Different sizes of wood had to be cut for mortar, pestle, and axle (lls.423-424), yet if the raw wood cut for the axle were too long, one could fashion a mallet from the excess (l.425). Different woods were required for pole, share-beam, and plow-tree (lls.435-436), and Hesiod advises the farmer to search through mountain and field until he finds a piece of holm-oak suitable for his plow-tree (lls.427-429). So depending on the type and size of wood required, an order of fifty saplings for “arcades” could require as much time and labor- and be as valuable- as an order of fifty axle-size pieces of timber. The tablets of the S- series record the use of different types of wood in the manufacture of chariot wheels: cypress, elm, willow; while *Il.* 5.838 mentions the use of oaken axles.⁴² Consequently, there is no reason to doubt the possibility of such specialization of materials here.

Thus we have a coherent interpretation of a soundly established text.

⁴¹ See *Docs*, 197-204, 289-295, 433-434, 464-465.

⁴² See Lejeune, *Revue de Phil.* 29 (1955) 156, 160-161, for details.

Plate



An427.3



Vn10.2



Jn415.3



Ea28



Vn10.5

Table I



(1)



(2)



(3)



(4)



(5)



(6)



(7)



(8)



(9)



(10)



(11)



(12)



(13)



(14)



(15)



(16)



(17)



(18)



(19)



(20)



(21)



(22)



(23)



(24)



(25)



(26)



(27)



(28)



(29)