VIRGIL'S LIME-WOOD YOKE (*GEORGICS* 1.173–4)[1]

caeditur et tilia ante iugo leuis altaque fagus
stiuaque, quae currus a tergo torqueat imos

In these two lines of his instructions for making a plough Virgil prescribes (173) the wood of the *tilia* (lime) as suitable for the *iugum* (yoke);[2] he also (173–4) mentions the *fagus* (beech), seemingly in connection with the making of the *stiua* (stilt/handle). These recommendations are both problematic, and since the latter admits of no sure solution, treatment of it is relegated to a brief Appendix (below). The body of this paper has two aims: 1) to propose a new understanding of Virgil's prescription of the *tilia* for the *iugum*; and 2) to draw attention to Virgil's use of the Hesiod scholia in his plough instructions.

1. THE *TILIA* AND THE *IUGUM*

Russell Meiggs[3] explained why the recommendation of the *tilia* for the *iugum* is problematic when he included it among those Virgilian references to wood which, so Meiggs believed, showed Virgil's lack of practical interest in these matters: 'In his description of making a plough he [Virgil] prescribes a light lime-wood for the yoke where again one would have expected a particularly strong wood.'[4] The old idea that the *Georgics* were written as a handbook for Italian peasant farmers has, of course, long been regarded as untenable. But a good case has been made that Virgil's knowledge of agricultural facts and practices was in general sound, and that much of the *Georgics* would have been of practical use to the upper-class owners of villa estates among Virgil's contemporaries.[5] Moreover Richard Thomas has drawn attention to the technical writers on agriculture, both Latin and Greek, with whom Virgil engaged closely, and has studied the ways in which Virgil adapted their material to his poetry.[6] So what Virgil says about the different woods for plough parts should not be judged as due to ignorance or lack of interest, particularly since Hesiod, as Virgil certainly knew, had prescribed bay or elm wood for the yoke-beam, as discussed below.

Virgil's recommendation of the *tilia* for the yoke should rather be approached in the light of his known interest in learned pseudo-etymologies, including those involving a linguistic equivalence between Greek and Latin. James J. O'Hara calls these 'translations with paronomasia' or 'translations by homonym', and he emphasizes the

[1] I am very much indebted to *CQ*'s anonymous referees for valuable guidance.

[2] For the names of the different parts of the plough I follow K.D. White, *Agricultural Implements of the Roman World* (Cambridge, 1967), ch. 7 = 123–45.

[3] R. Meiggs, *Trees and Timber in the Ancient Mediterranean World* (Oxford, 1982), 34.

[4] Meiggs (n. 3), 483 n. 57 added 'Maple and hornbeam were commonly used: *HP* 5.7.6; Vitr. 2.9.12'. R.A.B. Mynors, *Virgil. Georgics: Edited with a Commentary* (Oxford, 1990), 39 on *G.* 1.173 agreed that lime-wood 'lacks the essential strength'; Plin. *HN* 16.207 described the *tilia* as *mollissima*.

[5] Cf. M.S. Spurr, 'Agriculture and the *Georgics*', *G&R* 33 (1986), 164–87, repr. with minimal alterations as ch. 2 (14–42) of K. Volk (ed.), *Vergil's Georgics*, Oxford Readings in Classical Studies (Oxford, 2008).

[6] Cf. R.F. Thomas, 'Prose into poetry: tradition and meaning in Virgil's *Georgics*', *HSPh* 91 (1987), 229–60.

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etymological intent that can be assumed in them.[7] Tree names are one of the areas handled by Virgil in this way.[8] Virgil's treatment of the *fagus* (beech) has been much discussed: he refers to it in ten *loci*,[9] and he is always simultaneously aware of Greek φηγός (oak); as a result any Virgilian use of *fagus* or *faginus* may point, not to the beech, but to the oak.[10] The most prominent Virgilian passages in which this identification has been studied are *Eclogue* 1.1 (*Tityre, tu patulae recubans sub tegmine fagi*), where Virgil was possibly inspired by Theocritus, *Idyll* 12.8 (σκιερὴν δ' ὑπὸ φηγόν), and *Georgics* 3.172 (*post ualido nitens sub pondere faginus axis*), where *faginus axis* imitates Homer, *Iliad* 5.838's φήγινος ἄξων, so that *faginus* indicates an oaken, not a beechen, axle.[11]

The *fagus* recommended at *Georgics* 1.173 may well also be the oak; and Virgil's other recommendation of 1.173, of lime-wood for the yoke, should be approached as another such etymological 'translation by homonym', sharing (significantly) the same line as *fagus*. The Greek model of *Georgics* 1.173 is *Works and Days* 435, which is from Hesiod's prescription for the making of a plough, or rather two ploughs (*Works and Days* 427–36), a passage universally acknowledged to lie behind Virgil's plough despite many marked differences (see below). *Georgics* 1.173 is the only place in Virgil's plough prescription where he mentions the wood of two trees together; and *Works and Days* 435 is the only place in Hesiod's instructions for his ploughs where two woods are recommended. Hesiod says that the bay (δάφνη) and the elm (πτελέη) are the woods least liable to rot for making, not the yoke, but the yoke-beam (ἰστοβοεύς, *temo*):

δάφνης δ' ἢ πτελέης ἀκιώτατοι ἰστοβοῆες (435)

Latin *tilia* (lime) is close in sound to Greek πτελέα (elm);[12] it is (more or less) to πτελέα what *fagus* is to φηγός. I suggest, then, that Virgil, when prescribing the wood for the yoke, selected the tree name *tilia* to equate with Hesiod's πτελέα in another etymological 'translation by homonym', and that he expected his readers to understand *tilia*, not as lime, but as elm. Interestingly Mynors, criticizing Virgil for being 'far … from technical details' in his 'choice of timbers', comments casually: 'Elm was a good one [i.e. for the *iugum*]'.[13]

[7] For Virgilian pseudo-etymologies in general cf. J.J. O'Hara, *True Names: Vergil and the Alexandrian Tradition of Etymological Wordplay* (Ann Arbor, 1996); for Latin-Greek examples see p. 63.

[8] O'Hara (n. 7), 63 notes another parallel, *uaccinium* (Verg. *Ecl*. 2.18) = ὑάκινθος (Theoc. *Id*. 10.28), first proposed by I.M.Le M. Du Quesnay 'From Polyphemus to Corydon: Virgil, *Eclogue* 2 and the *Idylls* of Theocritus', in D. West and T. Woodman (edd.), *Creative Imitation and Latin Literature* (Cambridge, 1979), 35–69 and 206–21, 40 and 210 n. 49.

[9] *Ecl*. 1.1; 2.3; 3.12; 3.37; 5.13; 9.9; *G*. 1.173; 2.71; 3.172; 4.566.

[10] *Pace* Meiggs (n. 3), 34. Mynors (n. 4), 39 on *G*. 1.173 speculated that *fagus* there might mean hornbeam on the basis of its appearance and of Vitr. 2.9.12, where it is identified 'with the *zugia* or "yoke-tree" of Greek'.

[11] Cf. O'Hara (n. 7), 63, 243–4, 277 for discussion and bibliography. As Meiggs (n. 3), 34 pointed out, 'beech is a very poor wood for an axle, which needs the strength of an oak or some other very hard wood'. But Meiggs refused to believe that by *faginus* Virgil could have meant oak!

[12] The terms are related in another way too: *tilia* was also used of the inner bark of the elm (Plin. *HN* 24.48–9). But this is probably not relevant to Virgil's etymology. G. Maggiulli, *Incipiant silvae cum primum surgere. Mondo vegetale e nomenclatura della flora di Virgilio*, Bibliotheca Athena NS 5 (Rome, 1995), 460–1 offers no further insight into Virgil's use of *tilia*.

[13] Mynors (n. 4), 39 on *G*. 1.173. An apparent contradiction to the argument so far advanced might be seen in H. Hawkins, 'Ox harness for cultivating sugar cane with oxen, single, tandem or in yoke',

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2. VIRGIL'S USE OF THE HESIOD SCHOLIA

The *Georgics* are a self-described Hesiodic poem (*Ascraeum ... carmen*, 2.176), but Virgil does not follow Hesiod slavishly. Thus Virgil's transference (hypothesized above) of elm wood from Hesiod's yoke-beam to the yoke could be viewed as within the range of recognized Virgilian departures from his Hesiodic model.[14] On the other hand the differences between the two poets' plough prescriptions are marked, indeed so marked as to suggest that Virgil was also drawing on an additional predecessor text; a difference significant in the present context is the complete absence of the yoke from Hesiod's plough instructions. One might be tempted to speculate that Virgil's inspiration came from Nicander's *Georgica* or from a work of Nicander's predecessor, Menecrates of Ephesus, who wrote in imitation of Hesiod. It has been plausibly argued that the *Georgica* did exercise an influence on Virgil's *Georgics*,[15] but to judge from its surviving fragments, the *Georgica* concentrated on horticulture, and so is unlikely to have contributed to Virgil's plough. As for Menecrates, too little is known about him to make speculation profitable.[16]

A better candidate for Virgil's additional predecessor can be found in such Hesiod scholia as were known to him. It is recognized that, in addition to the Homeric epics, Virgil used the Homer scholia for the *Aeneid*,[17] as indeed he drew on the Homer scholia for parts of the *Georgics*;[18] so Virgil would naturally have turned to the Hesiod scholia too for assistance with the *Georgics* (although this is a topic hardly touched by modern scholarship). A number of well-known Hellenistic scholars wrote on Hesiod: Callimachus and Apollonius Rhodius treated Hesiodic problems, and others, including Zenodotus, Aristophanes of Byzantium, Aristarchus, Crates of Mallus and Dionysius Thrax, commented on Hesiod to a greater or lesser extent; these scholars contributed to the later commentaries of Plutarch and Proclus.[19] The *scholia vetera* to Hesiod as we have them contain paraphrase, elementary information on grammar, etc. and learned comments: the Hellenistic scholars just listed lie behind the last category.[20]

As noted above, the yoke is absent from Hesiod's plough instructions, but it is prominent in the Hesiod scholia,[21] where it features in the scholia's attempts to make sense of Hesiod's instructions for making his ploughs:

The Louisiana Planter and Sugar Manufacturer 47.20 (November 11, 1911), 325: 'A yoke for oxen, whether single or double, is usually made of some fine-grained wood, like birch, *linden* [my italics], magnolia or the like.' But Mr. Hawkins, a Louisiana sugar planter, may have been thinking of Virgil's recommendation, or his 'linden' may be a different wood.

[14] Most of these (along with the similarities between the two texts) are summarized by J. Farrell, *Vergil's Georgics and the Traditions of Ancient Epic: The Art of Allusion in Literary History* (New York and Oxford, 1991), 70–7.

[15] Cf. S.J. Harrison, 'Virgil's *Corycius senex* and Nicander's *Georgica*', in M. Gale (ed.), *Latin Epic and Didactic Poetry: Genre, Tradition and Individuality* (Swansea, 2004), 109–123.

[16] For Menecrates cf. *Supplementum Hellenisticum*, frr. 542–50.

[17] Cf. R. Schlunk, *The Homeric Scholia and the Aeneid* (Ann Arbor, 1974); and, more recently, T. Schmit-Neuerburg, *Vergils Aeneis und die antike Homerexegese. Untersuchungen zum Einfluss ethischer und kritischer Homerrezeption auf imitatio und aemulatio Vergils* (Berlin, 1999).

[18] For Virgil's use of allegory from the Homer scholia when adapting Homer in *Georgics* 4 cf. Farrell (n. 14), 256–72.

[19] Cf. P. Marzillo, *Der Kommentar des Proklos zu Hesiods Werken und Tagen. Edition, Übersetzung und Erlaüterungen der Fragmente*, Classica Monacensia 33 (Tübingen, 2010), liv–lvii.

[20] Cf. M.L. West, *Hesiod. Works and Days* (Oxford, 1978), 63–9.

[21] However, Virgil's *aures* (172) are absent both from Hesiod and the Hesiod scholia.

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τούτῳ δὲ τῷ γύῃ ἐμπέπηγεν ἄλλο ξύλον μεῖζον κατὰ τὸ ἕτερον μέρος τὸ ἄκρον ἕως τοῦ ζυγοῦ διῆκον τοῦ ἐπικειμένου τοῖς ὤμοις τῶν βοῶν καὶ ζευγνύντος αὐτούς, ἐμπέπηγε δὲ σφηνωθὲν διά τινων σφηνισκῶν. εἰ μὲν οὖν ἓν ᾖ ξύλον τὸ ὅλον, ὁ γύης μέχρι τοῦ ζυγοῦ ἀπὸ τοῦ ἐλύματος καλεῖται τὸ ἄροτρον αὐτόγυον· ἐὰν δὲ μικρότερος ᾖ τῆς χρείας ὁ γύης, ἐνσφηνοῦται τὸ ἕτερον αὐτῷ ξύλον τὸ συνάπτον αὐτὸν καὶ τὸν ζυγὸν καὶ καλεῖται τὸ μὲν ὅλον πηκτόν, τὸ δ' ἐνσφηνωθὲν ἱστοβοεύς.

(Schol. vet. ad Hes. *Op*. 427–30, p. 147.17–25 Pertusi)

Virgil too appears to have been trying to make sense of Hesiod, and to have found helpful the previous attempts of the scholia to do so. It can be concluded that the presence of the yoke in Virgil is due to his use of scholia similar to those which survive. Another feature confirms this supposition: Hesiod does not mention the ἐχέτλη (= Virgil's *stiua*/stilt) in his prescription for making his ploughs, although it appears a little later (*Works and Days* 467), when Hesiod gives instructions for ploughing. However, the Hesiod scholia discuss the ἐχέτλη both as part of their analysis of Hesiod's instructions for making ploughs (which will have helped Virgil to introduce the *stiua* into his plough-making), and also at a later point when treating Hesiod's ploughing passage.[22] On Hesiod's prescription for making ploughs the scholia comment:

τίς ἡ ἐχέτλη, ἐξ ὧν ἐστι τὸ ἄροτρον. ἡ μὲν οὖν ὕνις ἐστὶ τὸ σίδηρον αὐτὸ τὸ ἐν τῷ ἀροτριᾶν σχίζον τὴν γῆν· τοῦτο δὲ τῷ ἐλύματι περιήρμοσται ἄνωθεν ἐμβεβλημένον εἰς αὐτὸ κοῖλον ὄν. τὸ δὲ ἔλυμά ἐστι τὸ ἐμβληθὲν εἰς τὴν ὕνιν κατέχον ξύλον κατὰ τὸ ἄκρον, ὃ καλοῦσι νύμφην, ὃ κατὰ θάτερον μέρος τὸ ἄνω συγγεγόμφωται πρὸς τὸν γύην. ὁ δὲ γύης ξύλον ἐστὶ μακρὸν ἔχον οὐ πόρρω τοῦ ἐλύματος ὀρθὸν ἐμπεπηγὸς ξύλον ἐν αὐτῷ ὃ κατέχοντες οἱ ἀροτριῶντες ὅλον κινοῦσι τὸ ἄροτρον καὶ διὰ τοῦ ἀρότρου τοὺς βόας· καὶ τοῦτο τὸ ξύλον καλεῖται ἐχέτλη.

(Schol. vet. ad Hes. *Op*. 427–30, p. 147.7–17 Pertusi)

ἱστοβοεὺς λέγεται παρ' ἐνίοις καὶ τὸ μετὰ τὴν ἐχέτλην ξύλον.

(Schol. vet. ad Hes. *Op*. 431a, p. 149.17–18 Pertusi)

A third item in Virgil's instructions for making the plough which looks to be derived from the Hesiod scholia involves the γύης (plough-beam, Virgil's *buris*). Hesiod prescribed the holm-oak (*Works and Days* 429) as the correct wood for the γύης. But the Hesiod scholia explain that the holm-oak is not easily obtainable in Boeotia, where Hesiod lived, and that elm is used there to make the plough-beam: οὐ γὰρ εὔπορος Βοιωτοῖς ἡ πρῖνος, φησὶν ὁ Πλούταρχος, ἀλλὰ τοῖς πτελεΐνοις ἀντὶ τῶν πρινίνων χρῶνται τοὺς γύας κατασκευάζοντες (Schol. vet. ad Hes. *Op*. 427–30, p. 148.5–7 Pertusi). The scholia's citation of Plutarch (fr. 23 Bernard) for this piece of information might seem to raise an objection to hypothesizing its influence on Virgil since Plutarch is later than Virgil; but in general Plutarch draws on tralatician material, and he may well have found this information in an earlier Hesiod scholion. Thus Virgil's agreement with the Hesiod scholia when he declares that the right wood for the plough-beam (his *buris*) is the elm (*ulmus*, 170) once again argues for the influence of the Hesiod scholia.

Finally, Virgil's motives for his 'translation by homonym' of πτελέα in *tilia* at *Georgics* 1.173 may be considered. Parading this perhaps novel etymology as a piece of *doctrina* was doubtless one motive; another motive may relate to Virgil's concern

[22] Schol. vet. ad *Op.* 465–9, p. 157.19; p. 158.3 Pertusi.

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throughout his plough instructions to emulate Hesiod by correcting him. Because Hesiod, in prescribing woods for ploughs, had failed to mention the yoke and the stilt, Virgil was eager in lines 173–4 to make good these presumed defects by naming woods suitable for these plough parts. This led Virgil to his clearest and perhaps most pressing purpose in his 'translation by homonym' of πτελέα: he wanted to achieve *variatio* in his use of tree names, and by employing *tilia* to mean elm in line 173 he was able to avoid repeating *ulmus* from line 170, even though he was referring to the same tree.

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APPENDIX: THE *TILIA*, *FAGUS* AND *STIVA*

It is unclear whether Virgil is recommending the *fagus* of line 173 as an alternative wood to the *tilia* for the yoke – just as Hesiod had proposed the bay or elm as alternative best woods for the yoke-beam – or whether Virgil is confining the use of the *fagus* to the *stiua*, the stilt[23] used to turn the base of the plough. This uncertainty has been treated in many ways, but without general agreement. Commentators have variously emended *stiuaque*, or have transposed the two lines,[24] or have regarded *altaque fagus* (173) and *stiuaque* (174) as a hendiadys, or have interpreted *stiuaque* as 'explanatory' of *fagus* (so Page[25] and Thomas,[26] the latter translating 'a tall beech for the handle').[27] Of these approaches the last has had most success, but it was challenged by Mynors,[28] who wrote: 'We should say without difficulty "You must cut a beech for the yoke and you must cut a handle", leaving quite open the question whether the same wood is to be used for both; and the ear, as it hears 173, inevitably couples *tilia* and *fagus*.' One possible solution to this problem is that Virgil was initially echoing his Hesiodic model by hinting that these two woods were alternatives (a hint espoused by Mynors as his part solution), only to change tack, withdraw his hint, and link *fagus* and *stiua* by means of repeated *-que*. In that case Virgil was confirming that the *stiua* was to be made from the *alta fagus* by giving the *stiua* the whole of line 174 and by emphasizing in *imos* (174) the *stiua*'s antithetical role in controlling the base of the plough. But in doing so Virgil left to subsequent scholarship a puzzling question, possibly conceived as a 'Virgilian problem' along the lines of the 'Homeric problems'.

[23] So White (n. 2), 124, 137–9; other scholars usually render *stiua* as handle.
[24] For details cf. Mynors (n. 4), 38–9 on *G.* 1.174.
[25] T.E. Page, *P. Vergili Maronis Bucolica et Georgica: With Introduction and Notes* (London, 1898), 204–5 on *G.* 1.173.
[26] R.F. Thomas, *Vergil. Georgics*, 2 vols (Cambridge, 1988), 1.97 on *G.* 1.173–4.
[27] Cf. also M. Erren, *Publius Vergilius Maro. Georgica 2, Kommentar* (Heidelberg, 2003), 117 on *G.* 1.173 *altaque* etc.: 'Eine hohe Buche, nämlich für den Sterz'.
[28] Mynors (n. 4), 39 on *G.* 1.173.

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