

Princeton/Stanford Working Papers in Classics

Vergil Translates Aratus: *Phaenomena* 1-2 and *Georgics* 1.1-2

Version 1.0

June 2008

Joshua T. Katz

Princeton University

Abstract: This paper demonstrates that Vergil engages in a kind of verbal one-upmanship with Aratus by opening his *Georgics* with a multifaceted—and till now entirely overlooked—example of wordplay that is directly indebted to Aratus’ “signature” at the start of the *Phaenomena*. In all sorts of ways, *terram / uertere* is a “translation” of ἐὼμεν / ἄρρητον.

© Joshua T. Katz. jtkatz@princeton.edu

This paper, which was written between November 2007 and January 2008 (with minor revisions made through June 2008), will be appearing in *Materiali e Discussioni*.

Aratus of Soli, who lived from the late fourth to the mid-third century B.C., is best known now, as he was in antiquity, for his hexametric poem the *Phaenomena*.^{*} This 1154-line didactic work, which treats the constellations and weather-signs, had considerable influence on Callimachus and other fellow poets of the Hellenistic age; was a significant source for such Roman writers as Vergil and Manilius; was so admired by Cicero that he — and a number of other Romans, including Ovid and Germanicus — translated it into Latin; and has the distinction of appearing in the Bible (Paul quotes part of the fifth verse in his address on the Areopagus: *Acts* 17:28).¹ Among the many reasons to be interested in the poem is that Aratus was evidently enamored of virtuoso wordplay, which, if not the weightiest of subjects, is nonetheless one on which there is a regular stream of publications that enliven classical scholarship.² The purpose of this note is to add to the stream the observation that the *Georgics* opens with a remarkably intricate, and seemingly entirely overlooked, translation of an important allusive word at the start of the *Phaenomena*, a work whose influence on Vergil's exceptionally allusive poem of the land, especially in book 1, is in any case palpable.³

^{*} I owe much to Elaine Fantham and dedicate this paper to her on the occasion of her 75th birthday. Special thanks go to Rolando Ferri and his team of anonymous referees.

¹ The standard editions of and commentaries on the *Phaenomena* are Kidd 1997 and Martin 1998. The best book-length account remains Erren 1967; a very good introduction to the poem is now to be found in Fantuzzi and Hunter 2004, pp. 224-245; Lewis 1992 gives an attractive picture of Aratus' popularity (Damschen 2004, p. 106 n. 58 suggests that the *Phaenomena* «dürften ... das am häufigsten ins Lateinische übersetzte Werk griechischer Sprache sein»); for a recent summary account of Aratus' influence on Latin literature, see Hübner 2005); and Possanza 2004, informed by 'translation theory', discusses Germanicus' *Aratea* as a «second original».

² Acrostics and anagrams prove consistently popular. From recent years, see, e.g., Damschen 2004; Danielewicz 2005; La Barbera 2006; Katz 2007a; and Gore and Kershaw 2008, all with many references, and note also Damschen's website *The Ancient Acrostic: A Bibliography* (<http://www.telemachos.phil.uni-erlangen.de/esterni/akrostichon.html>), last updated in January 2003. Especially clever work keeps coming from the pens of Michael Fontaine and Damien Nelis, with the former frequently suggesting puns and other verbal *jeux d'esprit* that rely on Greco-Latin bilingualism (see, e.g., Fontaine 2004; 2006; and forthcoming) and the latter tending to stress formal features of wordplay (see, e.g., Nelis 2006 and 2007, as well as Feeney and Nelis 2005). Both structural considerations and learned interplay between Greek and Latin have a role in the present paper.

³ The *Georgics* has of course many other models, including Homer and Lucretius; fortunately, debates over such matters as the extent of Callimachus' influence need not occupy us here. The most detailed and provocative account of Vergil's sources and the use to which he puts them is Farrell 1991, with ch. 4 (pp. 131-68) on Aratus (and Hesiod, who is both Aratus' explicit model and an independent source for Vergil); see also Thomas 1988, vol. 1, pp. 4-11, with 6-7 on Aratus (see also Index s.v. *Aratus* [p. 271]). In the «Appendix of Greek Material» in

Two examples of linguistic games in Aratus are very widely accepted as not only real, but significant: the acrostic Λ-Ε-Π-Τ-Η in verses 783-787, about the phases of the moon as weather-signs, and the (barely) concealed ‘signature’ ἄρρητον at the start of verse 2.⁴ In modern times, the acrostic (a so-called ‘gamma-acrostic’: the lambda-initial word that starts off Λ-Ε-Π-Τ-Η is itself λεπτή) was first pointed out by J.-M. Jacques in 1960; because it employs the (supposedly Callimachean) buzzword λεπτός⁵ and because Aratus, not unlike Lucretius a

his posthumous 1990 commentary (pp. 325-33, at 326-30), R. A. B. Mynors lists 13 passages in the *Phaenomena* that find counterparts in book 1 of the *Georgics*.

⁴ The first scholarly work to mention both (though the second one only in passing: p. 68 n. 18) is Levitan 1979, *Plexed Artistry: Aratean Acrostics*, which is essential reading; see also Kidd 1981, p. 355 (as well as Kidd 1997, ad *Phaen.* 2 and 783) and, among the dozens of other shorter and longer discussions, above all Bing 1990 and 1993, pp. 104-108 (the latter a very lightly revised version of the former). By concentrating on Λ-Ε-Π-Τ-Η and ἄρρητον, to which particular attention has been paid, I do not mean to reject (or, for that matter, necessarily to accept) other examples of Aratean wordplay that have been mooted (e.g., by Cusset 1995 and 2002; Rostropowicz 1998, pp. 109-111 and 211-212; and Fakas 1999), including two more acrostics by Levitan himself that I admit to finding attractive (see Levitan 1979, pp. 57-58): the gamma-acrostics Π(άντα)-Α-Σ-Α in 803-806 (note that the first word in 802 is πάντη; similarly, λεπτή is found in 784 as well as 783) and ‘imperfect’ Σ(ημάνει)-Ε-Μ-ΕΙ-Η in 808-812 (cf. verse-initial σήματα in 805). All would-be acrostics in Aratus other than Λ-Ε-Π-Τ-Η are controversial (and even the significance of this one is doubted in a footnote of G. O. Hutchinson that I find very hard to understand [Hutchinson 1988, p. 215 n. 4], as well as being noted with surprising caution by Kidd 1997, ad 2: «If it is right to see a deliberate acrostic in 783-7, ...» [p. 164; compare also Kidd 1981, p. 355]), as of course are many, many proposed instances of verbal play in literature the world over: e.g., Kidd 1997, ad 783 is «not convinced that [Levitan’s examples in 803-806 and 808-812] are intentional and significant» (p. 446) and ignores the ‘midway’ syllabic acrostic ΜΕ(σφα)-ΣΗ (807-808; immediately followed by the further scrambled self-signifying ‘σημα’ ΕΣ-ΜΗ in 809-810) proposed by Haslam 1992, p. 201 (half-seriously, but I consider it brilliant); Martin 1998, ad 783-787 (p. [II.]472) dismisses Levitan’s Π-Α-Σ-Α and Haslam’s ΜΕ-ΣΗ (he does not mention Σ-Ε-Μ-ΕΙ-Η), acknowledging that he has not even read their papers (!); and Danielewicz 2005 lauds Π-Α-Σ-Α and ΜΕ-ΣΗ but finds Σ-Ε-Μ-ΕΙ-Η «less convincing» (p. 321 n. 2) and rejects (most of the) other recent proposals of C. Cusset and J. Rostropowicz (see pp. 321-322 n. 2) before suggesting a host of new Aratean examples on pp. 324-329, the majority of which I will be very surprised to discover win over most other scholars.

⁵ As Hunter 2006, p. 146 writes, «Whole literary histories have been spun from Callimachus’ praise for Aratus’ *Phaenomena* and his acknowledgement of the acrostic λεπτή which lies concealed within that poem (Callimachus, *Epigram* 27[.3-4] ...).» Most literary scholars seem to have ignored the important discussion of Cameron 1995, pp. 321-328, who demonstrates that poetic λεπτότης was almost certainly originally associated with Aratus rather than Callimachus (though even in antiquity it quickly became the hallmark of the latter); papyrological work by G. Bastianini, W. Luppe, and others on the would-be phrase ‘κατὰ λεπτόν’ in verse 11 of the *Aetia*-prologue (see now Lehnus 2006 for an amusing *historia quaestionis* of this supplement’s acceptance) neatly vindicates Cameron’s position. See also Volk forthcoming.

couple of centuries later, uses the elements of language to explain the elements of the natural universe, the acrostic now receives nearly obligatory mention in work on the *Phaenomena*, even when it is not in the first place about wordplay.⁶ Scholarly recognition that Aratus in effect signs his name in a droll way at the start of his poem (ἄρρητον is a ‘speaking name’ that literally means «unspoken») was a decade or two slower in coming, but thanks above all to Douglas Kidd and Peter Bing (see [n. 4 above]), ἄρρητον — which evidently harks back to Hesiod’s likewise verse-initial merism ῥητοί τ’ ἄρρητοί τε «spoken and unspoken» in the proem of the *Works and Days* (4)⁷ — is well on its way to achieving the same level of respect accorded to Λ-Ε-Π-Τ-Η.⁸

Since 1963, when Edwin L. Brown set forth the curious case with great flair and originality, it has been generally believed, though sometimes with a raised eyebrow, that Vergil imitates the λεπτή-acrostic in the *Georgics*, and in a way that combines a quasi-acrostic with a signature.⁹ The essentials of Brown’s argument for this *interpretatio Romana* are that numerous verbal games in *Georg.* 1.424-437 demonstrate that the poet is engaging in a learnedly playful fashion with the acrostic in Aratus’ certain model for these verses and, furthermore, that Publius Vergilius Maro embeds a quasi-acrostic of his own here by signing his name MA-VE-PV at the

⁶ Recent work on Aratus’ complex semiotics, in which form goes hand in hand with content, includes Hunter 1995; Pendergraft 1996; and Volk forthcoming.

⁷ The form ἄρρητοι is a hapax in Hesiod, and it is widely said (e.g., by Kidd 1981, p. 355) to rest on a Homeric hapax as well, ἄρρητον in *Od.* 14.466. The uniqueness of ἄρρητον in Homer is, however, a matter of some debate and depends on whether one reads instead ἄρητόν in verse-initial position in *Il.* 17.37 = 24.741 (cf. also 23.223b), as West 2001, p. 121 assures us we should (suggesting that the translation is «accursed» rather than something like «prayed for»).

⁸ It is, however, ignored by Jean Martin in his 1998 commentary (compare [n. 4 above]). Cusset 2002, pp. 187-193 suggests that Aratus elsewhere in the poem ‘spells out’ and otherwise finds ways to play with the ‘speaking’ / ‘unspoken’ connotations of his name. It is worth pointing out that Hesiod’s proem itself revels in anaphora and places great emphasis on the rhetorical figure here that inspired Aratus (and also Callimachus at the end of the *Hymn to Zeus* [*Hymn* 1.94-96]: see Schroeder 2005, pp. 161-162 on forms of ἀρετή), specifically the phonetic sequence /r + vowel (+ dental)/, especially in and near verse- (and clause-) initial position: ὄν τε διὰ βροτοὶ ἄνδρες ὁμῶς ἄφατοί τε φατοί τε / ῥητοί τ’ ἄρρητοί τε Διὸς μέγαλοιο ἔκητι. / ῥέα {**Synizesis!**} μὲν γὰρ βριάει, ῥέα δὲ βριάοντο χαλέπτει, / ῥεῖα δ’ ἀρίζηλον μινύθει καὶ ἄδηλον ἀέξει, / ῥεῖα δέ τ’ ἰθύνει σκολιὸν ... (*Op.* 3-7; see, e.g., West 1978, ad 5-7 [p. 139]); note also the preposition διὰ (3) between two occurrences of Zeus’ name, Δί’ (α) (2) and Διός (4), though West 1978, ad 3 wonders whether the «collocation may be accidental» (p. 139; compare also ad 1-10 [p. 136]). A fuller analysis of the phonetic and grammatical effects in *Op.* 1-10 may be found in Watkins 1995, pp. 98-101 (see also the references in [n. 23 below]).

⁹ See Brown 1963, pp. 96-114, esp. 102-105; prominent early support is found in Ross 1975, pp. 28-29. As for the major commentaries on the *Georgics* from the last two decades, Thomas 1988, ad 1.427-437 has a long lemma on Aratus’ acrostic and appears to accept Brown’s claim, writing that «it is difficult to resist»; Mynors 1990 ignores it; and Erren 2003, ad 1.427-437 writes, «Daß das mit Absicht so gemacht ist, dürfte schwer zu erweisen sein» (p. 230).

start of the alternating verses 429, 431, and 433.¹⁰ The strangeness is undeniable, and if the whole thing is to be believed, as I think it is,¹¹ one would like to explain such things as why Vergil wrote MA-VE-PV rather than PV-VE-MA and why he skipped lines doing so.¹²

In any event, scholars since Brown have made stabs at refining and augmenting his case. For example, Michael Haslam — in addition to offering the felicitous suggestion about the *Phaenomena* (see [n. 4 above]) that there is an evenly split syllabic acrostic ΜΕ-ΣΗ in 807-808 and that this acts as a signifier of the half-moon (cf. μέσφα διχαιομένης [807]) midway between the moon's full phase (cf. σκέπτειο δ' ἔς πληθύν [799] + Π-Α-Σ-Α) and its waning crescent (cf. ἔς διχάδα φθιμένην ... / μηνὸς ἀποικομένου [809-810] as well as Λ(επττή)-Ε-Π-Τ-Η)¹³ — looks just ahead to the next two verses in *Georg.* 1, *sol quoque et exoriens et cum se condet in undas / signa dabit; solem certissima signa sequentur* (438-439), and writes, «The *signa* emerge into the sunlight, explicit, *certissima*. And let us not forget who gave the signs: unspoken Soleus».¹⁴ More recently, Denis Feeney and Damien Nelis have noted that the words *sequentis / ordine respicies* (424-425) «announce the acrostic».¹⁵ Of special importance for the present purposes,

¹⁰ Note also the observation of Ewald 1990 of the unusual scheme of verse-final rhymes right before, in *Georg.* 1.398-418; one of the two possible explanations Ewald offers is that «Virgil intended this mannered effect to coincide with his close reworking of material from the artful *Phaenomena* of Aratus, the model for this and the surrounding paragraphs of the poem» (p. 313).

¹¹ And as do nearly all scholars cited in the text and footnotes of the present and immediately following paragraphs who pronounce on the matter. The exceptions are Mynors (seemingly) and perhaps Erren (see [n. 9 above]) and Cameron 1995, p. 327 n. 123 (see also 37-38). Nisbet 1990, p. 262, too, judges it negatively, writing, «though this is the context where Aratus produces the acrostic ΛΕΠΤΟΣ, I see no more significance here than at [*Georg.*] 1.66 ‘*pulverulenta coquat maturis solibus aestas*’»; to this Haslam 1992, p. 203 n. 12 responds, «[B]ut is that [fortuitous occurrence of *pu- ... -ver- ... ma-*] *ad rem*? Significance is not independent of context».

¹² See [below in the text, with n. 43] for a brief remark on the (mis)order of the *tria nomina*. As for the skipped lines, I know of no explanation and do not have one to propose myself. Can Vergil really have intended a ‘skipped-line acrostic’ A-L-M-A in *Aen.* 1.1-7 (Heil 2002, pp. 59-61 points it out but suggests that it is «wohl ... ein Zufallsakrostichon» [60 n. 150]) or even a ‘skipped-line acrostic-cum-telestich’ A-L-M-A-(*Roma*)E(-)M-O-S (as Damschen 2004, p. 108 n. 64 proposes)? I am skeptical, but the ingenuity is breathtaking. I am not persuaded by the would-be skipped-line acrostic H-A-E-D-O in *Ecl.* 9.43-51 for which Patrizio Domenicucci pleads in various works (most easily accessible in Domenicucci 1996, pp. 47-60); see on this also Ramsey 2000 and Damschen 2004, p. 108 n. 64.

¹³ Damschen 2004, pp. 102-111 is devoted in no small part to demonstrating that «mehrere römische Dichter in der Nachfolge Arats [i.e., his λεπττή-acrostic] ihr entweder anti-alexandrinisches oder pro-alexandrinisches Dichtungsprogramm jeweils als ein aus fünf Buchstaben gebildetes Akrostichon in einer Werkstelle versteckt haben, die über den Mond oder die Mondgöttin spricht» (111); he cites would-be examples from Ovid, Grattius, Manilius, and Silius Italicus, at least some of which deserve wide acceptance in my view.

¹⁴ Haslam 1992, pp. 203-204 (quotation on 204).

¹⁵ Feeney and Nelis 2005, pp. 645-646 (quotation on 645).

though, is Peter Bing's cautiously worded suggestion that Vergil is here engaging in his common practice of 'conflating models' by alluding in one and the same passage to *both* Aratus' acrostic, Λ-Ε-Π-Τ-Η, and his signature, ἄρρητον.¹⁶ As he points out, Vergil would have had precedents for this conflation since one or two Hellenistic Greeks seem in their epigrammatic poems to string together references to both examples of Aratean wordplay as well:¹⁷ Callimachus, certainly, in the intensively studied *Epigr.* 27 Pfeiffer = 56 Asper = *Anth. Pal.* 9.507 (compare [n. 5 above]), χαίρετε λεπταί / ῥήσιες, Ἄρητου σύντονος ἀγρυπνίη (3-4),¹⁸ and probably also Leonidas of Tarentum, one of whose poems begins, Γράμμα τόδ' Ἀρήτοιο δαήμονος, ὅς ποτε λεπτή / φροντίδι δηναίους ἀστέρας ἐφράσατο (*Anth. Pal.* 9.25.1-2).¹⁹

¹⁶ See Bing 1990, pp. 284-285 and 1993, pp. 107-108, where the author also attempts to explain just what Vergil might be up to with this 'conflation' (for the concept he refers to R. F. Thomas). It should be added that Nicander, whose poetry has also influenced the *Georgics* (including seemingly supplying its title), signs his name with an acrostic in *Ther.* 345-353 (also, but messily, in *Alex.* 266-274); Reeve 1996-1997, pp. 245-250, esp. 249-250, gives reasons for believing that it is specifically Nicander's acrostic in the *Theriaca* that the Hadrianic Dionysius Periegetes spots and imitates in his hexametric description of the known world, adding (along with caustic remarks about those who «have succumbed to the delusions that beset investigators of such things as acrostics» [250]) that there may also be a little «nod towards another didactic poem, Aratus's Φαινόμενα» (250). On Vergil's debt to Nicander, see now Harrison 2004 and the references cited there.

¹⁷ There is also a verbal link of sorts already in Aratus: forms of πᾶς, παντ- are exceptionally common in the 18-verse proem (8x) and appear with more than the usual frequency again in and around π(άντα)-Α-Σ-Α (803-806), specifically in verses 797, 802, 803, 805 (*bis*), and 811 (compare Levitan 1979, pp. 57-58, but see also Cusset 2002, pp. 194-195 on similar polyptoton in verses 465-468/469).

¹⁸ I follow the text of Asper 2004, p. 488, who prefers σύντονος ἀγρυπνίη (*Anth. Pal.*) to the still more usual 'σύμβολον ἀγρυπνίης' (an emendation of Ruhnken); for this reading, see above all Lohse 1967 and Cameron 1972 (taken for granted in Cameron 1995, p. 374), as well as, e.g., Gärtner 2007, pp. 160-162. Hollis 2007, p. 43, commenting on the epigram of C. Helvius Cinna that begins, *haec tibi Arateis multum uigilata* [Scaliger : *inuigilata codd.*] *lucernis / carmina* (*fr.* 13.1-2), now asks, «Could Cinna's 'multum' lend slight support to σύντονος in Callimachus?».

¹⁹ See Bing 1990 and 1993, pp. 104-108 (with reference to W. Levitan's 1983 Texas dissertation on 106 n. 15); Bing's explanation of Leonidas' allusion to ἄρρητον involves the enjambed form δεύτερος in verse 4 and, though not easy to reproduce in just a few words here, is compelling (compare especially Cameron 1995, p. 322, as well as p. 321 on how very striking Callimachus' use of the noun ῥήσις is). Other Hellenistic Greeks pick up on just Λ-Ε-Π-Τ-Η (Ptolemy [Philadelphus?], *Suppl. Hell.* 712.4) or just ἄρρητον, but not both (the latter only, as far as I know, if Cusset 2005, p. 84 and *passim* is right to see the vocative Ἄρατε in Theoc. *Id.* 6.2 as in counterpart with the other speaking vocative, Πολύφαμε [6 and 19], and referring specifically to the author of the *Phaenomena* — a very controversial opinion [see, e.g., Hunter 1999, p. 243] that is, however, now accepted and extended to Vergil by Prioux 2005, pp. 315-316).

Bing's idea is certainly attractive. And yet it is remarkable, for at least four reasons, that no one has uncovered what seems to me a far more evident Vergilian rendering of this second prominent example of Aratean wordplay. First of all, since there was a pre-Vergilian tradition of noting that one had spotted ἄρρητον, there is every reason to think that Vergil, who was clearly not immune to the charms of verbal games, would have wished to emulate it as well. Second, a number of modern scholars believe that the word *arator* in Menalcas' enigmatic question in *Ecl.* 3 — *in medio duo signa, Conon et — quis fuit alter, / descripsit radio totum qui gentibus orbem, / tempora quae messor, quae curuus arator haberet?* (40-42) — points to its answer as 'Aratus',²⁰ but the *Eclogues*, quite unlike the *Georgics*, do not appear to have been particularly influenced by Aratus, so is it not surprising that no one has spotted his name in the later work?²¹ Third, since at the start of both of his other poems, Vergil recasts with great sophistication the sounds that open his Greek models, there is plenty of reason to imagine that he might do much the same in his middle work: the first *Eclogue* begins, *Tityre, tu patulae ...*, a nice bit of phonetic play on the (semantically different) beginning of Theocritus' first *Idyll*, Ἄδύ τι τὸ ψιθύρισμα καὶ ἄ πίτυς ..., whose repeated /l/'s and /y/'s anyway mimic the sound of the syrinx; and in the *Aeneid*'s *Arma uirumque*, which is of course a thematic juxtaposition of Homer's Μῆνιν (*Il.* 1.1) and his Ἄνδρα (*Od.* 1.1), ARMA is phonetically similar (but, again, semantically dissimilar) to

²⁰ See Prioux 2005 for the latest (but largely derivative) account; especially consequential are the (partly overlapping and apparently independently conceived) papers of Fisher 1982 and Springer 1983-1984, and see also various bracing articles by Godefroid de Callataÿ (e.g., de Callataÿ 1992; 1996, pp. 11-13; and 2003, pp. 335-338) as well as O'Hara 1996, pp. 81 n. 335 and 247. All sorts of solutions aside from Aratus are possible — neither of the two standard commentaries on the *Eclogues*, Coleman 1977 and Clausen 1994, specifically endorses Aratus as a possible answer to *quis fuit alter ...?*, though both (ad 3.40) do mention Eudoxus as one of the options, whose lost prose treatise *Phaenomena* was a particularly important source for the poet of Soli — and while I consider Aratus to be an especially good response, Henderson 1998, pp. 220-221, 225, and passim is right to stress that «riddles are archetypal hermeneutic traps» and that «A riddle does not have an answer — it has more than one answer» (225; compare Katz 2006, pp. 180-184, with references, on the Hellenistic poet Nicarchus' version of the Riddle of the Sphinx).

²¹ Besides *arator* in *Ecl.* 3.42, there is one clear allusion to Aratus in the *Eclogues*, also in the third. As it happens, there is a reason (discussed [below in the text, with n. 32]) why this allusion is exceptionally interesting beyond the fact, which already Servius (ad *Ecl.* 3.60) noted, that *ab Ioue principium Musae: Iouis omnia plena; / ille colit terras, illi mea carmina curae* (60-61) is an imitation of the first two verses of the *Phaenomena*, given below in the text. And then there is *Ecl.* 3.104-105, Damoetas' final riddle: if Campbell 1982-1983 and (apparently independently) Hofmann 1985 are to be believed (rather than any of the many prior interpreters or Dix 1995, pp. 259-261 and passim, the most recent scholar, as far as I know, to advance an original view), there is here yet one more hidden reference to the *Phaenomena* in the poem. Lipka 2001, p. 112 (see also 41, 124, 173 n. 11, and 175) comments on and gives further references to *Ecl.* 3.40-42 and 60-61 (but he says nothing about Aratus in connection with 104-105), as well as noting a «surprisingly close» rendering of *Phaen.* 323 in *Ecl.* 9.44, which, however, «may have been mediated by Cicero's *Aratea*».

AN-RA.²² And fourth, the fact is — and I now turn to the demonstration — that Vergil’s rendering of ἄρρητον into Latin does indeed sit in exactly the same position in the *Georgics* that the Greek word occupies in the *Phaenomena*, namely right at the head.

Aratus’ work opens with the following four lines:

Ἐκ Διὸς ἀρχώμεσθα, τὸν οὐδέποτ’ ἄνδρες ἐῶμεν
 ἄρρητον. μεστὰὶ δὲ Διὸς πᾶσαι μὲν ἀγυαί,
 πᾶσαι δ’ ἀνθρώπων ἀγοραί, μεστὴ δὲ θάλασσα
 καὶ λιμένες· πάντη δὲ Διὸς κεχρήμεθα πάντες.

Note that this famous beginning and the whole ‘Hymn to Zeus’ (1-18) clearly recalls in both content and form the proem (1-10) of Hesiod’s *Works and Days* (see [above in the text, with n. 8])²³ — and Hesiod is, independently, the other most important source, alongside the *Phaenomena*, for book of 1 of the *Georgics* (see [n. 3 above]).

And here now are the first four and a-half verses of the *Georgics*:

*Quid faciat laetas segetes, quo sidere terram
 uertere, Maecenas, ulmisque adiungere uitis
 conueniat, quae cura bouum, qui cultus habendo
 sit pecori, apibus quanta experientia parcis,
 hinc canere incipiam.*

5

Servius (ad *Georg.* 1 *praef.*) suggests that in the first verse, *faciat* alludes to Hesiod’s ἔργα («works»), *quo sidere* to the ἡμέραι («days»)²⁴. This may well be right. But if *Quid ... sidere* is Hesiodic — in fact, I believe we should say that the first clause (*Quid ... segetes*) is Hesiodic and that *quo sidere* is a bridge, being both Hesiodic and Aratean²⁵ — then one might well expect *terram / uertere* to be Aratean, despite its more obvious semantic connection to Hesiod, whose detailed description of the plough (*Op.* 427-436) Vergil goes on to imitate in abbreviated form (*Georg.* 1.169-175). After all, both Aratus and Vergil nod to Hesiod at the very beginning of their respective poems, but Vergil in the *Georgics* points to Hesiod more *through Aratus* than directly.²⁶

²² This point about *Ecl.* 1.1 is well known; see in the first place Pöschl 1964, pp. 10-11 and compare also, e.g., Coleman 1977, ad loc. But recognition that the first word of *Aen.* 1.1 does much the same thing seems to be absent from the standard commentaries on and studies of the poem; credit here is due to McKeown 1989, ad *Ov. Am.* 1.1.1-2 (p. 12), as Denis Feeney points out to me.

²³ For the relationship between Hesiod and Aratus, see also the detailed studies of Fakas 2001 (with pp. 13-17 on a stylistic comparison between the two proems) and Gallego Real 2004.

²⁴ Compare Farrell 1991, pp. 29 and 134.

²⁵ Mynors 1990, ad loc. writes of *sidere* that here and elsewhere it «comes very near to meaning simply ‘season’»; but the literal meaning of *sidus* is of course «heavenly body».

²⁶ Compare, e.g., the words of Thomas 1988, vol. 1, p. 6 (with reference in n. 16 to C. Hardie): «In spite of Virgil’s designation of the poem as an *Ascraeum carmen ...*, explicit reference to *Hesiod* is limited Hesiod is more of a notional model, important for Virgil because of his importance to the Alexandrians».

Consider now nothing more than the first line plus the first word of the second line of these two poems — or, more exactly, just the last word of each first line and the enjambed first word of the second: ἔωμεν / ἄρρητον and *terram / uertere*. There are five interlocking points to make about Vergil's 'translation', which despite the apparently 'prosy' style («The *Georgics* begins with a simplicity of vocabulary and word order that would be natural enough to prose»²⁷) turns out to be a poetic jewel.

— (1) The phrase *terram uertere*, literally «to turn the earth», would not seem to be terribly interesting: we find in the first *Georgic* also *uersando terram* (119) and *uertere terram* (147).²⁸ However, it is the 'suppressed' equivalent of *arare* «to plough» (see Servius, ad *Georg.* 1.2), whose past participle is, of course, *aratus*.²⁹ In other words, Vergil signals his debt to Aratus in exactly the same place in the *Georgics* that Aratus signs his own name — also in a suppressed way, though less so — in the *Phaenomena*.³⁰ This may be seen as a 'step up' from the similar allusion to Aratus in *Ecl.* 3.60-61 (see [n. 21 above]), Damoetas' initial two-line parry in the singing-match with Menalcas, which closely follows the opening two verses of the *Phaenomena*. As Michael Lipka writes, «Three aspects [of Arataus' poem] were imitated by Vergil [in *Ecl.* 3.60-61], (a) the phrase ἐκ Διὸς ἀρχώμεσθα which is similarly found at Theoc. [*Id.*] 17.1 (both based on a common source or the one influencing the other?), (b) the motif of abundance (*plena / μεστὰί*), (c) the aspect of universality (*omnia / πᾶσαι*)»³¹ — but there is a fourth point of contact besides, namely that *ille colit terras* at the start of the second verse hides Aratus' name.³²

— (2) The verb *uertere*, usually translated simply as «to turn», is known to be a metapoetic

²⁷ Ross 1987, p. 32.

²⁸ Note also *terrae / ... solum ... / ... inuertant tauri* (63-65).

²⁹ On Vergilian 'suppression', especially of personal names, see above all O'Hara 1996, pp. 79-82; note, too, various papers in the conference volume *What's in a Name?: The Significance of Proper Names in Classical Latin Literature* (Booth and Maltby [eds.] 2006). It should perhaps be noted that the 'real' (i.e., scientific) etymology of Aratus' name, Ἄρατος, in addition to having nothing to do with the negative adjective ἄρρητος, may well not involve «ploughing» (cf. ἀροῦν, *arare*) either but rather be connected to ἀρᾶσθαι «to pray» (compare [n. 7 above]).

³⁰ Erren 2003, ad loc. writes «*terram uertere*, anschaulich für *arare*» (p. 6) but fails to mention Aratus; neither Thomas 1988 nor Mynors 1990 says anything at all about either *terram* or *uertere*.

³¹ Lipka 2001, p. 112 (footnotes omitted). I am inclined to believe that Theocritus' Ἐκ Διὸς ἀρχώμεσθα is an echo of Aratus (see above all Fantuzzi 1980 and see now also Hunter 2003, ad *Id.* 17.1 [pp. 98-99], with further references).

³² The reference to Aratus is surely there even though *ille* refers grammatically to Jove. Neither of the standard commentaries on the *Eclogues* makes this point about *ille colit terras*, and no other work I have seen does so either: Coleman 1977, ad 3.61 writes little more than that *colit* means «'cares for', 'sustains' rather than merely 'dwells in'» and Clausen 1994 refrains from any comment on the verse; this silence is perhaps not so surprising in view of the fact (see [n. 20 above]) that neither scholar promotes Aratus as the answer to Menalcas' question in 3.40-42.

terminus technicus for «to translate».³³ Vergil is thus explicitly sending a signal that his words translate ἄρρητον.

— (3) This translation involves an actual linguistic turn: Greek ARRET- (APPHT-) is the inverse of Latin TERRA,³⁴ right down to the geminate RR (and each word appears in the accusative singular, with its characteristic nasal inflectional ending).³⁵ What is more, the Latin verb *uertere* has effectively the opposite meaning of the Greek verb ἔειν «to leave alone, let (alone), allow»;³⁶ Vergil's *terram* / *uertere* (NOUN / VERB) reverses Aratus' order VERB / NOMINAL (ἔειμεν / ἄρρητον); and even the subject matter is inverted, so to speak, since Aratus' poem is about the stars and Vergil's about the land. (Clearly Hesiod's merism is being played out here: names are simultaneously ῥητοί τ' ἄρρητοί τε.³⁷)

— (4) It is striking that both poems have a single enjambed word in the second verse: ἄρρητον and *uertere*.³⁸ Naturally, enjambment calls attention to itself, highlighting the word(s) in question. Kidd writes of the whole phrase in Aratus that it «seems curiously contrived, as if designed to lead up to the word ἄρρητον, emphatically placed at the beginning of the next line and followed by a strong sense pause».³⁹ As for Vergil's imitation, the Roman poet goes one step further: the first four verses of the *Georgics* — which famously summarize, line by line, the

³³ The 24th and final definition of *uertō* in the *OLD* is «*a* To render into another language, translate (words, an author, etc.). *b* to render into another form of words, paraphrase or sim.»; compare Richter 1938, pp. 11-12 (various Latin verbs for «to translate» are discussed on pp. 10-15) and Traina 1989, with a wonderful bibliography. A particularly well-known paragraph on metapoetic *uertere* is Hinds 1998, pp. 61-62 on Livius Andronicus' rendering of πολύτροπον in Hom. *Od.* 1.1 as *uersutum* (*Od. fr.* 1).

³⁴ That the *e*-vowel in the Greek is long need hardly trouble us.

³⁵ I note in passing that Muse 2005 makes an excellent case for a Vergilian example of Greek-inspired play with the noun *terra* in *Aen.* 4.271. To Muse's account of what lies behind Mercury's aggressive question to Aeneas, *aut qua spe Libycis teris otia terris?*, I would add only that the verse begins with another, and very short, question, *quid struis?*, which might act as a metapoetic signal of the paronomasia to come: *teris* followed by *terris*.

³⁶ Of course the verb is negated in Aratus, leading (with ἄρρητον) to a double negative. Kidd 1981, p. 355 notes that «[t]he idiom with ἔειν and negative», used also by Plato in *Leg.* 793B3 (οὔτε ἄρρητα ἔειν), «may have been a familiar expression» (compare Kidd 1997, ad *Phaen.* 2 [p. 164]).

³⁷ As is well known, already Aratus' use of ἄρρητον «*retourne donc la pensée d'Hésiode*» (italics added) since in Hesiod «*c'est Zeus qui fait que les hommes sont ... célèbres ou inconnus*» while in Aratus «*ce sont les hommes qui ne laissent pas Zeus non dit*» (Martin 1998, ad loc. [p. (II.)141]). Compare also Kidd 1981, p. 355; Bing 1990, p. 282, with n. 2 and 1993, p. 105, with n. 12; Cusset 1999, p. 291; and Fakas 2001, pp. 15 n. 35 and 34, with n. 98. And see [n. 8 above].

³⁸ Note that the other collocations of *uertere plus terra* (see point (1) above in the text) do not involve enjambment.

³⁹ Kidd 1997, ad 2 (p. 164); compare Kidd 1981, p. 355.

thrust of his four-book poem — all have enjambment.⁴⁰

— (5) And finally, Vergil pulls off a tour de force in hiding a translation of Aratus' name in *terram / uertere* since he signals his own gentilicium, VERgilius, as the 'inverting' translator *at the very same time*: VERtere (cf. likewise verse-initial VENTus in *Georg.* 1.431, the last part of the Aratus-inspired signature MA-VE-PV) is *in exactly the same spot* as ARRETON.⁴¹ Furthermore, the other Latin word, TERRAM, contains in its six letters not just ARRET- backwards, but (as my student Eiríkur Kristjánsson points out) also overlapping MAR-, as in Vergil's cognomen, MARO (cf. MAXimus in *Georg.* 1.429): MARRET / VERtere (chiastically reading ← at the end of the one line and → at the start of the next).⁴² (I am tempted to suggest that Vergil's purpose in flipping MA-VE-PV is to remind his readers of in-VER-ted ARRET- and MAR- at the start of the same poem.⁴³ Some of «MD»'s referees are not persuaded, however, and so I omit the argument.)

⁴⁰ That is to say, three of them do, for the first by definition cannot: *uertere* in 2 finishes the thought in 1, *conueniat* in 3 closes 2, and *sit pecori* in 4 closes 3. Thomas 1988, ad 1.1-4 writes that the «concentration [of enjambment is] paralleled only (and only partially) in passages of high emotional content»; note in addition the hiatus after *pecori*. I cannot speak with authority about patterns of enjambment in Latin poetry, but virtually no other Vergilian beginning (i.e., verses 1-2) has a single enjambed word followed by a strong sense-pause: none of the *Eclogues*, none of the books of the *Aeneid*, and otherwise just the fourth *Georgic*. It may be noted that a number of Greek and Latin poems that are somehow connected with *Phaen.* 1-2 also show striking enjambment: both of the pentameter lines (2 and 4) of Callimachus' famous epigram on Aratus cited above in the text (27 Pfeiffer = 56 Asper) have single strongly enjambed words, ἀοιδόν / ἔσχατον (1-2, on whose meaning and for possible textual corrections, see above all Cameron 1995, pp. 374-379 and most recently Gärtner 2007, pp. 157-159 and passim) and (N.B.) λεπταί / ῥήσιες (3-4; cf. also strongly enjambed ῥήσις in the second line of *Epigr.* 8 Pfeiffer = 58 Asper = *Anth. Pal.* 9.566, though the sense is different, as Cameron 1995, p. 321 notes [compare [n. 19 above]]), the latter famously imitated by the poet Cinna, whose version (*fr.* 11 Courtney / Blänsdorf = 13 Hollis; see [n. 18 above]) has enjambed *carmina* in the second verse; the enjambed form δεύτερος in Leonidas' Aratean epigram picks up on ἄρρητον (see [above in the text, with n. 19]); Germanicus' translation of Aratus may well have strongly enjambed *carminis* in verse 2 (see [n. 48 below]); and the very first clause of Manilius' *Astronomica* is *Carmine diuinis artes et conscia fati / sidera* (1-2).

⁴¹ Compare Horace's verse-initial 'signature' *dux reget examen* in *Epist.* 1.19.23: a Latin calque on the name Ἀρχι-λοχος (who is named as such in the same metrical position two lines later) that both expresses the Roman poet's indebtedness to his Greek predecessor and suggests he himself is the new leader (see Katz 2007b).

⁴² Mike Fontaine and Emily Gowers both point out to me that reading *terram#* right to left and then enjambed *#uertere* left to right immediately afterwards evokes the graphic style known in Greek as βουστροφηδόν, literally «as the ox turns/ploughs». This seems appropriate at the start of a poem called the *Georgics*, especially one that owes much to Hesiod.

⁴³ Scholars have pointed to inter- and intratextual signals in *Georg.* 1.424-437 that MA-VE-PV is to be read backwards: see especially Farrell 1991, p. 82 (PVra [433] «in the last line of the imitation picks up καθαρή in the first line of the original [i.e., *Phaen.* 783]») and Feeney and Nelis 2005, p. 645 n. 8 («[T]he words *respicies* (425) and *revertentis* [also *revertentis* — JTK]

Since the very next word is the name of Vergil's patron, the first one and a-half verses of the *Georgics* thus present a tightly meshed and really quite extraordinary genealogy: *Quid faciat laetas segetes* = Hesiod; *quo sidere* = both Hesiod and Aratus; *terram / uertere* = both Aratus and Vergil; and *Maecenas* = himself — who is receiving this poem from Vergil, who received it from Aratus, who received it in turn from Hesiod (and the latter two got their material from on high, be it from Zeus or the Muses).⁴⁴ It may be noted, too, that there is a ring between *Georg.* 1.1-2 and the *sphragis* that closes *Georg.* 4 (559-566), in which Vergil — uniquely in his oeuvre — mentions himself by name in a standard fashion: *Vergilium* (563).⁴⁵

Aratus says, «Let us begin with Zeus» and then, in the second verse, slips himself in, too: evidently it is not just Zeus whose name men should never leave «unspoken».⁴⁶ Still (or so I imagine Vergil must have felt), why should Aratus be alone in second place after the high god? So when he took up the task of composing the *Georgics* — having already artfully emulated a Greek incipit at the start of his first *Eclogue* and probably not yet knowing that he would do much the same in the *Aeneid* (see above)⁴⁷ — Vergil fought likewise against the ignominy of

cum primum (427) may be thought to point out that the acrostic runs backwards»); compare also Haslam 1992, pp. 202-203. But no one has considered *why* Vergil would have done this in the first place.

⁴⁴ Compare Gale 2001, an interesting article titled *Etymological Wordplay and Poetic Succession in Lucretius*. And to some extent compare also Possanza 2004, p. 157 n. 6 on Avien(i)us' translation of Aratus: «Avienius takes the translator's internal reference to the author of the *Phaenomena* a step further [than Germanicus; see [n. 48 below]] by mentioning not only Aratus (64-66) but also Aratus's source, Eudoxus of Cnidus (53-54). Thus by means of the authorial sequence Eudoxus — Aratus — Avienius (*me quoque* 67), Avienius writes himself into the history of Greek astronomy and astronomical poetry».

⁴⁵ The final verse of the *Georgics* (4.566) is also almost identical to the first verse of *Ecl.* 1. (For the Hellenistic-inspired numerological game that Vergil seems to be playing in verse 561, see [n. 47 below].) Hesiod names himself once, near the start of the *Theogony* (Ἡσίοδος [22]), and it is widely believed (see above all Nagy 1999, pp. 296-297) that other nearby verses play with the idea that Ἡσίοδος is literally a 'speaking name' meaning something like «Sender of Song / Voice» (vel sim.); if there is anything to this analysis, even just as a folk etymology, then it is all the more striking that Aratus should stress that his name means the inverse, «unspoken» (compare Bing 1990, p. 283 n. 3 and 1993, p. 106 n. 14).

⁴⁶ Note that ἄρρητοι (mortals; see [n. 37 above]) and Δι- seem both to be played with in the proem to the *Works and Days* (see [n. 8 above]).

⁴⁷ In the present context it seems right to point explicitly to the inversions in Vergil's *Arma uirumque* vis-à-vis its Homeric models (for a number of very interesting complementary observations, see Weber 1987, pp. 269-271 and passim): while (1) the first word corresponds to the first word of the first epic poem (the *Iliad*) and the second word to the first of the second (the *Odyssey*), (2) Vergil's first six books are Odyssean and last six books are Iliadic and (3) ARMA, which is Iliadic, corresponds in sound to Greek AN-RA, which is Odyssean (see [above in the text, with n. 22]) — indeed, the Latin word is very nearly the inverse of the Greek (whose base form lacks the delta: ἀνήρ). (This is to say nothing of the would-be acrostic-cum-telestich referred to in [n. 12 above].) Note also the echo of Μῆνιν in the first bit of speech in Vergil's epic poem, the wrathful Juno's *mene incepto* (1.37), as pointed out by Levitan 1993 (see also

oblivion. Of course Vergil has been anything but forgotten. And yet it has taken more than 2,000 years for his sly signature to be spotted.⁴⁸

Works Cited

- Asper 2004: M. Asper, *Kallimachos, Werke: Griechisch und deutsch*, Darmstadt.
 Bing 1990: P. Bing, *A Pun on Aratus' Name in Verse 2 of the Phainomena?*, «Harv. Stud. Class. Philol.» 93, pp. 281-285.
 Bing 1993: P. Bing, *Aratus and his Audiences*, «MD» 31 [= *Mega nepios: Il destinatario nell'epos didascalico*, ed. by A. Schiesaro, P. Mitsis, and J. S. Clay; publ. 1994], pp. 99-109.

O'Hara 1996, pp. 115-116; Fowler 1997, pp. 259-260; and Nelis 2004, pp. 91, 95, and 101-102 n. 54). In fact, the second half of the *Aeneid* begins not in 7.1 but rather with the invocation of Erato in 7.37 (the start of the 'second proem'), and Nelis 2007 suggests that the reappearance of verse 37 is not accidental. He thus gives us the latest in a long line of possible numerological games that have occupied some Vergilians and Arateans: e.g., is Vergil's consistent positioning of the name of the river Euphrates six lines from the end of whatever book it appears in (*Georg.* 1.509 and 4.561 and *Aen.* 8.726) significant and a sign of Hellenistic learning? (yes, in my view; see Scodel and Thomas 1984 [~ Thomas 1999, p. 320; compare also Thomas 1988, ad *Georg.* 1.509], as well as Clauss 1988); is it mere chance that Maecenas is mentioned by name once in each of the four *Georgics* in what looks like a pattern (1.2, 2.41, 3.41, and 4.2)? (unclear; Thomas 1988, ad locc. thinks the «placement» is «careful» [ad 2.41]); and is Λ-Ε-Π-Τ-Η isopsephic as well as alphabetic? (surely not; but see Scarcia 1993). However, since history (or at least Wilkinson 1969, pp. 316-322) has not always been kind to Princetonians associated with such ideas (witness George E. Duckworth and Edwin L. Brown: the former advised the Princeton doctoral dissertation that became Brown 1963), perhaps I had better stop with that.

⁴⁸ Did any of the Latin translators of Aratus see it (or Arabic [see Honigmann 1950] — but this is beyond my competence)? Avien(i)us did not, as far as I can tell, but what about Cicero (whose interest in verbal games is clear from *Div.* 2.111-112; see now Gore and Kershaw 2008), Ovid, and Germanicus? Unfortunately, we do not have verses 1b-2 of Cicero's version (I shall consider elsewhere an unnoticed example of linguistic play in the incipit, *fr.* 1a), and only five lines of Ovid's *Phaenomena* have come down to us (none helpful for the present issue, and the same is true for the nine lines that seem to be from Varro of Atax' *Ephemeris*). It is probably a case of trying too hard to read a quasi-signature in *CARMinis* at the start of verse 2 of GERMANICUS' *Aratea* — *Ab Ioue principium magno deduxit Aratus / carminis; at nobis, genitor, tu maximus auctor* (1-2) — though Montanari Caldini 1981, pp. 112-114 and 1987, p. 156 sees verse-final *AUCTor* in the same line as pointing to AUGUSTUS (compare also Zehnacker 1989, p. 321) and though some editors (notably Le Bœuffle 1975, p. 1, whose text I print here; see also, e.g., Maurach 1978, p. 24, with further references) treat *carminis* as strongly enjambed and thus belonging syntactically with the words in verse 1, which ends with nothing other than the name *Aratus* (but Gain 1976, pp. 21 and 53 punctuates differently, as does, e.g., Possanza 2004, p. 106). The dedicatee of this paper, in a well-known article, considers the relationship between the start of Germanicus' poem and Ov. *Fast.* 5.111 (and also Manil. 1.386, which ends *maximus auctor*; note verse-initial *Augusto* in the previous line): see Fantham 1985, pp. 254-256, with 277.

- Booth and Maltby (eds.) 2006: J. Booth and R. Maltby (eds.), *What's in a Name?: The Significance of Proper Names in Classical Latin Literature*, Swansea.
- Brown 1963: E. L. Brown, *Numeri Vergiliani: Studies in «Eclogues» and «Georgics»*, Brussels.
- Cameron 1972: A. Cameron, *Callimachus on Aratus' Sleepless Nights*, «Class. Rev.» 22, pp. 169-170.
- Cameron 1995: A. Cameron, *Callimachus and his Critics*, Princeton.
- Campbell 1982-1983: J. S. Campbell, *Damoetas's Riddle: A Literary Solution*, «Class. Journ.» 78, pp. 122-126.
- Clausen 1994: W. Clausen, *A Commentary on Virgil, Eclogues*, Oxford.
- Clauss 1988: J. J. Clauss, *Vergil and the Euphrates Revisited*, «Amer. Journ. Philol.» 109, pp. 309-320.
- Coleman 1977: R. Coleman, *Vergil, Eclogues*, Cambridge.
- Cusset 1995: C. Cusset, *Exercices rhétoriques d'Aratos autour du terme ἡχή*, «Revue de Philologie» 69 [publ. 1997], pp. 245-248.
- Cusset 1999: C. Cusset, *La Muse dans la Bibliothèque: réécriture et intertextualité dans la poésie alexandrine*, Paris.
- Cusset 2002: C. Cusset, *Poétique et onomastique dans les Phénomènes d'Aratos*, «Pallas» 59 [= *Palladio Magistro: mélanges Jean Soubiran*], pp. 187-196.
- Cusset 2005: C. Cusset, «*L'Ami le plus cher en tout point*»: *Aratos dans l'Idylle VI de Théocrite*, in A. Kolde, A. Lukinovich, and A.-L. Rey (eds.), *Κορυφαίω ἀνδρί: mélanges offerts à André Hurst*, Geneva, pp. 79-85.
- Damschen 2004: G. Damschen, *Das lateinische Akrostichon: Neue Funde bei Ovid sowie Vergil, Grattius, Manilius und Silius Italicus*, «Philologus» 148, pp. 88-115.
- Danielewicz 2005: J. Danielewicz, *Further Hellenistic Acrostics: Aratos and Others*, «Mnemosyne» 58, pp. 321-334.
- de Callataÿ 1992: G. de Callataÿ, *Quis fuit alter?: Aratos, le Palinure de l'Enéide*, «Bulletin de l'Institut Historique Belge de Rome» 62, pp. 175-192.
- de Callataÿ 1996: G. de Callataÿ, *The Knot of the Heavens*, «Journ. Warburg and Courtauld Inst.» 59, pp. 1-13.
- de Callataÿ 2003: G. de Callataÿ, *Orpheus Engonasin: Harmony and Mystery under the Starry Vault*, in P. Defosse (ed.), *Hommages à Carl Deroux. IV — Archéologie et histoire de l'art, religion*, Brussels, pp. 329-338 (+ plates).
- Dix 1995: T. K. Dix, *Vergil in the Grynean Grove: Two Riddles in the Third Eclogue*, «Class. Philol.» 90, pp. 256-262.
- Domenicucci 1996: P. Domenicucci, *Astra Caesarum: Astronomia, astrologia e catasterismo da Cesare a Domiziano*, Pisa.
- Erren 1967: M. Erren, *Die Phainomena des Aratos von Soloi: Untersuchungen zum Sach- und Sinnverständnis*, Wiesbaden.
- Erren 2003: M. Erren, *P. Vergilius Maro, Georgica*, vol. 2 (Kommentar), Heidelberg.
- Ewald 1990: O. M. Ewald, *Virgilian End Rhymes (Geo. 1.393-423)*, «Harv. Stud. Class. Philol.» 93, pp. 311-313.
- Fakas 1999: C. Fakas, *Ein unbeachtetes Telestichon bei Arat*, «Philologus» 143, pp. 356-359.
- Fakas 2001: C. Fakas, *Der hellenistische Hesiod: Arats Phainomena und die Tradition der antiken Lehrepik*, Wiesbaden.

- Fantham 1985: R. E. Fantham, *Ovid, Germanicus and the Composition of the Fasti*, «Proceedings of the Liverpool Latin Seminar» 5 [publ. 1986], pp. 243-281.
- Fantuzzi 1980: M. Fantuzzi, Ἐκ Διὸς ἀρχώμεσθα: *Arat. Phaen. I e Theocr. XVII I*, «MD» 5 [publ. 1981], pp. 163-172.
- Fantuzzi and Hunter 2004: M. Fantuzzi and R. Hunter, *Tradition and Innovation in Hellenistic Poetry*, Cambridge [revision of the 2002 Italian original].
- Farrell 1991: J. Farrell, *Vergil's Georgics and the Traditions of Ancient Epic: The Art of Allusion in Literary History*, New York.
- Feeney and Nelis 2005: D. Feeney and D. Nelis, *Two Virgilian Acrostics: certissima signa?*, «Class. Quart.» 55, pp. 644-646.
- Fisher 1982: R. S. Fisher, *Conon and the Poet: A Solution to Eclogue, III, 40-2*, «Latomus» 41, pp. 803-814.
- Fontaine 2004: M. Fontaine, *Agnus κουριῶν (Plautus Aulularia 561-64)*, «Class. Philol.» 99, pp. 147-153.
- Fontaine 2006: M. Fontaine, *Sicilicissitat (Plautus, Menaechmi 12) and Early Geminata Writing in Latin (with an Appendix on Men. 13)*, «Mnemosyne» 59, pp. 95-110.
- Fontaine forthcoming: M. Fontaine, *The Lesbia Code: Backmasking, Pillow Talk, and Cacemphaton in Catullus 5 and 16*, «Quad. Urb. Cult. Class.».
- Fowler 1997: D. Fowler, *Virgilian Narrative: Story-telling*, in C. Martindale (ed.), *The Cambridge Companion to Virgil*, Cambridge, pp. 259-270.
- Gain 1976: D. B. Gain, *The Aratus ascribed to Germanicus Caesar*, London.
- Gale 2001: M. R. Gale, *Etymological Wordplay and Poetic Succession in Lucretius*, «Class. Philol.» 96, pp. 168-172.
- Gallego Real 2004: D. Á. L. Gallego Real, *El hipotexto hesiódico en los Phaenomena de Arato*, Amsterdam.
- Gärtner 2007: T. Gärtner, *Zur Deutung des kallimacheischen Epigramms über die Phainomena des Arat*, «L'Antiquité Classique» 76, pp. 157-162.
- Gore and Kershaw 2008: J. Gore and A. Kershaw, *An Unnoticed Acrostic in Apuleius Metamorphoses and Cicero De divinatione 2.111-12*, «Class. Quart.» 58, pp. 393-394.
- Harrison 2004: S. Harrison, *Virgil's Corycius senex and Nicander's Georgica: Georgics 4.116-48*, in M. Gale (ed.), *Latin Epic and Didactic Poetry: Genre, Tradition and Individuality*, Swansea, pp. 109-123.
- Haslam 1992: M. Haslam, *Hidden Signs: Aratus Diosemeiai 46ff., Vergil Georgics 1.424ff.*, «Harv. Stud. Class. Philol.» 94, pp. 199-204.
- Heil 2002: A. Heil, *Alma Aeneis: Studien zur Vergil- und Statiusrezeption Dante Alighieris*, Frankfurt am Mein.
- Henderson 1998: J. Henderson, *Virgil's Third Eclogue: How do you Keep an Idiot in Suspense?*, «Class. Quart.» 48, pp. 213-228; [revised repr. in *Writing down Rome: Satire, Comedy, and other Offences in Latin Poetry*, Oxford 1999, pp. 145-169, with 304-310; also in K. Volk (ed.), *Oxford Readings in Classical Studies: Vergil's Eclogues*, Oxford 2008, pp. 125-154].
- Hinds 1998: S. Hinds, *Allusion and Intertext: Dynamics of Appropriation in Roman Poetry*, Cambridge.
- Hofmann 1985: H. Hofmann, *Ein Aratpapyrus bei Vergil*, «Hermes» 113, pp. 468-480.

- Hollis 2007: A. S. Hollis, *Fragments of Roman Poetry c. 60 BC - AD 20*, Oxford.
- Honigmann 1950: E. Honigmann, *The Arabic Translation of Aratus' Phaenomena*, «Isis» 41, pp. 30-31.
- Hübner 2005: W. Hübner, *Die Rezeption der Phainomena Arats in der lateinischen Literatur*, in M. Horster and C. Reitz (eds.), *Wissensvermittlung in dichterischer Gestalt*, Stuttgart, pp. 133-154.
- Hunter 1995: R. L. Hunter, *Written in the Stars: Poetry and Philosophy in the Phaenomena of Aratus*, «Arachnion» 1.2 (online at <http://www.cisi.unito.it/arachne/num2/hunter.html>).
- Hunter 1999: R. Hunter, *Theocritus, A Selection: Idylls 1, 3, 4, 6, 7, 10, 11 and 13*, Cambridge.
- Hunter 2003: R. Hunter, *Theocritus, Encomium of Ptolemy Philadelphus*, Berkeley (CA).
- Hunter 2006: R. Hunter, *The Shadow of Callimachus: Studies in the Reception of Hellenistic Poetry at Rome*, Cambridge.
- Hutchinson 1988: G. O. Hutchinson, *Hellenistic Poetry*, Oxford.
- Jacques 1960: J.-M. Jacques, *Sur un acrostiche d'Aratos (Phén., 783-787)*, «Rev. Ét. Anc.» 62, pp. 48-61.
- Katz 2006: J. T. Katz, *The Riddle of the sp(h)ij-: The Greek Sphinx and her Indic and Indo-European Background*, in G.-J. Pinault and D. Petit (eds.), *La Langue poétique indo-européenne: actes du Colloque de travail de la Société des Études Indo-Européennes (Indogermanische Gesellschaft / Society for Indo-European Studies), Paris, 22-24 octobre 2003*, Louvain, pp. 157-194.
- Katz 2007a: J. T. Katz, *An Acrostic Ant Road in Aeneid 4*, «MD» 59 [publ. 2008], pp. 77-86.
- Katz 2007b: J. T. Katz, *Dux reget examen (Epistle 1.19.23): Horace's Archilochean Signature*, «MD» 59 [publ. 2008], pp. 207-213.
- Kidd 1981: D. A. Kidd, *Notes on Aratus, Phaenomena*, «Class. Quart.» 31, pp. 355-362.
- Kidd 1997: D. Kidd, *Aratus, Phaenomena*, Cambridge.
- La Barbera 2006: S. La Barbera, *Divinità occulte: Acrostici nei proemi di Ovidio e Claudiano*, «MD» 56, pp. 181-184.
- Le Bœuffle 1975: A. Le Bœuffle, *Germanicus, Les Phénomènes d'Aratos (Budé)*, Paris.
- Lehnus 2006: L. Lehnus, *Prima e dopo αἰ κατὰ λεπτόν*, in G. Bastianini and A. Casanova (eds.), *Callimaco, cent'anni di papiri: Atti del Convegno internazionale di studi, Firenze, 9-10 giugno 2005*, Florence, pp. 133-147.
- Levitan 1979: W. Levitan, *Plexed Artistry: Aratean Acrostics*, «Glyph» 5, pp. 55-68.
- Levitan 1993: W. Levitan, *Give up the Beginning?: Juno's Mindful Wrath (Aeneid 1.37)*, «Liverpool Cl. Monthly» 18, p. 14.
- Lewis 1992: A.-M. Lewis, *The Popularity of the Phaenomena of Aratus: A Reevaluation*, «Studies in Latin Literature and Roman History» 6, pp. 94-118.
- Lipka 2001: M. Lipka, *Language in Vergil's Eclogues*, Berlin.
- Lohse 1967: G. Lohse, *Σύντονος ἀγρυπνίη (zu Kallimachos Epigr. 27, 4)*, «Hermes» 95, pp. 379-381.
- McKeown 1989: J. McKeown, *Ovid: Amores. Text, Prolegomena and Commentary in Four Volumes*, vol. II (*A Commentary on Book One*), Leeds.
- Martin 1998: J. Martin, *Aratos, Phénomènes (Budé)*, 2 vols., Paris.
- Maurach 1978: G. Maurach, *Germanicus und sein Arat: Eine vergleichende Auslegung von V. 1-327 der Phaenomena*, Heidelberg.

- Montanari Caldini 1981: R. Montanari Caldini, *Virgilio, Manilio e Germanico: Memoria poetica e ideologia imperiale*, in L. Baldini Moscardi et al. (eds.), *Cultura e ideologia da Cicerone a Seneca*, Florence, pp. 71-114.
- Montanari Caldini 1987: R. Montanari Caldini, *Aspetti dell'astrologia in Germanico*, in G. Bonamente and M. P. Segoloni (eds.), *Germanico: La persona, la personalità, il personaggio nel bimillenario dalla nascita*, Rome, pp. 153-171.
- Muse 2005: K. Muse, 'Don't Dally in this Valley': *Wordplay in Odyssey 15.10 and Aeneid 4.271*, «Class. Quart.» 55, pp. 646-649.
- Mynors 1990: R. A. B. Mynors, *Virgil, Georgics*, Oxford.
- Nagy 1999: G. Nagy, *The Best of the Achaeans: Concepts of the Hero in Archaic Greek Poetry*, rev. ed., Baltimore (MD).
- Nelis 2004: D. Nelis, *From Didactic to Epic: Georgics 2.458-3.48*, in M. Gale (ed.), *Latin Epic and Didactic Poetry: Genre, Tradition and Individuality*, Swansea, pp. 73-107.
- Nelis 2006: D. Nelis, *Wordplay in Vergil and Claudian*, «Dictynna» 3, pp. 255-263.
- Nelis 2007: D. Nelis, «*Et maintenant, Erato ---*»: à propos d'*Enéide VII, 37*, «Rev. Ét. Anc.» 109, pp. 269-271.
- Nisbet 1990: R. G. M. Nisbet, *Review of Thomas 1988*, «Class. Rev.» 40, pp. 260-263.
- O'Hara 1996: J. J. O'Hara, *True Names: Vergil and the Alexandrian Tradition of Etymological Wordplay*, Ann Arbor (MI).
- Pendergraft 1996: M. L. B. Pendergraft, *Euphony and Etymology: Aratus' Phaenomena*, «Syllecta Classica» 6, pp. 43-67.
- Pöschl 1964: V. Pöschl, *Die Hirtendichtung Virgils*, Heidelberg.
- Possanza 2004: D. M. Possanza, *Translating the Heavens: Aratus, Germanicus, and the Poetics of Latin Translation*, New York.
- Prioux 2005: É. Prioux, *Deux jeux de mots sur le nom d'Aratos: note sur Virgile, B. III, 42 et Aratos, Phaen. 2*, «Revue de Philologie» 79 [publ. 2007], pp. 309-317.
- Ramsey 2000: J. T. Ramsey, *Review of Domenicucci 1996*, «Bryn Mawr Class. Rev.» 2000.12.10.
- Reeve 1996-1997: M. D. Reeve, *A Rejuvenated Snake*, «Acta Ant. Acad. Scient. Hung.» 37, pp. 245-258.
- Richter 1938: H. E. Richter, *Uebersetzen und Uebersetzungen in der römischen Literatur*, Coburg.
- Ross 1975: D. O. Ross, Jr., *Backgrounds to Augustan Poetry: Gallus, Elegy and Rome*, Cambridge.
- Ross 1987: D. O. Ross, Jr., *Virgil's Elements: Physics and Poetry in the Georgics*, Princeton.
- Rostropowicz 1998: J. Rostropowicz, *Król i poeta, czyli o Fajnomenach Aratosa z Soloj*, Opole.
- Scarcia 1993: R. Scarcia, *L'isopsefo di Arato*, in R. Pretagostini (ed.), *Tradizione e innovazione nella cultura greca da Omero all'età ellenistica: Scritti in onore di Bruno Gentili*, Rome, pp. (III.)971-980.
- Schroeder 2005: C. M. Schroeder, *Hellenistic Scholarship and the Proem to Hesiod's Works and Days*, in C. M. Schroeder (ed.), *Cygnifiliana: Essays in Classics, Comparative Literature, and Philosophy presented to Professor Roy Arthur Swanson on the Occasion of his Seventy-fifth Birthday*, New York, pp. 155-165.

- Scodel and Thomas 1984: R. S. Scodel and R. F. Thomas, *Virgil and the Euphrates*, «Amer. Journ. Philol.» 105, p. 339.
- Springer 1983-1984: C. Springer, *Aratus and the Cups of Menalcas: A Note on Eclogue 3. 42*, «Class. Journ.» 79, pp. 131-134.
- Thomas 1988: R. F. Thomas, *Virgil, Georgics*, 2 vols., Cambridge.
- Thomas 1999: R. F. Thomas, *Reading Virgil and his Texts: Studies in Intertextuality*, Ann Arbor (MI).
- Traina 1989: A. Traina, *Le traduzioni*, in G. Cavallo, P. Fedeli, and A. Giardina (eds.), *Lo spazio letterario di Roma antica*, vol. II (*La circolazione del testo*), Rome, pp. 93-123.
- Volk forthcoming: K. Volk, *Aratus*, in J. Clauss and M. Cuypers (eds.), *A Companion to Hellenistic Literature*, Malden (MA).
- Watkins 1995: C. Watkins, *How to Kill a Dragon: Aspects of Indo-European Poetics*, New York.
- Weber 1987: C. Weber, *Metrical imitatio in the Proem to the Aeneid*, «Harv. Stud. Class. Philol.» 91, pp. 261-271.
- West 1978: M. L. West, *Hesiod, Works & Days*, Oxford.
- West 2001: M. L. West, *Some Homeric Words*, «Glotta» 77 [publ. 2003], pp. 118-135.
- Wilkinson 1969: L. P. Wilkinson, *The Georgics of Virgil: A Critical Survey*, Cambridge.
- Zehnacker 1989: H. Zehnacker, *D'Aratos à Aviénus: astronomie et idéologie*, «Illin. Class. Stud.» 14, pp. 317-329.