

# Varro and Virgil in the *Geoponica*

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ONLY TWO Latin agricultural writers appear among the forty-four authorities named in the Greek *Geoponica*: the ‘Roman’ Varro and the poet Virgil. Varro’s *Rerum rusticarum libri* and Virgil’s *Georgics* had found a secure position in the tradition of agricultural literature by the first century. Columella includes both in the list of his illustrious predecessors (1.1.12): (*memoremus*) *et M. Terentium qui (agricolationem) expolivit, mox Vergilium qui carminum quoque potentem fecit*. And, with modesty which does not wholly mask the pride he feels in his own literary accomplishment, he claims that his precepts *non consummare scientiam, sed adiuvare promittunt* (1.1.17). The elder Pliny, in his *Natural History*, quotes both Varro and Virgil; if he sometimes indicates an impatient disagreement with the latter, Virgil is nonetheless *praecelsissimus vates* (14.7) and an authority to be reckoned with (*magno Vergili praeconio*, 18.300).<sup>1</sup> Pliny and Columella became in their turn the authorities to whom later writers would refer, and the names of Varro and Virgil (along with Cato) become less frequent or disappear altogether in the agricultural handbooks of later centuries. Palladius, in the early fifth century, cites Virgil but once (3.25.6), a reference he must have taken over from Gargilius Martialis, just as he took Aristotle’s name (8.4.4) from Columella (7.3.12) and that of Apuleius (1.35.9) from his Greek source.<sup>2</sup>

The Byzantine collection known as the *Geoponica* is the sole survivor of a long and illustrious tradition of Greek agricultural literature. The text we have dates from the mid-tenth century, but behind it lies the *Περὶ γεωργίας ἐκλογαί* of Cassianus Bassus Scholasticus (sixth century), based in turn on the *Συναγωγή γεωργικῶν ἐπιτηδευμάτων* of Vindanius

<sup>1</sup> L. P. Wilkinson, *The Georgics of Virgil* (Cambridge 1976) 223–73; R. T. Bruère, “Pliny the Elder and Virgil,” *CP* 51 (1956) 228–46; cf. J. L. Teall, “The Byzantine Agricultural Tradition,” *DOPapers* 25 (1971) 35–59, esp. pp.39–41 on the history of the *Geoponica*.

<sup>2</sup> J. Svennung, “De auctoribus Palladii,” *Eranos* 25 (1927) 123–78, 230–48. In the fragments of Gargilius Martialis, which survive in a Naples palimpsest (IV.A.8, ed. A. Mai, *Classicorum auctorum e Vaticanis codicibus editorum* I [Rome 1828] 387–413), Gargilius cites both Columella and Pliny. He does not name Virgil, but cf. p.409: (*castanae*) *de quibus pastor ita praecinit “mea quas Amaryllis amabat”* (= *Ecl.* 2.52).

Anatolius of Berytus (fourth century) and the *Γεωργικά* of ‘the younger’ Didymus of Alexandria.<sup>3</sup> Didymus is an obscure figure, but we possess oriental versions of both Cassianus and Anatolius.<sup>4</sup> With their help we can at least tentatively unravel the complexities which confront us in the *Geoponica*.<sup>5</sup>

Anatolius and Cassianus both seem to have relied primarily on Greek sources dating from the third century onwards. Authoritative names from earlier periods appear in the *Geoponica*, among them the two Latin writers Varro and Virgil. Let us examine the citations for these writers in the *Geoponica*.

The poet first. Although the *Suda* records a translation of the *Georgics* into Greek by a certain Arrianus, there are only two citations in the *Geoponica*. The first occurs in a chapter on the time for sowing barley and wheat (2.14.3). Some fix separate times for the two grains: for barley, begin to sow at the autumn equinox, for wheat at the setting of the Pleiades (11 November)—*τοῦτο δὲ καὶ ὁ Οὐργίλιος συναινέι*—and continue no longer than the winter solstice. For the name, the Greek manuscripts read *οὐτίλλιος*, but the Syriac version of Anatolius (Syr. 2.14) preserves “Virgilius,”<sup>6</sup> and the recommendation ultimately derives from *Georgics* 1.208ff (for barley) and 1.219ff (for wheat). Both Columella (2.8.1) and Pliny (18.202) cite Virgil in this context, and Pliny (18.225) also specifies 11 November as the setting of the Pleiades.<sup>7</sup> Virgil’s precept had become a firm part of the literary tradition by Pliny’s time; his name was still attached to the recommendation when Anatolius compiled his *Synagoge* in the fourth

<sup>3</sup> E. Oder, “Beiträge zur Geschichte der Landwirtschaft bei den Griechen,” in three parts, I: *RhM* 45 (1890) 58–99; II: *RhM* 45 (1890) 212–22; III: *RhM* 48 (1893) 1–40 [hereafter, ODER]. The most recent edition of the *Geoponica* is H. Beckh’s Teubner (Leipzig 1895). My wife and I are now preparing a new Teubner.

<sup>4</sup> F. Sezgin, *Geschichte des arabischen Schrifttums* IV (Leiden 1971) 314–18 [hereafter, SEZGIN]; see also B. Attié Attié, “L’Origine d’*al-falāḥa ar-rūmīya* et du pseudo-Qusṭus,” *Hespéris Tamuda* 13 (1972) 139–81.

<sup>5</sup> E. Fehrle, *Studien zu den griechischen Geoponikern* (Leipzig 1920).

<sup>6</sup> *Geoponica in sermonem syriacum versorum quae supersunt*, ed. P. de Lagarde (Leipzig/London 1860) p.6,21; see also *Gesammelte Abhandlungen von Paul de Lagarde* (Leipzig 1866) 138, and cf. *Catalogue of the Mingana Collection of Manuscripts . . . Birmingham* I (Cambridge 1933) 1142, no.599. The Armenian version (*Girk’ Vastakots’*, ed. L. Alishan [Venice 1877]) has at the corresponding point (ch.28, p.24,1) “der Sohn des Astlialios”: see C. Brockelmann, “Die armenische Übersetzung der *Geoponica*,” *BZ* 5 (1896) 393.

<sup>7</sup> Oder I, 64 n.2. Early editors have *Κυντίλιος*, but Fehrle’s arguments for *Κουιντίλιος* are very weak alongside the evidence from the Syriac: see “Richtlinien zur Textgestaltung der griechischen *Geoponica*,” *SBHeidelberg* 1920, no.11, pp.11–12.

century; in a corrupted form it was still to be found in the encyclopaedia dedicated to Constantine VII.

The second citation, in a chapter on treating seeds prior to sowing (2.18.12), has *Βιργίλιος δὲ ἐπαινεῖ νίτρῳ καὶ ὕδατι ἐπιψεκάζειν τὰ σπειρόμενα*. The prescription goes back to *Georgics* 1.193f:

*Semina vidi equidem multos medicare serentis  
et nitro prius et nigra perfundere amurca.*

A slight difference in the *Geoponica* ('water' instead of *amurca*) suggests that the recommendation had passed through many hands; again, both Columella (2.10.11) and Pliny (18.157) quote Virgil for this detail. The oriental versions, however, have no reference to Virgil at the corresponding point. The form of the name (with *beta*) points as well to a later addition, perhaps by the same editor who added *ὡς ἱστορεῖ Φιλόστρατος* at *Geopon.* 1.14.3.<sup>8</sup> This learned editor would probably have found Virgil's name associated with the particular precept in some other text; it is unlikely that he consulted Virgil directly.<sup>9</sup>

Virgil's name occurs nowhere else in the Greek tradition of agricultural literature<sup>10</sup>—unless we can identify his with a badly corrupted name B(i)rī<sup>c</sup>āyūs or B(i)rīghālūs (?) cited by Ibn al-<sup>c</sup>Awwām, who wrote his *Kitāb al-Filāḥa* at Seville in the late twelfth or early thirteenth century.<sup>11</sup> The single citation has no connection with Virgil, and until we have a clearer notion of Ibn al-<sup>c</sup>Awwām's literary sources it is idle to speculate about whose name may lie behind the corruption.<sup>12</sup>

<sup>8</sup> Fehrle, *op.cit.* (*supra* n.5) 17–18. The reference to Philostratos occurs in none of the parallel texts.

<sup>9</sup> Oder I, 80, argues that most of *Geopon.* 2.18, including the Virgilian citation, derives from Pliny (via Apuleius, who is cited three times in the same chapter), but it was not from Pliny that the date for planting was taken (§ 13 ἐν διχομηνίᾳ: cf. Colum. 2.10.10 *tantum quinta decima luna*).

<sup>10</sup> For Virgil in the Greek culture of South Italy as well as other parts of the Byzantine Empire, see V. Peri, "BIPΓΛΙΛΙΟΣ=Sapientissimus: riflessi culturali latino-greci nell'agiografia bizantina," *Italia medioevale e umanistica* 19 (1976) 1–40, esp. p.1. Peri notes echoes of the Orpheus story of *Georg.* 4.452–527 in a Georgian version of a Greek life of St Pansophios (pp.14–15) and the popularity of Virgil (though not the *Georgics*) in Egypt (p.18).

<sup>11</sup> Ed. J. A. Banqueri (Madrid 1802). The first form appears in the prologue to the work (vol. I p.8), the second—unpointed!—in the prologue to ch.10 (I 515).

<sup>12</sup> Ibn al-<sup>c</sup>Awwām, ch.10, prolog. (transl. J.-J. Clément-Mullet, *Le Livre d'agriculture I* [Paris 1864] 482): "(nom illisible) disait que l'ameublissement de la terre est, pour les racines des arbres, la préservation de la suffocation." The remark is parenthetical to the main discussion (value of cultivation in orchards). The text continues with "La deuxième cause d'utilité, qu'on trouve à retourner l'intérieur du sol et à le ramener à la surface, c'est parce que la chaleur du soleil le cuit et le rend plus doux." A similarity to *Georgics* 1.66 (E. Meyer,

For Varro there are three citations in the *Geoponica*. The first is in the opening chapter of the first book, on the seasons of the year (1.1.2). *Οἱ τοίνυν πλείστοι, καὶ πρό γε πάντων Βάρων ὁ Ῥωμαϊκός*, fix the beginning of spring, when Zephyrus first blows, on 7 February, when the sun is in Aquarius. This dating and that for the other seasons (§§ 2–5) correspond to Varro, *Rust.* 1.28 (with minor differences: 8 May vs. 9 May in Varro, and 7 August vs. 11 August), but the manner of citation is enough to indicate that Varro was not an immediate source.

At 5.17.9, in a chapter on the different *genera* of vines, we read: *καὶ γὰρ Βάρων διῦχυρίζεται ὅτι ἕκαστον πλέθρον τῆς ἀμιννίας ἀμπέλου τριακοσίου ἀμφορέας ἤνεγκε*. Varro, *Rust.* 1.2.7, cites Cato's *Origines* for the figure ten *cullea* of wine per *iugerum*, and he goes on to mention the “300 vines” which produce 300 amphoras of wine per *iugerum*, but he does not specify the variety of grape. Columella (3.9.3) cites Varro and Cato for 600 *urnae* (= 300 amphoras) per *iugerum* from the Aminean grape. The Varronian citation in the *Geoponica* derives not directly from Varro but from some intermediate source in which the productivity figures were associated specifically with the Aminean grape.

The third citation is in the chapter on making bees from oxen (15.2.21): *Ἰόβας δὲ ὁ βασιλεὺς Λιβύων ἐν λάρνακι ξυλίῃ φησὶ δεῖν ποιεῖσθαι μελίττας· καὶ Δημόκριτος καὶ Βάρων, ἐν Ῥωμαίᾳ γλώσσῃ, ἐν οἴκῳ φασι χρῆ ποιεῖσθαι, ὅπερ ἐστὶ καὶ ἄμεινον*. Varro twice mentions the process of *bougonia* (*Rust.* 2.5.5 and 3.16.4), but never the building. The reference in the *Geoponica* is indirect, purposely vague, and meant to impress: the royal Juba, the great Democritus,<sup>13</sup> the Roman Varro.<sup>14</sup> What is significant is that here, as at 1.1.2, the author cites Varro as a Roman, or Latin, writer.

All three citations are to be found in the Armenian version of Anatolius (corrupted to ‘Pormonios the Roman’, ‘Malvan’, and ‘Fatenonnes’),<sup>15</sup> but we cannot be sure from which of his sources

*Geschichte der Botanik* III [Königsberg 1856] 251; cf. Clément-Mullet, preface, p.74) is only coincidental. On Ibn al-ʿAwwām, see M. Ullmann, *Die Natur- und Geheimwissenschaften im Islam, Handbuch der Orientalistik* I, Ergb. VI.2 (Leiden 1972) 444–48.

<sup>13</sup> Columella (9.14.6) cites Democritus, along with Mago and Virgil. On Mago, see A. S. F. Gow in *CR* 58 (1944) 14–15 (tentatively suggests *Μάγων*).

<sup>14</sup> Oder I, 65 n., mentions three possible explanations: (1) The reference is indirect, but derives ultimately from Varro, *Rust.* 3.16.4. (2) The reference is to a lost work of Varro. (3) Since Virgil (*Georg.* 4.295ff) mentions a building, perhaps we should read *Μάρων*.

<sup>15</sup> Brockelmann, *art.cit.* (*supra* n.6) 393; Arm. ch.11=*Geopon.* 1.1.2, ch.60=5.17.9, ch.290=15.2.21.

Anatolius took Varro's name. He can hardly have used the Latin text directly, and Varro is not included in the list of sources which appears in his prologue.<sup>16</sup>

In addition to the three citations in the text, Varro's name appears among the sources listed in the hypothesis to Book 1 of the *Geoponica* and in the chapter-headings of seventeen chapters scattered throughout the work. While the general reliability of the citations in the text has never been questioned, there has been little agreement on the authority behind the names in the lemmata. The oriental versions have no parallels for the names in the chapter-headings of the Greek text, but it is possible that they could have been added by a later editor to whom Anatolius' and Cassianus' sources were familiar and still readily available.<sup>17</sup> Independent evidence provides striking confirmation of the accuracy of one of the lemmata,<sup>18</sup> so each ascription deserves careful scrutiny.

Here are the chapters ascribed to Varro:

2.2, The proper age and physique for farming tasks. Youths are especially pliable (*ὑπουργοῦντες, ἐπικάμπτεσθαι δυνάμενοι, ἐκμανθάνοντες*); there are special requirements for ploughman, vine-dresser, oxherd and goatherd.—Nothing in Varro's *Rust.* corresponds to these suggestions. Columella's discussion (1.9) is the closest in extant literature, but it differs considerably from the chapter in the *Geoponica*.

2.23, Preparation of soils according to climate and season. One prepares the ground according to the type of soil and its moisture.—Some details are paralleled in Columella (2.4.1–2) and Pliny (18.174–79). There is a striking reference to conditions in Arabia, where some farmers plant barley *ἐν τῷ γορδάτῳ οὕτῳ καλουμένῳ*.<sup>19</sup> The chapter as a whole has no special connection with Varro.

2.49, Craftsmen needed on or near the premises. The need for implements and the inefficiency of going elsewhere are reasons to have metal workers and woodworkers on the premises. Potters, too, are useful, and suitable clay is likely to be at hand.—Varro (*Rust.* 1.16.4) mentions the desirability of having *medici*, *fullones* and *fabri* nearby

<sup>16</sup> Sezgin V, 427, prints the preface to the Arabic Anatolius; cf. Brockelmann, *art.cit.* (*supra* n.6) 389. See also Phot. *Bibl. cod.* 163, studied by Oder I, 66–69.

<sup>17</sup> For a summary of scholarly opinion, see my article, "The Apuleius of the *Geoponica*," *CSCA* 11 (1978).

<sup>18</sup> *Τῶν Κυντιλίων* (*Geopon.* 1.9): see F. Boll, "Griechische Kalender, II: Der Kalender der Quintilier und die Überlieferung der *Geoponica*," *SBHeidelberg* 1911, no.1, pp.11–18.

<sup>19</sup> *Syr.* 2.3 (ed. Lagarde p.2,16) has *gōrdamā*, and Lagarde suggested emending the Greek to *γορδάμῳ*.

(at a neighbor's estate), although he raises the possibility of hiring one's own *fabri* and other artisans to guard against delay and inefficiency. The emphasis in the *Geoponica* is rather different, on the self-sufficiency of the estate.<sup>20</sup>

3.1, Ἐφημερίς, καὶ τί χρὴ καθ' ἕκαστον μῆνα ἐργάζεσθαι (the lemma introducing the book as a whole): "from Varro and the Quintilii." Chapters 1–6 of Book 3 deal with January–June, chapters 10–15 with July–December (7–9 are recipes). Book 3 has no names in the chapter-headings, so the lemma at 3.1 seems to apply to the calendar as a whole.—Varro (*Rust.* 1.28–36) gives general directions for seasonal work (cf. Pliny 18.230–71); he also composed an *Ephemeris rustica*, now lost, but attested by Priscian.<sup>21</sup> The calendar of the Quintilii records astronomical changes; it is not clear that their work contained a schedule of tasks to be done each month.<sup>22</sup> Columella's month-by-month presentation (11.2) combines astronomy with farming chores, and it is appended to instructions for the bailiff.

5.41, To keep grapes from rotting on the vines.—Nothing in Varro.

5.42, For vines injured by tools.<sup>23</sup>—Nothing in Varro.

6.9, On smearing *dolia*. Special recipes for smearing the mouths and lids of *dolia* just prior to filling them with must.—Nothing in Varro.

7.21, To change color of wine from white to black or *vice versa*.—Nothing in Varro.

8.33, To make vinegar. Put ground beet root (κεύτλου ρίζαν) into wine. To restore wine from vinegar, put in cabbage root (κράμβης ρίζαν).—Nothing in Varro.

8.34, To make vinegar without wine. Ferment ripe peaches or figs. Cook gypsum and sea water and dilute with river water.—Nothing in Varro (who never mentions peaches). Both 8.33 and 8.34 seem to have come from a work with agricultural *paradoxa*, such as the *Κεστοί* of Julius Africanus.<sup>24</sup>

9.13, On pruning olive trees. Prune after harvest, but not too severely, for new growth bears fruit.—Nothing in Varro.

10.81, On care of young trees.—Nothing in Varro.

<sup>20</sup> Fehrle, *art.cit.* (*supra* n.7) 12, trusts the authority of the lemma here.

<sup>21</sup> Oder I, 65 n.

<sup>22</sup> Boll, *loc.cit.* (*supra* n.18).

<sup>23</sup> This chapter and 8.34 have τοῦ αὐτοῦ instead of Βάρωνος, the usual method of indicating the same author for successive chapters.

<sup>24</sup> See the masterful edition of the fragments by J.-R. Viellefond, *Les "Cestes" de Julius Africanus*, Publ. de l'Inst. Français de Florence, SER. I no.20 (Florence 1970).

12.16, On various vegetables and their medicinal properties. This chapter serves merely to introduce the chapters on specific vegetables, with the note that these chapters include *remedia* (e.g. 12.17.2ff, 12.19.10ff).—A reference to the author's earlier commentary on the *Ἀλεξίκηπος* of Nestor of Laranda proves that the chapter belongs to Cassianus Bassus.<sup>25</sup> There is no connection whatsoever with Varro.

12.39, On artichokes.—Nothing in Varro.

14.19, On pheasants, guinea-fowl, partridges, francolins. General information, with an indication that their care is the same as that of peacocks (14.18, ascribed to Didymus), and treatment for disease is the same as that for domestic fowl (14.17, ascribed to Paxamus).—Although Varro discusses peacocks (*Rust.* 3.6) and domestic fowl (3.9.1–16), he mentions only briefly guinea-fowl (3.9.18) and partridges (3.11.4).

17.10, Age to breed oxen.—Most of this chapter is very close indeed to Varro (*Rust.* 2.5.13); the final section corresponds to *Rust.* 2.5.17. But there is some overlap with *Geoponica* 17.3 (on bulls, ascribed to Didymus) and 17.5 (on breeding, ascribed to the Quintilii), both of which are also close to Varro's treatment. Similar matter in Columella (6.21–24) and Pliny (8.176–83) suggests that the source for this chapter was a writer later than Varro.

19.1, On dogs.—There are many similarities to Varro (*Rust.* 2.9), but this is true as well as of the following chapter (ascribed to Fronto).

Of these seventeen chapters, at least nine were taken more or less unaltered from Anatolius' *Synagoge*, where there was no ascription to Varro,<sup>26</sup> and one (12.16) is the work of Cassianus Bassus. Of the three chapters which bear some resemblance to Varro's *Res rusticae* (2.49, 17.10, 19.1), one (2.49) derives from Anatolius—who does not mention Varro here—and the other two seem to have been taken from a tradition of veterinary literature later than Varro. The lemmatist may have known of Varro's *Ephemeris rustica*, but he may as easily have gotten Varro's name for the ascription of the calendar (*Geopon.* 3.1

<sup>25</sup> Its place in Book 12 seems surprising (see Oder III, 20–21), but the Arabic version of Cassianus has the same order (see B. Attié, *art.cit.* [*supra* n.4] 169). On Nestor of Laranda see Oder III, 9–12.

<sup>26</sup> *Geopon.* 2.2 (= Arabic Anatolius 1.2 [see Sezgin, *Geschichte* V, 427]=Arm. ch.2), 2.23 (=Syr. 2.3=Arm. ch.18), 2.49 (= Arabic Anat. 1.9=Arm. ch.9), 5.41 (=Syr. 7.9=Arm. ch.99), 5.42 (=Syr. 7.14=Arm. ch.100), 7.21 (=Syr. 8.27–28=Arm. ch.167–68), 8.33 (=Syr. 8.39=Arm. ch.202), 8.34 (=Syr. 8.40=Arm. ch.203), 12.39 (=Syr. 12.20=Arm. ch.270).

“Varro and the Quintilii”) from any source—even, perhaps, from the vague and indirect citation of “Varro the Roman” in *Geopon.* 1.1.2.<sup>27</sup> There is nothing in these seventeen chapters to suggest that the lemmatist knew Varro as more than the *name* of an illustrious (Roman) writer on agriculture, one who had three times been cited by Anatolius. It was no doubt for the same reason that Varro’s name was added to the list of Anatolius’ sources in the hypothesis to Book 1 of the *Geoponica*.

What of Varro’s fame in the oriental texts which borrowed from the Greek agricultural tradition? We have already seen the unrecognizable corruptions which disfigure the name Varro in the Armenian text. But in Ibn al-<sup>c</sup>Awwām we find several references to a certain Bārūn, sometimes with the epithet *ar-Rūmī*, ‘the Roman’. Most have no connection whatsoever with Varro or with the Greek *Geoponica*<sup>28</sup> and are probably to be dismissed as corruptions of an unidentified name or as deliberate inventions in the Arabic tradition.<sup>29</sup> A special interest, however, attaches to one passage (on seasonal preparation of various types of soil) where Ibn al-<sup>c</sup>Awwām refers to Mārūn. The close resemblance of this passage to *Geoponica* 2.23 (where the lemma has *Βάρωνος*) has suggested the emendation Bārūn for Mārūn.<sup>30</sup> Yet this single example can hardly prove that Varro’s name was associated with this chapter at a stage prior to the lemmata in the Greek tradition. In fact, Ibn al-<sup>c</sup>Awwām concludes this section with the notation that the preceding material has been taken from Yūniyūs (that is, from the Arabic version of Anatolius<sup>31</sup>), and we have already seen that *Geopon.* 2.23 came originally from Anatolius. There is no reason to trust the uncertain ascriptions in Ibn al-<sup>c</sup>Awwām as evidence for Varro’s authority in the later Greek tradition; even less should we

<sup>27</sup> It is possible that the Quintilii prefaced their calendar (part of a larger agricultural treatise) with remarks in which Varro’s name occurred. Their calendar at least was still accessible in the Middle Ages.

<sup>28</sup> E.g. Ibn al-<sup>c</sup>Awwām 7.29 (Clément-Mullet, *op.cit.* [*supra* n.12] I.294 with note) on culture of the *citrus*, 10 prol. (I, 484) on cultivation in orchards, 14 prol. (I, 546) on defoliation.

<sup>29</sup> On the notoriously fictitious names in the “Nabataean” *Agriculture*, see T. Fahd in *Handbuch der Orientalistik* I, VI.6.1 (Leiden 1977) 279, 369, etc. On the “intruder” Qustūs, see Attié, *art.cit.* (*supra* n.4) *passim*; cf. Ullman, *op.cit.* (*supra* n.12) 444.

<sup>30</sup> Clément-Mullet, *op.cit.* (*supra* n.12) *pref.*, p.70. The error is extremely simple in the Arabic script of Andalusia.

<sup>31</sup> V. Rose, *Aristoteles pseudepigraphus* (Leipzig 1863) 269, now splendidly confirmed by the opening lines of the Syriac and the Arabic versions (Sezgin V, 427).



believe that Moslem writers in Spain had access to Varro's text in Latin.<sup>32</sup>

A brief conclusion. Greek agricultural writers were familiar with Varro and Virgil only as authoritative names in the literary tradition. Varro's name in the lemmata to the Greek *Geoponica* is the invention of a mediaeval editor. Doubtful references to B(i)rī'āyūs and Bārūn ar-Rūmī in Hispano-Arabic agricultural texts are not enough to argue for the preservation of a Latin tradition of agricultural literature in Moslem Spain.

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<sup>32</sup> As argued by, e.g., J. M. Millás-Vallicrosa, "La Tradición de la Ciencia geopónica hispanoárabe," *Archives internationales d'histoire des sciences* 31 (1955) 115.