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Κηποποιΐα: *Garden Making and Garden Culture in the Geoponika*

Robert Rodgers

I have two main objectives in what follows. First, “the *Geoponika*” (as we call it) is a text that has been relatively ill served by editors, translators, and commentators, and thus its nature and purposes are rather too widely misunderstood. A brief introduction is in order.¹ Second, I should like to look more closely at the content of those books that deal with gardens, orchards, and flowers. What variety and kinds of information are presented? Can one discern contemporary practice from literary lore? How does one fairly and appreciatively use this text as a document illustrative of its era?²

The *Geoponika* is an agricultural and horticultural encyclopedia aiming to present in digest an accumulated practical lore of the ancients: those things that were collected for their usefulness.³ It is the sole survivor—in Greek—of a long and rich tradition of such agricultural literature (stretching back at least to Hesiod, flourishing in the Hellenistic era,

¹ A convenient summary is that of H. Köpstein, “*Geoponika*,” in *Quellen zur Geschichte des frühen Byzanz (4.–9. Jahrhundert): Bestand und Problem*, ed. F. Winkelmann and W. Brandes (Amsterdam, 1990), 323–26. The most recent edition is H. Beckh, *Geoponica sive Cassiani Bassi scholastici De re rustica ecologiae*, B. G. Teubner (Leipzig, 1895), fundamentally criticized by E. Fehrle, “Richtlinien zur Textgestaltung der griechischen *Geoponika*,” *Sitzungsberichte Heidelberg, Philosophisch-historische Klasse* (1920): Abh. 11. The most recent commentary is that of J. N. Niclas, *Geoponicorum siue de re rustica libri XX*, 4 vols. (Leipzig, 1781), which needs to be used closely in conjunction with J. G. Schneider’s edition and commentary of Latin agricultural writers, *Scriptorum rei rusticae veterum latinorum . . .* (Leipzig, 1794–97). A translation into Russian was published by E. Lipshits (Moscow, 1960). Translation and commentary of two books is provided by S. Georgoudi, *Des chevaux et des boeufs dans le monde grec: Réalités et représentations animales à partir des livres XVI et XVII des Géoponiques* (Paris–Athens, 1990). Individual books or pairs of books were subjects of University of Munich veterinary dissertations: bks. 13 and 15 by C. Krauss (1986), 14 and 20 by J. Sommer (1985), 16 and 17 by U. Wappmann (1985), 18 and 19 by H. Jung (1986). The present author has for some years been making haste slowly at a new critical edition, translation, and commentary.

² Cf. J. Wolschke-Bulmahn, “Zwischen Kepos und Paradesios: Fragen zur byzantinischen Gartenkultur,” *Das Gartenamt* 41 (1992): 221–28. I am only too well aware of how carefully L. Brubaker and A. R. Littlewood have performed a first harvest: “Byzantinische Gärten,” in *Der Garten von der Antike bis zum Mittelalter*, ed. M. Carroll-Spillecke (Mainz am Rhein, 1992), 213–48; see also Littlewood’s separate and complementary piece, “Gardens of Byzantium,” *Journal of Garden History* 12 (1992): 126–53.

³ Prologue to book 1: Τὰ διαφοροῖς τῶν παλαιῶν περὶ τε γεωργίας καὶ ἐπιμελείας φυτῶν καὶ σπορίμων καὶ ἐτέρων πολλῶν χρήσιμων εἰρημένα συλλέξας εἰς ἓν, τοῦτ’ ὁ βιβλίον συντέθεικα.

codified and “homogenized” by Roman writers in the first century of the common era).⁴ The text in its present form dates from the mid-tenth century. This we know because it opens with an elaborate prologue addressed to Emperor Constantine VII (913–959), “sweet scion of the purple.” The encomiast continues with reference to military victories; and he praises his monarch for the restoration (or renaissance: *καινισμός*) of philosophy, rhetoric, and the entire range of science and art. The state consists of three parts: army, clergy, and agriculture—a collocation, incidentally, that gives a characteristically Byzantine twist to a literary convention of the king as warrior-farmer in his own right.⁵ Xenophon’s *Oeconomicus* (4.20–25) reports how Cyrus delighted to tell the visiting Lysander that his remarkable *παράδεισος*⁶ at Sardis was a personal labor: “I measured and arranged the whole, and some of the plantings I did myself” (*ἐγὼ πάντα καὶ διεμέτρησα καὶ διέταξα, ἔστι δ’ αὐτῶν, φάναι, ἃ καὶ ἐφύτευσα αὐτός*), to which Lysander, astonished, asked, “Did you really plant part of these with your very own hands?” (*ἦ γὰρ σὺ ταῖς σαῖς χερσὶ τούτων τι ἐφύτευσας*). Nor was the convention by any means in desuetude on the eve of Constantinople’s founding. The anonymous *Épitome de Caesaribus* (39.6) tells how Diocletian cheerfully refused a suggestion to resume the imperial role: “If you only could view the vegetables at Salona planted by our hands, surely you would never urge even the contemplation of such a thing” (“utinam Salonae possetis visere olera nostris manibus instituta, profecto numquam istud temptandum iudicaretis”).

Agriculture was not alone in receiving special attention at the imperial court in the Macedonian renaissance. The *Geoponika* was one of a series of similar compendia, excerpted or compiled from ancient writings, that were put together under the auspices of Constantine VII. The intellectual atmosphere and its literary production were lucidly delineated by Paul Lemerle, and we honor him rightly by using his term—*encyclopédisme*—for this stage of Byzantine humanism.⁷ In many ways the closest parallel we have to the *Geoponika* is to be found in the collection known as the *Hippiatrika*, excerpts from late antique writers on veterinary medicine.⁸ Leaves of a sumptuous tenth-century manuscript (now Berlin, Staatsbibl.

⁴ An excellent introduction is that of J. L. Teall, “The Byzantine Agricultural Tradition,” *DOP* 25 (1971): 35–59.

⁵ Parts of the convention go back as far as Homer’s *Odyssey*: e.g., in *Odyssey*, book 24, Laertes is retired to his orchard.

⁶ According to the *Oxford English Dictionary*, the word derives from Old Persian *pairidaeza*, “enclosure, park,” from *pairi*, “around” [cf. Grk. *παρά*] + *diz* “form, mould.” Its first use in Greek was by Xenophon in reference to enclosed parks of Persian kings (see H. G. Liddell and R. Scott, *Greek-English Lexicon, With a Supplement* [Oxford, 1968]). More could be said on the “enclosure” in anthropological context, with the implication that crop growing superseded a hunter-gatherer society. Yet more could be said on the etymology of Latin *hortus*, leading to co-hort > court (both royal and architectural).

⁷ P. Lemerle, “L’encyclopédisme de Constantin Porphyrogénète,” *Bulletin de l’Association Guillaume Budé*, suppl. Lettres d’humanité, 3d ser., 4 (1953): 64–72. In wider context, see also Lemerle’s *Le premier humanisme byzantin: Notes et remarques sur enseignement et culture à Byzance des origines au Xe siècle* (Paris, 1971), esp. 288–92, 332–36. This work is now available in English: *Byzantine Humanism, The First Phase*, trans. H. Lindsay and A. Moffatt (Canberra, 1986).

⁸ For the *Hippiatrika*, see A.-M. Doyen-Higuet, “The *Hippiatrika* and Byzantine Veterinary Medicine,” *DOP* 38 (1984): 111–20.

Phill. 1538) illustrate the elegance of format lavished upon imperial productions of what strike us as highly technical writings. No such luxurious codex survives of the *Geoponika*, although by the “jigsaw” decoration on its title page Kurt Weitzmann has dated to the period of Emperor Constantine a relatively ornate copy of this text and the oldest that survives, now in Florence (Laur. Plut. LXXIV, 7).⁹

Where the *Geoponika* has, for its part, outshone the other products of imperially sponsored *encyclopédisme* is in the number of its surviving manuscripts (some fifty, dating from the 10th to the 16th century). Scholars have noted an enthusiastic sequel to its *editio princeps* (Basel, 1539) and a practical value attached to its contents well into the nineteenth century.¹⁰ Less carefully studied is the intimate relationship between this Byzantine compendium (which came to scholarly notice in the Renaissance) and the parallel literary traditions that perpetuated Greco-Roman agricultural knowledge in the Latin West and in the world of Islam. The simplified stemma sketched in Table 1 shows some main lines of a complex tradition. The *Geoponika* (in its Constantinian form) appears in the lower right portion of the diagram.

How was the work compiled? The ancestry depicted on the chart is essentially the work of Eugen Oder and Eugen Fehrle at the end of the nineteenth century and the beginning of the twentieth.¹¹ Unequivocally central to the legacy of content and form in the *Geoponika* is the work of a fourth-century writer, Vindonius Anatolius of Beirut. Very probably, although not certainly, Anatolius can be identified with the prefect of Illyricum of that name mentioned by Ammianus Marcellinus; he was a distinguished jurist at Beirut and a friend of the orator Libanios.¹² Why exactly Anatolius chose to compile a *Collection (Synagoge) of Agricultural Practices (Συναγωγή γεωργικῶν ἐπιτηδευμάτων)* we do not know, although he fits the pattern of literary flurry at the end of antiquity and his work parallels or complements contemporary collections on other technical subjects: for example, medicine, both human and veterinary.¹³ We do know that Anatolius’ work was enormously successful. Despite the survival of a mere half page of his original Greek text, from those who followed and built upon Anatolius’ *Synagoge* (close to “plagiarized” in our use of that word) we can

⁹ K. Weitzmann, *Studies in Classical and Byzantine Manuscript Illumination* (Chicago-London, 1971), 192–95 (with fig. 175): “It is only the fact that the Florentine *Geoponica* manuscript lacks the elegant script and the refined ornament which one would expect to find in the exemplar dedicated to the emperor that speaks against its being such a copy.” To this judgment I should also add that the *text* of the codex Florentinus is not of “imperial quality.”

¹⁰ Teall, “Byzantine Agricultural Tradition”; N. G. Wilson, *Scholars of Byzantium* (Baltimore, Md., 1983), 143. To Teall’s copious bibliography, add J.-M. Olivier, “Le ‘codex Aurogalli’ des *Geoponica*,” *Revue d’histoire des textes* 10 (1980): 249–56.

¹¹ E. Oder, “Beiträge zur Geschichte der Landwirtschaft bei den Griechen,” *RhM* 45 (1890): 58–99, 212–22, and 48 (1893): 1–40; E. Fehrle, *Studien zu den griechischen Geoponikern*, ΣΤΟΙΧΕΙΑ 3 (Leipzig-Berlin, 1920). Some modifications have become necessary because of more recent discoveries and additional research in oriental traditions; see note 16 below.

¹² A. H. M. Jones, J. R. Martindale, and J. Morris, *The Prosopography of the Later Roman Empire*, vol. 1, A.D. 260–395 (Cambridge, 1971), s.v. Anatolius 3.

¹³ By way of introduction, V. Nutton, “From Galen to Alexander: Aspects of Medicine and Medical Practice in Late Antiquity,” *DOP* 38 (1984): 1–19.

largely reconstruct both the form and content of his work. Not only did Palladius use it in the West (and Palladius was *the* agricultural handbook for the western Middle Ages, thanks perhaps to the endorsement of Cassiodorus, *Institutes*, 1.28.6),¹⁴ but it was also translated into Syriac and thence to Arabic (eventually to Armenian). We are fortunate, too, that Patriarch Photios, writing in the ninth century, included a brief notice of Anatolius' work. He called it "a useful book, as we have often found by direct experience, for agricultural activities and the tasks of the farmer, perhaps more useful than any of the others that treat of the same subjects. However, it too contains some irrational and incredible elements, reeking of pagan folly, which the pious farmer needs to avoid while he gathers good advice from the remainder."¹⁵

More important for our purposes, Anatolius' *Synagoge* was incorporated as the primary source of *Selections on Agriculture* (Περὶ γεωργίας ἐκλογαί) compiled by one Cassianus Bassus "Scholasticus," a very shadowy figure whose title probably fixes him in the sixth century, although we have no good clues as to the location of an area called "Maroton" to which his is apparently the personal reference (ἐν τῷ Μαροτωνύμῳ χωρίῳ, *Geoponika*, 5.6.6). Like the work of Anatolius, Cassianus' *Selections* circulated widely and early on. Besides the oriental versions, successive reworkings of his compilation took place in the Byzantine tradition, the most important of which was the wholesale incorporation of his work into the Constantinian corpus we call the *Geoponika*. (We can make this assertion because some 80 to 85 percent of the whole *Geoponika* is so close to the surviving Arabic works in both arrangement and content—and this despite the phenomena of "translations" and the "fluidity" of the Arabic tradition in its own right.)¹⁶

Evidence so far available does not allow us to do much by way of illuminating the intervening stages between sixth-century Cassianus and the tenth-century encyclopedist(s). An early thirteenth-century manuscript in Venice (Marcianus gr. 524) differs in some interesting ways from the remaining witnesses to the text of the *Geoponika*. The incipit of the Marcianus reads (fol. 190r) Ἀρχὴ σὺν θ[ε]ῷ τῶν περὶ γεωργίας ἐκλογῶν: Κασσιανοῦ Βάσσου σχολαστικοῦ. There is no prologue addressed to Constantine VII, and in the formulaic sentences at the beginning of books 7, 8, and 9 we can still read a parenthetical vocative, "my dear son Bassus."¹⁷ Yet the suggestion that the Marcianus represents the text of Cassianus Bassus is too facile a conclusion, despite the evident vestiges of that work

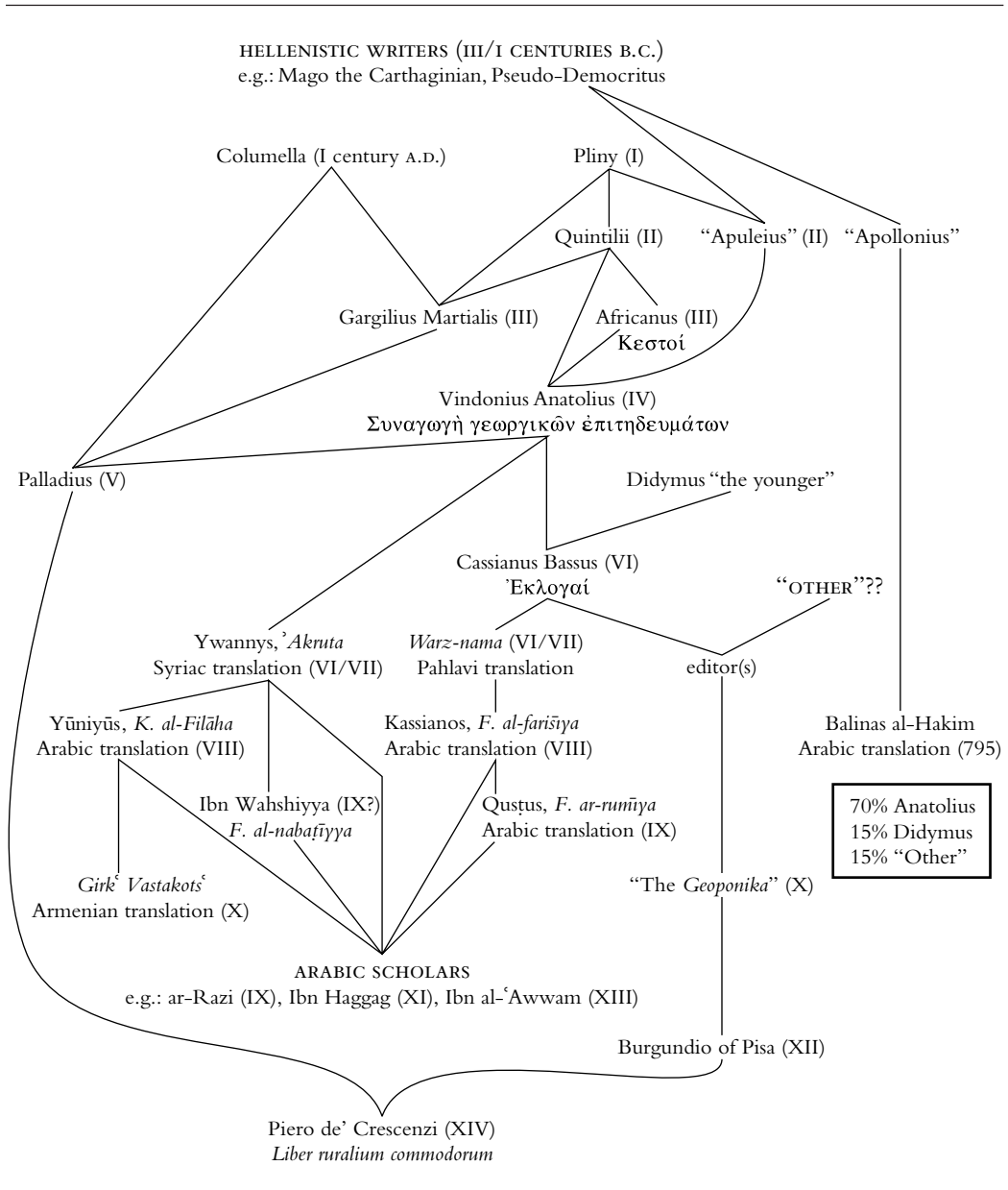
¹⁴ J. Svennung, "De auctoribus Palladii," *Eranos* 25 (1927): 123–78, 230–48; R. H. Rodgers, *An Introduction to Palladius*, Bulletin of the Institute of Classical Studies, suppl. 35 (London, 1975); "Palladius," in *Catalogus Translationum et Commentariorum*, ed. F. E. Cranz, vol. 3 (Washington, D.C., 1976), 195–99.

¹⁵ *Bibliotheca*, cod. 163: *The Bibliotheca: A Selection*, trans. N. G. Wilson (London, 1994), 147–48. Photios lists also the sources upon which Anatolius drew, and his report is of special value for comparison with the authorities named in the preface to the *Geoponika* and in certain of the oriental versions.

¹⁶ For the Arabic tradition, in addition to the bibliography cited by Teall, "Byzantine Agricultural Tradition," see F. Sezgin, *Geschichte des arabischen Schrifttums*, vol. 4 (Leiden, 1971), 310–18, and vol. 5 (1974), 427; M. Ullmann, *Die Natur- und Geheimwissenschaften im Islam* (Leiden, 1972), 433–36; B. Attié-Attié, "L'origine d'al-falāḥa ar-rūm īya et du pseudo-Qusṭus," *Hesperis Tamuda* 13 (1972): 139–81.

¹⁷ E. Mioni, *Bibliothecae Divi Marci Venetiarum Codices Graeci Manuscripti*, vol. 2 (Rome, 1985), 399. A second Marcianus (gr. 294, dated late 13th century) belonged to Bessarion: *ibid.*, vol. 1 (Rome, 1981), 420.

Table 1
Literary Traditions of Agricultural Writers



which this manuscript does preserve. Aside from the absence of the prologue, the overall text of the Marcianus, give or take trifles here and there, is the same as other *Geoponika* manuscripts: significantly it includes what are apparently “Constantinian” features, such as the chapter on the growing season for vegetables in the area of Constantinople (*Geopon.*, 12.1), and mythologies associated with certain plants in chapters of book 11. Second, the Arabic versions derived from Cassianus (both “Kassianos” and “Qusṭus” in Table 1) reveal an

organization and book division agreeing far more closely with the Arabic “Yūniyūs” (i.e., Anatolius) than with that in the Constantinian *Geoponika*. Hence one can discern that the twenty-book collection as we have it in Greek is post-Cassianus: it is likely, but perhaps not subject to proof, that many of the repetitive elements in the *Geoponika* are introductions made as part of the tenth-century redaction.

Both tedious and inappropriate for extensive discussion here, but yet essential of note is that there remains much work to be done in determining the stage(s) at which names (in the genitive case) were attached to chapter headings in the *Geoponika*. That these names are not part of the transmitted literary tradition as such is generally accepted (in contrast to the situation with the *Hippiatrika*). To suggest that they were wholesale fabrication on the part of the Byzantine encyclopedists is neither charitable nor tenable (given the demonstrable validity of some of the ascriptions as confirmed by independent and pre-Constantinian evidence). And the manuscripts themselves behave in both inconsistent and idiosyncratic ways. As a preliminary conclusion I submit that the Constantinian editorial endeavor was no more than the starting point—if even that—for attempting a systematic pattern of chapter title + “name of authority.” Subsequent readers and copyists continued the process with widely differing standards and purposes. One point needs to be made emphatic: until each and every one of the authorities named in the chapter headings has been examined in light of the manuscript tradition of the *Geoponika* itself and in comparison to the more complicated tradition that underlies this compendium, these names ought not to be cited as if they were a reliable index of transmitted truth.¹⁸ To give but one example, the chapter heading for *Geoponika*, 10.1, to be discussed below, reads as follows: Περὶ παραδείσου. Φλωρεντίνου. A certain Florentinus is prominently named as *one* of Anatolius’ sources, but only in the *Geoponika* chapter heading is he credited as an authority for *this* chapter.¹⁹ As we shall see, the chapter that now stands as *Geoponika*, 10.1, has apparently undergone little change from the version compiled by Anatolius six centuries earlier. Nowhere do we have good evidence that this *Geoponika* chapter derives in any way from a work by Florentinus.

Let us turn to the larger questions of the overall contents of the *Geoponika* and the extent to which any of this material may be used to illustrate the actual culture of fields or gardens, either in theory or practice, in the tenth century or at any other point along its literary lineage. Views on this issue have been diametrically opposite. E. E. Lipshitz, who studied this work and translated it into Russian in 1960, focused on a few clearly Byzantine references and felt that it could be useful as a rich source for documenting contemporary tenth-century agricultural practice. But she overlooked the fact that the overwhelming mass of

¹⁸ For bibliography on this problem, see my “The Apuleius of the *Geoponika*,” *California Studies in Classical Antiquity* 11 (1978): 197–207; “Varro and Virgil in the *Geoponica*,” *GRBS* 19 (1978): 277–85; “Yūniyūs o Columela en la España medieval?” *al-Andalus* 43 (1978): 163–72.

¹⁹ Photios, *Bibliotheca*, cod. 163 (Florentios); *Geopon.* 1 prol. (Florentinos); Teheran ms. of Yūniyūs (Filurintinus), etc. Florentinos is cited several times within the text of the *Geoponika* chapters (for these there is no reason to question the reliability of ascription). For discussion of the man’s identity and his agricultural writings, see Oder, “Beiträge,” 83–87.

the content was part and parcel of a long literary tradition that had homogenized agricultural theory and practice from the entire Mediterranean region and had been circulating with only minor and mostly superficial changes from the first century of our era. Lemerle, whose judgment rested in part on comparison of the *Geoponika* with its sibling encyclopedias produced in the tenth century, went to the other extreme, suggesting that the only originality to be discerned was the purple prologue addressed to Emperor Constantine.²⁰ The truth no doubt lies somewhere in the middle, but nearer (as I see it) to Lemerle's end of the scale than to that of Lipshitz. The only way to come closer to understanding is by patient analysis of the text—the actual substance, not just the chapter titles—and careful study of the problems surrounding the literary sources on which it is almost entirely based.

Table 2 provides a general “table of contents” to the *Geoponika* as a whole (books 1–20), and Table 3 provides translations of the individual chapter headings for three of the books (10–12) that deal to some degree with orchards and gardening. From the two tables one gains not only a sense of the range of material covered, but, because the chapters are so specific, one has practically a comprehensive index of plants for which the *Geoponika* gives instructions on culture and usefulness.²¹

There is much repetition from chapter to chapter, for each of the disjunctive units focuses upon an individual plant (many of which have a very similar or virtually identical culture). The discussion ranges widely: appropriate soil type, planting season, grafting techniques, methods of preservation, therapeutic applications, medicinal recipes. Further overlap occurs with other portions of the *Geoponika*. There are numerous references to sympathetic plantings and plant combinations to be avoided: in more than one place in other books we have specific chapters outlining the “Democritean” doctrine of sympathy and antipathy.²²

Another example of overlap is with the more extensive treatment set forth in book 1, concerning weather damage and pests. Book 1, chapter 14, “On hail,” provides a particularly interesting and instructive example. Chance has preserved for us this chapter alone of Anatolius' Greek text (in Paris, B.N. gr. 2313, fol. 49v), and it can be compared sentence by sentence to each of the parallel versions deriving from Anatolius: Palladius, Syriac, Arabic, *Geoponika*.²³ This single passage thus serves as a useful control to monitor how little free

²⁰ Succinctly stated by A. Kazhdan in *ODB*, 2:834, s.v. “Geoponika.” For a similar assessment in the Latin West, see P. Meyvaert, “The Medieval Monastic Garden,” in *Medieval Gardens*, ed. E. B. MacDougall (Washington, D.C., 1986), 31: “but in all probability they were very seldom consulted by the monastic gardener. What these books contained was a literary tradition having little or nothing to do with the practical side of horticulture.”

²¹ I confess to some slight awkwardness in excluding entirely vineyards and olive groves (books 4–9). Almost certainly an owner or overseer of a small and self-sufficient estate would have thought of both as part of the “garden.”

²² Both the repetitive nature of literary treatments and the “Democritean” attitude toward plants and planting could copiously be illustrated in Columella and Pliny the Elder, the two most important synthetic works that survive from the 1st century of our era. As for the latter author, too often dismissed as tedious and contemptible, I cannot let pass the opportunity to mention the recent work by M. Beagon, *Roman Nature: The Thought of Pliny the Elder* (Oxford, 1992), esp. 79–91 on gardens.

²³ Identified and published by H. Beckh, “De Geoponicorum codicibus manuscriptis,” *Acta seminarii philologici*

Table 2
The *Geoponika*: A Table of Contents

Book Number	Contents in General	No. Chapters	No. Pages
1	Astrological Weather Lore	16	27
2	Siting, Soil, Water Management, Cereals and Legumes	48	53
3	Farmer's Calendar by Months [3 intrusive chapters]	15	16
4	Vines, Viticulture, Wine	15	18
5	Vines, Viticulture, Wine (includes Pests in Vineyard)	53	45
6	Vines, Viticulture, Wine	19	16
7	Vines, Viticulture, Wine	37	27
8	Vines, Viticulture, Wine [recipes]	42	14
9	Olive Trees, Olives, Oil	33	28
10	Garden, Fruit Trees	90	62
11	Ornamental/Medicinal Plants (includes Mythological Snippets)	29	38
12	Vegetables	41	38
13	Pests and Vermin	18	18
14	Poultry	26	26
15	Bees	10	19
16	Horses	22	17
17	Cattle	29	14
18	Sheep, Goats	21	16
19	Dogs, Swine, Game	9	11
20	Fish (mainly recipes for bait)	46	17

adaptation and extensive rearrangement actually occurs compared to what one might have expected.

Surely Patriarch Photios would have had his readers forego many of the procedures outlined in the chapter on hail, and vestiges of editorial excision are apparent at this very point in the manuscript tradition of the *Geoponika*. On the other hand, the danger of hail to growing crops was familiar and omnipresent (a hail-filled sky is depicted above Gregory of Nazianzos preaching on hail in Paris, B.N. gr. 510, fol. 78r, a 9th-century manuscript of his homilies).²⁴ Accretions to the list of possible remedies for hail are also to be found. To Cassianus' version, apparently, we owe the suggestion of averting hail by stringing keys and

Erlangensis 4 (1886): 268–70; studied in detail by Fehrle, *Griechischen Geoponikern*, 7–14. Compare now the similar study setting Anatolius alongside the derivative material in the so-called *Nabataean Agriculture*: R. H. Rodgers, "Hail, Frost, and Pests in the Vineyard: Anatolius of Berytus as a Source for the *Nabataean Agriculture*," *JAOS* 100 (1980): 1–11.

²⁴ Brubaker and Littlewood, "Byzantinische Gärten," pl. 30.

Table 3
The *Geoponika*: Books 10–12

Geoponika, book 10—embracing the subject of garden making and the advantage and pleasure from them and when it is necessary for each of the trees to be planted, and what graftings are most useful.

1 Garden (παράδεισος)	45 Figs (σύκα)
2 Planting trees	46 Keep figs wormless
3 Trees from seed, buds, cuttings, and slips (ἀπὸ σπέρματος, παρασπάδος, πασσάλου)	47 “Inscribed” figs
4 Date palms (φοῖνιξ)	48 Keep figs from dropping
5 Date palm fruits	49 Tame wild fig
6 Palm leaves for weaving	50 Scab-infested fig
7 Citron trees (κίτριον), red fruit	51 Figs as purgative, early ripening (Democritean)
8 Good crop of citron	52 Grafting figs
9 Shaped citron (bird, human face, etc.)	53 Multicolored figs
10 Preserving citrons	54 Preserving dried figs
11 Pistachio (ψιττάκια)	55 Winter figs, unripe figs
12 Pistachio	56 Preserving green figs
13 Peach (δωρακινά, περσικά)	57 Almonds (ἀμυγδαλαί)
14 “Written” peaches	58 Harvest almonds
15 Red peaches	59 Sweeten bitter almonds
16 “Pitless” peaches	60 “Written” almonds
17 Grafting peaches	61 Cure sterile almond tree
18 Apples (μήλα)	62 Grafting almond
19 Red apples	63 Chestnuts (κάστανον)
20 Grafting apples	64 Nut tree (κάρυα)
21 Preserving apples	65 Grafting nut tree
22 Pears (ἀπίδιον), not “stony”	66 “Naked” nuts
23 Pears	67 “To dry up” nuts and other trees
24 Grafting pears	68 Hazel nuts (ποντικόν)
25 Preserving pears	69 Mulberries (συκάμινα) and making them white
26 Quinces (κυδώνια)	70 Preserving mulberries
27 Shaped quinces	71 Medlar (μέσπιλον)
28 Preserving quinces	72 Carob tree (κεράτια)
29 Pomegranates (ρόιά)	73 Interpreting types of fruits
30 “Unburst” pomegranates	74 Difference between soft (ὀπώρα) and hard (ἀκρόδρυα) fruits
31 “Seedless” pomegranates	75 Season for grafting trees
32 Pomegranate branch for insectifuge	76 Twig grafts (ἐμπηλλισμός) and boring grafts (ἐγκεντρισιμός)
33 Redder pomegranate	77 Ocular or bud grafts (ἐνοφθαλμισμός)
34 Sweeter pomegranate	78 Pruning
35 Good crop of pomegranates	79 For weather-damaged trees
36 Reckoning number of seeds in a pomegranate fruit	
37 Grafting pomegranate	80 Warding off birds
38 Preserving pomegranates	81 Plantings
39 Plum (δαμασκηνή)	82 Recipes for fruitfulness
40 Preserving plums	83 Production from sterile tree
41 Cherries (κεράσια)	84 Treatment for damaged trees
42 Preserving cherries	85 Transplanting grown trees even in fruit
43 Jujube (ζίζυφον)	
44 Preserving jujube	

- | | | | |
|----|-------------------------------------|----|---------------------------------------------|
| 86 | Trees from seeds | 89 | Avoiding harm by livestock
(Democritean) |
| 87 | To avoid dropping fruit | 90 | Avoiding damage from worms and the like |
| 88 | Treating drop of blossoms or leaves | | |

Geoponika, book 11—embracing the “wreath” trees (στεφανοματικά) and the ever-leaved trees, also planting of roses, lilies, violets, and other aromatic plants.

- | | | | |
|----|---------------------------------------------------|----|-----------------------------------------------------------------|
| 1 | Trees that are ever-growing or
nondeciduous | 16 | Frankincense tree |
| - | Olives (ἐλαία) [= <i>Geopon.</i> , 9.1, repeated] | 17 | Rose (ρόδος) myth |
| 2 | Laurel (δάφνη) myth | 18 | Roses, aromatic, everblooming |
| 3 | Grafting laurel, from seed, suckers | 19 | Lily (κρίνα) myth |
| 4 | Cypress (κυπάρισσοι) myth | 20 | Lily |
| 5 | Cypress | 21 | Iris (ἴρις) |
| 6 | Myrtle (μυρσίνη) myth | 22 | Violet (ἴον) myth |
| 7 | Myrtle | 23 | Violet |
| 8 | Preserving myrtle berries | 24 | Narcissus (νάρκισσος) myth |
| 9 | Boxwood (πύξος) | 25 | Narcissus |
| 10 | Pine (πίτυς) myth | 26 | Crocus (κρόκος) |
| 11 | Pine | 27 | Marjoram (σάμψυχον), saussurea
(κόστος), costmary (βάλσαμος) |
| 12 | Mastich tree (σχίνος) | 28 | Basil (μισόδουλον, ὄκιμον) |
| 13 | Willow (ἰτέα) | 29 | Ivy (κιττός) myth |
| 14 | Holm oak (πρῖνος) | 30 | Ivy |
| 15 | Frankincense tree (δενδρολίβανον) myth | | |

Geoponika, book 12—embracing the planting and culture of different vegetables, which one should plant in each month, and remarkable garden-construction, and useful properties of vegetables.

- | | | | |
|----|------------------------------------------------------------------------------------|----|-----------------------------------|
| 1 | Calendar by month of sowing and planting in
region of Constantinople | 20 | Melons (μηλοπέπωνες) |
| 2 | Garden making | 21 | Cress (γογγύλη) |
| 3 | Soil for vegetables | 22 | Radishes (ράφανιδες) |
| 4 | Fertilizer | 23 | Parsley (σέλινα) |
| 5 | Vegetables in arid region | 24 | Mint (ήδύσμον) |
| 6 | For productive growth | 25 | Rue (πήγανον) cultivated and wild |
| 7 | To avoid insects and birds | 26 | Rocket (εὔζωμον) |
| 8 | To avoid worms | 27 | Pepperwort (κάρδαμον) |
| 9 | Get rid of leek-bugs (πρασσοκουρίδες) | 28 | Endive (σέρις) |
| 10 | Companion plantings | 29 | Leeks (πράσα) |
| 11 | Harm to the garden | 30 | Garlic (σκόρδα) |
| 12 | Mallow (μαλάχη) and its uses | 31 | Onion (κρόμυα) |
| 13 | Lettuce (θρίδαξ) | 32 | Hartwort (καυκαλίδες) |
| 14 | Lettuce with parsley (σέλινον), rocket
(εὔζωμον), basil (ὄκιμον) from same root | 33 | Pennyroyal (γλίχων) |
| 15 | Root vegetables (σεῦτλα) | 34 | Dill (ἄνηθον) |
| 16 | Remedies from miscellaneous vegetables | 35 | Peppergrass (σκίμβρον) |
| 17 | Cabbage (κράμβη) | 36 | Bulbs (βολβοί) |
| 18 | Asparagus (ἀσπάραγος) | 37 | Squill (σκίλλη) |
| 19 | Pumpkins (κολοκύντη) and cucumbers
(σίκυος), with early and seedless varieties | 38 | Sorrel (λάπαθον) |
| | | 39 | Artichokes (κινάρες) |
| | | 40 | Purslane (ἀνδράχνη) |
| | | 41 | Mushrooms (μύκητες) |

hanging them about the property (*Geopon.*, 1.14.6). Nowhere but in the Constantinian *Geoponika*, however, do we read the curious prescription that then follows (1.14.7), to set up “wooden bulls” (ταύρους ξυλίνους), and more than slightly attractive is P. Hamblenne’s emendation to *σταυρούς*.²⁵ *Geoponika*, 1.14, then, with its evidence of addenda and editorial changes, illustrates an important point: Byzantine readers did take some note of what ancient texts had to say.

I mentioned earlier two instances of what are evidently tenth-century contributions to the *Geoponika*. The first of these is the series of ten mythological “nuggets” inserted at appropriate points prefatory to the discussion of individual plants in book 11 (chap. 2, laurel; chap. 4, cypress; chap. 6, myrtle; chap. 10, pine; chap. 15, frankincense tree; chap. 17, rose; chap. 19, lily; chap. 22, violet; chap. 24, narcissus; chap. 29, ivy). By way of illustration, Table 4 gives the text and translation of *Geoponika*, 11.29 (Περὶ κίττου. Ἱστορία). Nothing parallels these short chapters in the oriental versions of agricultural literature. Both the language and the decorative pedantry betray the encyclopedist’s touch. While the source or sources of these brief mythologies is not specifically known, it may be supposed that they come from school-books or rhetorical models. That they are incorporated into a compendium that preserves “the advice of the ancients” is not without interest to show at least a mild tolerance of paganism that could be intellectually consistent with Byzantine classicism.

The other tenth-century addition is the longish opening chapter of book 12 (“By month what is sown and planted in the region of Constantinople”). Again, there is no evidence that such a listing of vegetables and greens was included in earlier versions, and details of its vocabulary studied recently support the view that this chapter is a properly Byzantine product, perhaps in origin a specialized calendar drawn up in a context of market supply for the capital.²⁶

Ancient and perennial was the intellectual fascination that attached to the possibilities of improving upon nature. With their enclosed and irrigated orchard, vineyard, and orderly rows of greens, the storied gardens of Alkinoos (*Odyssey*, 7.112–32) outshone the flourishing grove, vine, and soft flowery meadows of Kalypso’s island (*Odyssey*, 5.63–74). The *Geoponika* gives full attention to marvels of τέχνη. Results (real or theoretical) ran the gamut from what moderns would call experimental improvement all the way to impractical—even impossible—exotic features. Grafting, for instance, is extensively treated,²⁷ and procedures are repeated from long centuries of literature even though some combinations were quite impossible. Recipes for altering the quality and appearance of fruit had sometimes a straightforward cosmetic appeal (better coloring), but could aim more ambitiously at producing

²⁵ Fehrle, *Griechischen Geoponikern*, 10–11, 20–21; P. Hamblenne, “Un rite chrétien dans les ‘Géoponiques?’” *AntCl* 47 (1978): 184–86; see further D. R. Jordan, “On an Emendation of the Text of the *Geoponica*,” *AntCl* 52 (1983): 277–78.

²⁶ J. Koder, *Gemüse in Byzanz: Die Versorgung Konstantinopels mit Frischgemüse im Lichte der Geoponika* (Vienna, 1993).

²⁷ The phenomenon of grafting was one important innovation at the end of the Dark Ages: see V. D. Hanson, *The Other Greeks: The Family Farm and the Agrarian Roots of Western Civilization* (New York, 1995), 41–45.

Table 4
Geoponika, 11.29: Περὶ κιττοῦ. Ἱστορία

Κιττός, τὸ ἄνθος, νέος ἐτύγχανε πρότερον, χορευτῆς Διονύσου γενόμενος. χορεύων δὲ τῷ θεῷ πρὸς τὴν γῆν καταφέρεται· καὶ Γῆ τιμῶσα Διόνυσον ἄνθος ἀνήκεν ὁμώνυμον βλάστημα, σώζουσα τὰ τοῦ νέου βλαστήματα. προιών μὲν γὰρ ἐκ γῆς ἄμπελον περιπλέκεσθαι πέφυκεν, οὕτως περιπλεκόμενος, ὡς ὅτε νέος ἐχώρευσεν.

Ivy (Kittos), the plant, once was a young man, a dancer of Dionysos. Dancing for the god he fell dead upon the ground, and in honor of Dionysos, Earth brought forth a shoot with the same name, thereby preserving the stock of the young man. The plant as it springs from the earth is accustomed to embrace the vine just as the young man once danced embracing the god.

exotic shapes. Behind the instructions for shaped fruits and vegetables are traditions represented in Theophrastus, Columella, and Pliny.²⁸ The first flurry of such literary works combining “science” with “magic” came in the Hellenistic era, but a second marked the Second Sophistic and its sequel in late antiquity—exactly the period during which the main fore-runners of the *Geoponika* were compiling their comprehensive works.

Too good to pass by for its curiosity is *Geoponika*, 12.11, “Harm to the garden”: Dissolve goose dung in brine and sprinkle the plants with it (Χηνῶν ἀφόδευμα ἄλμη λύσας ῥάινε τὰ λάχανα). Is this a kind of weed killer? Ancient authors mention the harmful properties of salt water and tell us to keep an eye on the geese, but there is no parallel to this curiously negative recommendation. The “authority” named in the chapter heading is Afrikanos, and despite my own firm admonition above, I am very tempted to believe that this prescription may have come from Julius Africanus (a known source of Anatolius), from whose *Κεστοί* Psellos cites a number of examples that closely resemble passages in the *Geoponika*. This particular “harm to the garden” could readily have been mentioned in that portion of the work that Psellos describes: “A craftsmanlike, or rather sorcerous, fertility he produces in fields, and the opposite barrenness by antipathies.”²⁹

Among the ancient literary traditions encapsulated in the *Geoponika* are occasionally to be found some Byzantine surprises, for example, the one in *Geoponika*, 12.83, a chapter not known to be paralleled in any of the oriental versions. A glance at Table 5 shows that this chapter bears strong resemblance to the Gospel parable in Luke 13:6–9. I have not located a specific *literary* source from which the encyclopedists may have drawn it, nor do I think that a Byzantine reader needed one—any more than a literary source was prerequisite

²⁸ *Historia plantarum*, 7.3.5: “Some things come to resemble in their shapes even the position in which they grow: thus the gourd likens its shape to the container in which it has been placed” (ἔνια δὲ καὶ τοῖς σχήμασιν ἐξομοιοῦνται καὶ τοῖς τόποις· ἡ γὰρ σικύα ὁμοιοσχημῶν γίνεται ἐν ᾧ ἂν τεθῆ ἀγγεῖω); Columella, 11.3.48–53; Pliny, *Naturalis historia*, 19.70. The practical application is recommended by modern authors: see W. Robinson, *The Vegetable Garden*, 3d ed. (New York, 1920), 270: “Should any young fruits exhibit a tendency to become crooked, they put them into cylindrical glasses open at both ends, . . . as one good and straight cucumber is worth nearly a dozen small and deformed ones.”

²⁹ *Paradoxographoi*, ed. A. Westermann (London, 1839), 143–46; trans. F. C. R. Thee, *Julius Africanus and the Early Christian View of Magic* (Tübingen, 1984), 187.

Table 5

Geoponika, 10.83: Δένδρον ἄκαρπον καρποφορεῖν. [Ζωροάστρου.]
To make a barren tree bear fruit

1 Συζωσάμενος καὶ ἀνακομβωσάμενος, καὶ λαβὼν πέλεκυν ἢ ἀξίνην, μετὰ θυμοῦ πρόσελθε τῷ δένδρῳ ἐκκόψαι τοῦτο βουλόμενος. 2 προσελθόντος δέ σοί τινος, καὶ παραιτουμένου τὴν τούτου ἀποκοπήν, ὡς ἐγγυητοῦ περὶ τοῦ μέλλοντος καρποῦ γινομένου, δόξον πείθεσθαι καὶ φειδεσθαι τοῦ δένδρου, καὶ εὐφορήσει τοῦ λοιποῦ.

1 Gird yourself up, grab a hatchet or an axe and approach the tree with a threatening attitude as if intending to chop it down. 2 Let then someone else approach you, begging not to cut it down and promising to be surety for the tree to bear fruit in the future. Give the appearance of being persuaded and spare the tree; it will bear well thereafter.

Note: Zoroaster's name appears as "authority" for a number of chapters in the *Geoponika*. For useful discussion of the pseudo-Zoroastrian traditions, see R. Beck, "Thus Spoke Not Zarathustra: Zoroastrian Pseudepigrapha of the Greco-Roman World," in *A History of Zoroastrianism*, vol. 3 (Leiden, 1991), 491–565.

for the practice of trampling the vintage (*Geopon.*, 6.11), otherwise totally unattested in ancient writings.

It might be noted in passing that we do not have in the *Geoponika* any noticeable evidence for enthusiastic botanical experimentation or introduction of new plants on the scale that one finds, by contrast, in the Islamic world. It would be interesting to know whether and to what extent the literary and intellectual traditions at the disposal of Byzantine aristocrats paralleled the botanical and agricultural innovations known to have emerged from the more widely attested "science" of garden culture in Islamic lands, the more so because we know that the identical literary works of Greco-Roman antiquity from which the *Geoponika* is derived also lay behind the voluminous medieval Arabic literature on farming and gardening.³⁰

I have saved till last a look at what the *Geoponika* has to say about garden design and its aesthetic impact. The prologue, addressed to Emperor Constantine VII, speaks of the collection as one where the reader will find matters of pleasure as well as usefulness ("not only necessities but even those exceptional things that contribute solely to the delight of sights and smells"), apparently referring to books 10–12 which deal with gardens, orchards, and flowers. Recognition of sight and smell (alongside usefulness and profit) recur in the somewhat skimpy instructions for garden design found in two specific chapters: 10.1 "The Garden" (παράδεισος) and 12.2 "Garden making" (κηποποιΐα). Table 6 presents the former of

³⁰ Not even pretending to be representative, I mention only the following: A. M. Watson, *Agricultural Innovation in the Early Islamic World: The Diffusion of Crops and Farm Techniques, 700–1100* (Cambridge, 1983); E. García Sánchez, "Agriculture in Muslim Spain," in *The Legacy of Muslim Spain*, ed. S. K. Jayyusi (Leiden, 1992), 987–99; L. Bolens, *Agronomes andalous du Moyen-Age* (Geneva-Paris, 1981); J. A. C. Greppin, "The Armenians and the Greek *Geoponica*," *Byzantion* 57 (1987): 46–55; J. F. Habbi, "Testi geoponici classici in siriano e in arabo," in *Autori classici in lingue del vicino e medio oriente*, ed. G. Fiaccadori (Rome, 1990), 77–92.

Table 6
Geoponika, 10.1: Περί παραδείσου. [Φλωρεντίνου]

1 Χρῆ τὸν βουλόμενον παράδεισον ἔχειν ἐπιλέξασθαι τόπον ἐπιτήδειον, εἰ μὲν ἐγγωρεῖ, ἔνδοθεν τῶν ἐποικιῶν. εἰ δὲ μὴ, ἐκ τοῦ σύγγεγυς, ἵνα μὴ μόνον τὰ ἀπὸ τῆς θέας τερπνὰ τοῖς ἔνδοθεν ἀποθεωρῆται, ἀλλὰ καὶ ὁ περίξ ἀήρ συναναχρωζόμενος ταῖς ἀπὸ τῶν φυτῶν ἀναφοραῖς ὑγιεινὴν ποιῆ τὴν κτήσιν. περιβλητέον δὲ αὐτὸν θριγκῶ, ἢ ἐτέρῳ τινὶ ἐπιμελῶς. 2 τὰ δὲ φυτὰ μὴ ἀτάκτως μηδὲ μικτὰ φυτευέσθω, οἷα δὴ φασι, τῆς τῶν φυτῶν διαφορᾶς εὐπρέπειαν ἐπεισαγούσης, ἀλλὰ κατὰ γένος κεχωρισμένως ἕκαστα τῶν φυτῶν ἐμβαλλέσθω, ἵνα μὴ κατακρατῆται τὰ ἥττω ὑπὸ τῶν κρείττωνων, ἢ καὶ τῆς τροφῆς ἀποστερηῆται. 3 τὸ δὲ μεταξὺ τῶν δένδρων πᾶν πληρούσθω ῥόδων καὶ κρίνων καὶ ἴων καὶ κρίκου, ἃ καὶ τῆ ὄψει καὶ τῆ ὀσφρήσει καὶ τῆ χρήσει ἐστὶν ἡδιστα καὶ εὐπροσόδευτα, καὶ ταῖς μελίσσαις ὠφέλιμα. 4 τὰ δὲ φυτὰ ληπτέον ἐξ ἀκμαίων καὶ ἀσινῶν δένδρων. εἰδέναι δὲ χρή, ὡς τὰ ἀπὸ σπέρματος φυτὰ ὡς ἐπὶ πολὺ πάντων τῶν φυτῶν ἐστὶ χεῖρονα· βελτίονα δὲ παντὸς φυτοῦ τὰ μοσχεύματα· κρείττονα δὲ τούτων τὰ ἐγκεντριζόμενα, οὐ πρὸς καλλικαρπίαν μόνον, ἀλλὰ καὶ πρὸς πολυκαρπίαν, καὶ ταχεῖαν φορὰν τῶν καρπῶν.

1 One who wishes to have a garden ought to choose a suitable site,^a within the farmstead if possible, if not, from the nearby area, so that not only things pleasant to the sight may be observed by those within but also that the surrounding atmosphere may be imbued by contact with plants and thus make the property healthy. The garden should be surrounded by a wall (or fence) or some other structure, as a precaution. 2 The plantings ought to be planted neither irregularly nor intermingled, so to say, although the variety of plants introduces attractiveness. But each of the plants ought to be set out by type, so that the weaker ones not be overcome by the stronger or be deprived of nourishment.^b 3 The entire space between the trees ought to be filled with roses and lilies and violets and crocus, which are most pleasing to sight and smell and usefulness (medicinal?), as well as profitable (income-producing?) and beneficial to bees. 4 Cuttings are to be taken from thriving and undamaged trees.^c One ought to know that plants from seed for the most part are inferior to all others. Better in the case of every plant are natural shoots. Of these the stronger/superior are those produced by grafting, not only for beauty of fruit but also for its abundance and swift production of the fruits.

^aArab. mentions “near waters if possible.”

^bArab. mentions “two rows of cypress and other similar trees; put on side of it vines, because cypress trees make vines like cylindrical columns, and so vines will be on top and will grow together to 6 cubits, and then expand to walls and then the space in the middle will be filled and not clear to vision.”

^cArab. mentions plants “with three heads if possible, otherwise with two heads.”

these chapters (10.1), one that corresponds precisely to what was the opening section on orchards and gardening in Anatolius’ *Synagoge* (as we can reconstruct it from the Arabic and Syriac versions). In Table 7 we have the latter chapter (12.2), which similarly serves to introduce the section on kitchen gardens (for vegetables and medicinal plants), again its position apparently that given by Anatolius.³¹

The following salient points emerge from these two passages: (1) site relative to the farmstead, enclosed; (2) implied combination of fruit trees, vegetables, and flowers; (3) health

³¹ My hesitant probes into the Arabic *Yūniyūs* (for which I use a photocopy of Teheran Milli 796) have convinced me that this text deserves close and careful study. For access to the Arabic in this text, and for diverse helpful comments, I am grateful to Irfan Shahīd (Georgetown University) and Dmitri Mikulskii (Institute of Oriental Studies, Russian Academy of Sciences, Moscow).

Table 7

Geoponika, 12.2: Περὶ κηποποιΐας. [Φλωρεντίνου]

1 Τὸ τῆς κηποποιΐας χρῆμα ἀναγκαιότατόν ἐστι τῷ βίῳ. κήπων τοιγαροῦν κατασκευαστέον καὶ πρὸς ὑγίαν, καὶ πρὸς τὰς ἐκ τῶν νόσων ἀναλήψεις, μὴ πόρρω τῶν οἰκῶν, ἀλλὰ ἐκ τοῦ πλησίον, ὥστε καὶ τὴν ἀπὸ τῆς θέας παρέχειν τέρψιν, καὶ τὸ ἀπὸ τῆς εὐπνοίας ἡδιστον· 2 μὴ κατὰ ἄνεμον τῶν ἀλωνίων κείμενον, ἵνα μὴ ἀπὸ τῆς ἄχνης φθειρήται τὰ φυτά. 3 δεῖ δὲ τὸν φιλοτιμησάμενον περὶ τὴν τῶν λαχάνων φυτείαν, πρόνοιαν ποιεῖσθαι σπερμάτων καλῶν, γῆς ἐπιτηδεΐας, ὕδατος, κόπρου. 4 τὰ μὲν γὰρ καλὰ σπέρματα ὅμοια τὰ ἐξ αὐτῶν ἐσόμενα ποιήσει. ἡ δὲ ἐπιτηδεΐα γῆ καὶ γονιμὴ τὸ δοθὲν φυλάξει. τὸ δὲ ὕδωρ διὰ τῆς τροφῆς μείζονα τὰ λάχανα ποιήσει. ἡ δὲ κόπρος χυνοτέραν ἐργάζεται τὴν γῆν, ὥστε ῥαδίως αὐτὴν ὑποδέχεσθαι τὸ ὕδωρ, ἵνα καὶ ταῖς ῥίζαις διαμερίση, καὶ τὸ φυτὸν ἐκτέμνη ἔξω.

1 Making a garden is essential for life. Now a garden must be prepared—both for one’s health and for attacks of illness—not far from dwellings, but in the vicinity, so that it may provide pleasure both from sight and especially from smell. 2 It should not lie downwind of the threshing floor, lest the plants suffer from the chaff.* 3 The person who wants to excel in growing garden plants must take forethought for good seeds, suitable soil, water, and manure. 4 Good seeds will produce offspring like themselves. Suitable and fertile soil will guard what is entrusted to it. Water will make the vegetables grow larger through nurture. Manure makes the soil more friable, so that it receives water more readily, to make space for the roots and to allow the foliage to sprout.

*Cf. Pallad., 1.34.1: Gardens and orchards ought to be close to the house, and located at a good distance from the threshing floor because they are harmed by the dust of the chaff. (*Horti et pomaria domui proxima esse debebunt . . . , ab area longe situs, nam pulverem palearum patitur inimicum.*)

benefits and aesthetic impact; (4) stress on proper culture by plant type; (5) quality of stock. Most of these features are discussed, variously and generally in greater detail, elsewhere in the *Geoponika*. An example would be the specific recommendations for hedges and borders, the advantages of quick-growing ones and the distinction between living plants versus masonry structures (*Geopon.*, 5.44). Anatolius’ reason for the summaries here is partly, of course, as a device for starting the books, and that of *Geoponika*, 10.1, is prefatory to the general section of the whole work, which focuses on horticulture.

But there is more to be said. In contrast, for instance, to the hygienic emphasis recurrent in a number of chapters in book 2 (on water supply, unhealthy siting of dwellings), the aesthetic points noted in this chapter are not elaborated elsewhere in the *Geoponika*. It may be going too far to suggest that the writer of the Constantinian prologue in speaking of “things that contribute solely to the delight of sights and smells” has in mind the phrases in these specific chapters that call attention to pleasures of “sight and smell.” The reference to sight and smell in *Geoponika*, 10.1, occurs alongside a reference to bee-keeping, and perhaps the production of honey is one of the “profits” of the garden. (The role of bees in pollination was unknown to the Byzantines.)³² A practical book (such as Anatolius’ *Synagoge* had aimed to be) would not likely have dwelt in sentimental vein upon points of aesthetics any

³² *Geoponika*, book 15, is remarkably sterile compared to the emphasis on bees and apiaries in the Roman agricultural writers.

more than it rehearsed the mythological associations of certain plants. The encyclopedist(s) responsible for putting the *Geoponika* into the form we have it were not so energetic as to search out literary texts—if any existed as such—in which the aesthetics of the garden might have been discussed; nor would they, in the context of their project, have composed afresh on this topic. It is enough, perhaps, to conclude that they gave some continuing prominence to the conventional ideal of garden aesthetic as old as Homer.

These chapters (*Geopon.*, 10.1 and 12.2) exemplify nothing so well as a literary tradition in Greco-Roman agricultural writings, reworked and refashioned over many centuries, and finally encapsulated as we have it in the Constantinian encyclopedia. With some exceptions (a few of which I have discussed above), this statement holds true for the *Geoponika* as a whole. To put it another way, the practical elements sketched in the *Geoponika* represent a “common denominator” of information thought by the tenth-century compilers to be useful to any garden, large or small, owned or worked by any person of any rank in any geographical location. By incorporating in new format certain literary materials inherited from antiquity, the imperial encyclopedists may have been doing little more than fulfilling an antiquarian or preservationist role. The relative unoriginality of their final product makes it easy to dismiss the *Geoponika* in this way and to argue that there is little here of value for those who seek knowledge of patterns and practices current in the tenth century.

Yet we ought again to beware of a facile solution. The *Geoponika*, of course, deserves no small respect as a document and product of its own age. But, more than this, in a sphere so generally conservative as Mediterranean agriculture has always tended to be, it is not unreasonable to suppose that lessons of antiquity were, by and large, held to be of continuing validity in the Byzantine era.³³ The “collections of the ancients” of which the prologue speaks were not, in other words, intended to be perpetuated as mere antiquarian curiosities. We might wish for compilers in the tenth century to have criticized and annotated the late antique texts they were compiling and to have given us precise notions of continuity and change. On the other hand, if horticultural practices and traditions were largely a continuum, tenth-century librarians need not automatically be guilty of compiling a *Geoponika* that contemporaries would have found useless except on the bookshelf. Only a century earlier, Photios had written of an important forerunner in the genre of agricultural literature, “Useful is the book [of Anatolius], as *I know through experience*.”

Other scholars can better clarify both the audience that may have read and used the *Geoponika* and the contemporary reality it may reflect. Others, too, will better recognize, identify, and discuss effects that the *Geoponika* may have had in actual Byzantine practice. Fifty manuscripts is a remarkable progeny, so some indeed there must have been. *Geoponika*, 10.85, for instance, instructs on transplanting fully grown, fruit-bearing trees. This precept may in part have inspired the creative energy that Psellos ascribes to Constantine IX.³⁴

My conclusion is perhaps disappointing for its lack of originality, but the interest that attaches to the *Geoponika* is not really diminished. An educated readership could appreciate

³³ The conservative tendency of farmers is discussed by Hanson, *The Other Greeks*, esp. chap. 4.

³⁴ Psellos, *Chronographia*, 173–75, cited by Teall, “Byzantine Agricultural Tradition,” 44, and Littlewood, “Gardens of Byzantium,” 145.

a convenient and respectably literary book for more than antiquarian amusement. Gardens were made, cultivated, and appreciated by persons of all ranks and for a wide range of purposes. No gardener will rely on books alone, nor should the student of Byzantine gardens expect the *Geoponika* to answer more than its share of questions.

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