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BEANS AND PHASES OF
THE MOON IN COLUMELLA
(*R. R. 2. 10. 12*)

In an informative and insightful paper on expressions for the new moon in Latin¹ by Maria Kazanskaya, a difficulty in the passage from Columella on gathering beans (*R. r. 2. 10. 12*) was recently pointed out.

Columella prescribes sowing beans before the winter solstice (2. 10. 8–9) and specifically insists that regardless of the season of sowing, the seeds must be broadcast on the last day of the waxing moon, that is, on the 15th or (if on that day the moon happens to interfere with the sun's rays and starts to wane) on the 14th day of the lunar calendar (*utique adhuc lunae crescente lumine spargatur*, 2. 10. 10). The particular importance of sowing seeds on the last day of the waxing moon² is stressed by the remark that it does not matter if there is not enough time to cover all the seeds with earth: nightly dew (associated with the full moon) will not harm them, one only has to protect seeds from birds and cattle.

Then the discussion of soaking seeds in olive-lee (*amurca*) or soda (*nitrum*) arises: citing Virgil, *Georg.* 1. 195–196, Columella imparts that in his own experience this does help to protect the fruit against weevils (*curculio*), and goes on to mention another effective remedy, also from personal experience (2. 10. 12):

sed et illud, quod deinceps dicturi sumus, experti praecipimus. silente luna fabam vellito ante lucem, deinde cum in area exaruerit, confestim, priusquam luna incrementum capiat, excussam refrigeratamque in granarium conferto. sic condita a curculionibus erit innoxia...

¹ Kazanskaya 2019, 70–71 with n. 12, where my suggestion on the passage is mentioned. The aim of this paper is to defend it at length.

² For the role of lunar calendar in Roman agriculture see the classical paper by Tavenner 1918. The general tendency was to seed by the waxing moon and to crop, to fell timber, and prune by the waning moon (see also Kazanskaya 2019, 73 n. 20 with references), but the subject abounds in curious nuances.

And what we are about to say next, we offer as a precept from own experience: gather beans in the dark of the moon, before dawn; and when they have dried on the threshing-floor, immediately, before the moon begins its waxing, beat them out, cool them, and carry them into the granary. When stored in this way, they will not be harmed by weevils.³

Now we obviously have a problem of timing here. *Luna silente (-nti)* is firmly attested to mean ‘in the dark of the moon’.⁴ The text as it reads implies that beans must be gathered in the dark of the moon before dawn⁵ and then be (1) dried on the threshing-floor, (2) beaten out, (3) cooled and (4) carried into the granary *before the moon begins its waxing*. Yet, technically, the moon will start waxing as early as the night that follows the one in the dark of the moon,⁶ so that the time allowed for all these operations is reduced to one single day between the night of the *interlunium* and the first night of the waxing moon. However, the drying of beans alone must take at least a few days, which rules out this possibility.

M. Kazanskaya, who rightly sees a problem here, suggests we take the word *incrementum* not as ‘<the first> growth (i.e. the first lunar day)’, but

³ Transl. Ash 1941, 163.

⁴ Cato *Agr.* 29; 40. 1; 50. 1; Plin. *NH* 18. 314; 16. 190 *in coitu eius... quem diem alii interlunii, alii silentis lunae appellant*. Its semantic development from the vegetative sphere (rightly explained by Kazanskaya 2019, 72 with n. 17–19) also precludes its referring to other phases of the moon (see n. 5 below).

⁵ In the eyes of Cram 1936, 257–258 and Kazanskaya 2019, 70–71 n. 12, Tavenner 1918, 70 *ad loc.* interprets the words *silente luna* as referring not to the dark of the moon, but to the waning moon, viz. the last quarter. In fact, Tavenner meant something different: “Here it is apparent that the dark of the moon is thought of as the remnant of the waning moon; and that if the moon should begin to increase before the harvest was garnered, the beans would not dry successfully”. Tavenner does not take the words *silente luna* here to have a special meaning ‘(the last days of) the waning moon’, but only explains that in this case the dark of the moon was chosen for cropping as the culmination of the preceding stage of the waning moon (hence *ante lucem*). On the contrary, in Cato *Agr.* 40. 1 *ficos, oleas, mala, pira, uites inseri oportet luna silenti post meridiem sine vento austro* (cited by Pliny 17. 112 with *luna sitiente*, both discussed by Tavenner 1918, 69 with n. 11–12), the dark of the moon represents the beginning of the subsequent stage of the waxing moon (hence *post meridiem*). Of course, Tavenner here does overlook the problem of insufficiency of time.

⁶ Cf. *R. r.* 8. 11. 11 (echoed in Pallad. 1. 28. 3): *novem diebus a primo lunae incremento*.

as ‘<noticeable> growth’ and thus referring “to the stage of the waxing phase, when the moon’s *incrementum* is clearly seen”.⁷

This assumption, reasonable as it might seem linguistically, does not suffice to solve the problem of insufficiency of time. The crucial question is: how long does it take for beans to dry on the threshing-floor? It might save us from unrealistic timing if this process required two or three days, but I am sure that it takes longer than that. Carlo Lucarini, to whom I addressed this question, reports that according to his father’s experience in Tuscany, beans are dried in the summer sun over the course of four or five days. Given that Columella, unlike Vergil (*Georg.* 1. 215), prescribes sowing beans not in spring⁸ but in winter, his bean-crops would have been dried in spring rather than summer, which would take even longer. Anyway, the necessary minimum for drying of beans and subsequent operations will thus amount to five days (if not more), and by that time the moon will not only take a *noticeable* growth, but almost turn into a half-moon, which is incompatible with the words *antequam luna incrementum capiat*.

The passage in question is echoed in Palladius, but there *silente luna* is changed to *luna minuente* (waning moon, 7. 3. 2):

nunc et faba luna minuente velletur ante lucero sane et antequam luna procedat excussa et refrigerata ponetur. ita gurguliones non patietur infestos.⁹

Palladius could hardly be unaware of the true meaning of *luna silente*. The remaining options are that he either had another version of the text, or that he had the same text as we do and changed *silente luna* to *luna minuente* at his own discretion.¹⁰ It is difficult to disprove the former, but

⁷ Kazanskaya 2019, 70–71 with n. 12. A minor problem is that in this case the prescription would be imprecise: when exactly must the increase be regarded as ‘noticeable’?

⁸ According to Pliny *NH* 18. 120, *circumpadanae Italiae ritu*. See Mynors 1990, 49–50 *ad loc.*

⁹ Curiously enough, the translation by Owen 1807, 227 presupposes absurd punctuation (with a full stop after *procedat*): “Beans are now to be gathered at the wane of the moon, before day truly, and before the moon increases; when shaken out and dried, let them be laid up...”.

¹⁰ Richter 1981, 650 n. 54: “Etwas abweichend davon Palladius 7. 3. 2 *luna minuente*, also wohl aus anderer Quelle”, – yet the similarity between the passages leaves no doubt that Palladius here rewrites Columella, and it would be very odd if in choosing the day for cropping he followed some other source.

there are good grounds to suggest the latter. Palladius must have seen that the prescription that he was to rephrase was impracticable. It would be natural for him to correct the text so as to increase the patently insufficient interval for drying of beans and subsequent operations.¹¹ The substitution of the new moon with the waning moon would increase the interval between gathering the crops and the first day of the waxing moon by up to two weeks.¹²

If, however, we keep to the silent moon, the attempts to defend the passage in question seem hopeless.¹³ I suggest the following solution:

silente luna fabam vellito ante lucem, deinde cum in area exaruerit, confestim [priusquam luna incrementum capiat] excussam refrigeratamque in granarium conferto.

The words *prius quam luna incrementum capiat* must be deleted as a gloss on *silente luna ... ante lucem*. Outside the text this clause makes perfectly good sense: it explains the rare expression for the new moon and hints at the reason for gathering beans in the dark of the moon *before dawn* – that is, before the day begins and the (next) moon starts to increase.¹⁴

If the words are athetized and the passage reinterpreted in this way, the role of lunar calendar in cultivating beans will gain logical harmony. Columella's original text implied no more than that bean crops must be gathered on the last night of the waning moon (in the dark of the moon

¹¹ Drying of beans itself is not mentioned here by Palladius, either because it is a self-explanatory procedure or because of the difficulty in question.

¹² However, in this case the date for cropping would be rather vague for a specific piece of advice, and *ante lucem* seems more logical if connected with the dark of the moon. Cf. n. 5 and 15.

¹³ Rodger's recent edition of Columella (Rodgers 2010) is universally agreed to improve the text of the Uppsala edition (Lundström–Hedberg–Josephson 1896–1968) in a great many passages (see, e.g., Butterfield 2013, 561–563; Lucarini 2014, 648: “Hoc coniecturarum agmen tam celebre est, ut novus quidam Columella evaserit satisque mirari nequeamus quomodo superiores editores tam saepe vel mutilae vel deturpatae librorum lectioni acquieverint, cum haud raro faciles emendationes prae manibus essent”).

¹⁴ Kazanskaya 2019, 71 n. 12 objects that *incrementum capere* is a rare expression. It was indeed particularly favoured by Columella (14 times in the *R. r.*), but cf. Sen. *Nat.* 1. 17. 10 *incrementum ingens vitia ceperunt*; Frontin. *Aq.* 28 *fistula incrementum capit*; Hier. *hom. Orig. in Luc. II* p. 80. 4 *ut multiplicati spiritaliter ... incrementa capiamus*; Paulin. *Carm.* 28. 202 *et spatii cepere et luminis incrementa*.

ante lucem, when the new moon is not yet waxing)¹⁵ – just as their seeds had to be sown on the last day of the waxing moon (but necessarily before the ἀπόκρουσις, 2. 10. 10). Another measure against weevils, additional to gathering beans on the appropriate night of lunar calendar, was quick handling and storage of the crops after their drying on the threshing-floor.

At some stage of the text's transmission the scribe erroneously referred the gloss to the word *confestim* and inserted it into the text, thus doubling the chronological requirement.¹⁶ Now the gathering and drying of beans had to be virtually simultaneous. Palladius realized that this prescription was unrealistic. At the cost of replacing one word he moved the day prescribed for gathering beans back to an uncertain interval within two weeks ('at waning moon') and preserved the second (and false) chronological requirement for drying and storing of beans.

In favour of the athetese I can cite at least one passage where a gloss on astronomical phenomena or the calendar undoubtedly intruded into the text of Columella (*R. r.* 7. 3. 24):

sed observandum est [sidus aestatis] per emersum Caniculae, ut ante meridiem grex in occidentem spectans agatur et in eam partem progrediatur, post meridiem in orientem, siquidem plurimum refert ne pascentium capita sint adversa soli, qui plerumque nocet animalibus oriente praedicto sidere.

H. M. Hine put forward irrefutable arguments against *sidus aestatis*: (1) "the star of the summer" is an unparalleled description of the sun"; (2) "*praedicto sidere* a few lines later refers not to the sun, but to *Caniculae*"; (3) "any farmer can safely be assumed to know already which is east and which is west on his own land... So is he to watch the sun in order to tell

¹⁵ Cf. n. 5 and 12 above. A similar idea may lie behind Pliny's statement (*NH* 17. 215) that pruning in the dark of the moon protects the harvest from rodents: *quae* (scil. *vites*) *vero interlunio sint putatae, nullis animalium obnoxias esse* (Tavener 1918, 75 with n. 44). On the contrary, in Col.[?] *De arb.* 15 cited by Plin. *ibid.*, Tavener 1918, 73 with n. 34, the night of the full moon is recommended for this purpose, but only when it is in certain signs of the Zodiac. In Plin. *NH* 18. 158 (on seeds other than those of beans) it is on the contrary *seeding* in the dark of the moon that protects the seeds from maggots: *reliqua semina ... non esse vermiculis obnoxia, nec si interlunio serantur* (Tavener 1918, 73 with n. 35).

¹⁶ The alternative option would be that the words *priusquam luna incrementum capiat* were genuine (*incrementum capere* is typical of Columella, see n. 14 above) and originally followed *ante lucem*, but then were mistakenly transposed after *confestim*. However, in this case the explanation seems idle and the repetition of *luna* stylistically inappropriate; much speaks in favour of a gloss.

when midday has arrived? Again the advice, though sensible enough, seems painfully elementary”.¹⁷ The athetese makes the passage impeccable.¹⁸

If my conclusions are correct, the gloss in 2. 10. 12 intruded into the text of Columella surprisingly early, since Palladius must have rephrased the text of the passage that had already been glossated. I cannot think of any other explanation for the substitution of *silente luna* with *luna minuente* in Palladius.¹⁹

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¹⁷ Hine 1984, 10; athetese accepted by Rodgers 2010, 294.

¹⁸ The third example may be 11. 3. 5, but there one may doubt the necessity of the athetese: *...mox, ubi bruma confecta est, intermissis quadraginta diebus circa hirundinis adventum, cum iam Favonius exoritur, [post Idus Februarias], si qua in sulcis per hiemem constitit aqua, exhauritur, resolutaque humus, quae erat autumnoregesta, usque ad mediam sulcorum altitudinem reponitur (post Idus Februarias deleted by Richter 1983, 106, athetese accepted by Rodgers 2010, 457).*

¹⁹ Among other emendations to Columella’s text, Lucarini discusses two passages that have presumably been corrupted before Palladius (Lucarini 2014, 653 with n. 5 and 654 with n. 6) but I have my doubts in both cases.

Of 7. 3. 7 *eliges bimam vasti corporis, cervice prolixo villi nec asperi, lanosi et amplius uteri, nam vitandus est glaber et exiguus* he suggests that an adjective was dropped after *cervice* and objects to Rodgers who cites Var. R. r. 2. 2. 3 (*villis altis et densis toto corpore, maxime circum cervicem et collum*) and interprets *cervice* as ‘on the neck’ (“locative ablative rather than descriptive”). The locative ablative seems strange here, but the compelling parallel with Varro strongly suggests this sense; besides, in sheep the shape of the neck is less likely to be of importance than in goats, oxen and horses. In fact, *cervice* can be safely taken as an *ablativus qualitatis* and *prolixo villi nec asperi* as a *genetivus qualitatis* that specifies *cervice*. For the construction cf. Plin. NH 25. 110 (*radice suavissimi gustus et odoris*), 27. 118 (*radice bulbi magni*), 21. 25 (*carosiore tantum radice maiorisque bulbi*), 27. 122 (*flore longo herbacei coloris, seminis nullius usus sed gustu acuto et odorato*) and Wölfflin 1900, 479–480. It may be noteworthy that Palladius (8. 4. 3) omitted the disturbing *cervice*.

The other passage, from a severely corrupted section in Columella, reads (6. 5. 1): *cavendum quoque est ne ad praeseptia sus aut gallina perrepat; nam haec quod desiderit [desidet Palladius, deicit cj. Lucarini] inmixtum pabulo bubus adfert necem*; I also do not understand *desidit* in Columella, but agree with Rodgers 1975, 144, who follows Svennung 1928, 152–153 with n. 1 in defending *desidet* in Palladius as transitive in the sense of ‘*cacare*’ (with reference to *Thes.l.l.* 5. 695. 79 ff. s.v. *desideo*). Svennung’s emendation *desidet* or *desedit* for *desidit* in Columella is attractive, though one may doubt if the transitive usage of *desideo* is acceptable for Columella’s Latin.

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To protect beans from weevils, Columella (*R. r.* 2. 10. 12) prescribes gathering them “in the dark of the moon before dawn (*silente luna ... ante lucem*)” and then, when they have dried on the threshing-floor, immediately beat them out, cool them and store them in the granary “before the moon begins its waxing (*priusquam luna incrementum capiat*)”. Yet, the moon begins its waxing immediately after the dark of the moon. Since drying of beans in the threshing-floor must take at least four or five days, it does not help to take *incrementum* as ‘a (noticeable) increase’.

I suggest deleting *priusquam luna incrementum capiat* as a gloss on *silente luna ... ante lucem* (cf. *sidus aestatis* in *R. r.* 7. 3. 24 deleted by Hine 1984, 10 as a gloss on *Caniculae*).

Palladius, who rephrased Columella’s advice in 7. 3. 2, retained the requirement *antequam luna procedat*, but changed *silente luna* to *luna minuente*. He must have worked with Columella’s text that had already been glossated, but saw the problem and moved the date for cropping back to the waning moon, in order to increase the time allowed for drying of beans and further operations “before the moon increases”.

Для защиты урожая бобовых от хлебного червя Колумелла (*R. r.* II, 10, 12) советует собирать их “в новолуние до зари (*silente luna ... ante lucem*)”, а затем, когда они просушатся на току, немедленно вымолотить их, охладить и снести в амбар “пока луна не прирастет (*priusquam luna incrementum cariat*)”. Между тем луна начнет прирастать сразу же после новолуния. Предложение понимать под *incrementum* ‘(заметный) прирост’ проблему не решает, поскольку просушка бобовых на току занимает не меньше четырех-пяти дней.

Я предлагаю атетировать слова *priusquam luna incrementum cariat* как глоссу к *silente luna ... ante lucem* (ср. *sidus aestatis* в *R. r.* 7. 3. 24, атетированное Хайном [Hine 1984] как глосса к *Caniculae*).

Палладий, пересказывая совет Колумеллы в *Agr.* 7. 3. 2, сохранил указание *antequam luna procedat*, но заменил *silente luna* на *luna minuente*. Очевидно, он имел дело с уже глоссированным пассажем Колумеллы, но заметил несообразность и перенес день для сбора урожая в фазу убывающей луны, чтобы увеличить промежуток времени, необходимый для просушки бобовых на току и последующих операций “перед тем, как луна прирастет”.

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