

NOTES AND DISCUSSIONS

IMPERSONAL AND INTRANSITIVE ΕΠΙΣΗΜΑΙΝΕΙ

From the fact of their derivation from σημαίνει, the verb ἐπισημαίνει and its related noun ἐπισημασία would seem to imply signification in some fundamental sense. But these two words have departed from the sense of their root word, and developed specialized technical meanings in two classes of ancient scientific texts: astrometeorological and medical texts. Astrometeorological texts are those which deal with predicting weather through the observation of the annual risings and settings of the fixed stars. This is closely related to the kind of practice we see in Hesiod, where times for planting, harvesting, and sailing are linked to specific annually occurring astronomical phenomena, for example:

Πληιάδων Ἀτλαγενέων ἐπιτελλομένων
ἄρχεσθ' ἀμήτου, ἄρότιο δὲ δυσομένων.¹

By the third century B.C.E., and possibly earlier, such practices came to be codified in a class of text known as *paraepgmata*,² which laid out significant stellar phases (the annual risings and settings of the fixed stars) for the whole year, and correlated these with weather changes, bird migrations, and more. Although only marginally familiar to many classicists, *paraepgmata* were written or quoted by a wide range of ancient authors, including Ptolemy, Aratus, Columella, Vergil, Ovid, and Pliny.

In Greek astrometeorological texts, ἐπισημαίνει is one of the most common verbs (maybe even *the* most common), but attempts to understand it and its related noun ἐπισημασία have suffered from the attempts to preserve the root sense of signification.³ I will argue that the Greek verb ἐπισημαίνει and the noun ἐπισημασία have specialized technical uses in the astrometeorological literature, where the verb (both intransitive and impersonal in Greek) means “there is a change [in the weather],” and the plural noun means “changes [in the weather].” They thus have nothing to do with an idea of signification. As a parallel, a look at the medical use of the noun ἐπισημασία will show that it too has departed from an idea of signification, implying instead the *access* of a fever, which, it should be noted, is not just the onset, but also the *duration* of the symptomatic phase of the disease. This parallels the astromete-

1. “At the rising of the Atlas-born Pleiades, / begin the harvest, and you should plow when they set” (Hes. *Op.* 383–84).

2. For the details of what *paraepgmata* are and how they work, see, e.g., Evans 1998; for the third century as the *terminus ante quem*, see Lehoux 2000.

3. In particular, ἐπισημασία has found its way into the German literature as the word *Episemasia* (pl. *Episemasien*), which is contrasted with *Phasen* (the annual appearances or disappearances of fixed stars) and functions as a very general term for the weather indications (*Witterungsanzeichen*, i.e., the “significations”) of the astrometeorological texts (see esp. Rehm 1940; Boll 1909).

orological use by referring to an *observable thing*, not just the *sign* of an unobservable thing.⁴

ASTROMETEOROLOGICAL ΕΠΙΣΗΜΑΙΝΕΙ

The astrometeorological literature in Greek contains repeated uses of the verb ἐπισημαίνει in an unusual construction. The verb, primarily supposed to mean “indicate,” “mark,” or “give signs” by LSJ, is used intransitively and without an obvious subject, as in Geminus, 1 Cancer: α’ ἡμέρᾳ Καλλίπῳ Καρκίνος ἄρχεται ἀνατέλλειν τροπαὶ θεριναί· καὶ ἐπισημαίνει.⁵ LSJ offers the following definition of this use:

III. intr., *give signs, appear as a symptom in a case, . . . ; . . . of puberty show itself, . . . ; of weather signs, indicate a change of weather, . . . ; impers., symptoms appear . . .*

Note that the definition as it pertains to weather signs implies that the verb is intransitive, but personal. But there is no obvious subject in the example from Geminus. Unless we supply a subject, such as “this stellar phase” or “this day,” we cannot, strictly speaking, use LSJ’s intransitive personal definition.⁶

Rehm treats ἐπισημαίνει as an impersonal by translating it as “Bei einer Phase gibt es ein Zeichen.”⁷ But a sign of what exactly? He argues that in the parapegmatic literature ἐπισημαίνει implies something about a change in the weather, which I think is correct, but he maintains the notion of signification as being always at the heart of the meaning of ἐπισημαίνει. Pfeiffer also sees signification as central: he translates ἐπισημαίνει as “läßt erwarten, zeigt an, deutet auf.”⁸ Pritchett and van der Waerden translate ἐπισημαίνει with the verbless phrase “sign of weather.”⁹

But the astrometeorological uses of ἐπισημαίνει are best understood as both impersonal and intransitive. There is no obvious subject stated, and implied subjects are, in the main, unsatisfactory. Look again at Geminus, 1 Cancer: α’ ἡμέρᾳ Καλλίπῳ Καρκίνος ἄρχεται ἀνατέλλειν τροπαὶ θεριναί· καὶ ἐπισημαίνει.¹⁰ Here there is no grammatical subject, although there is a candidate for a logical subject: the beginning of the rising of Cancer. But this interpretation does not work for passages such as 16 Leo: ἐν δὲ τῇ ις’ ἡμέρᾳ Εὐδόξῳ ἐπισημαίνει,¹¹ since there is no stellar

4. The close connection between astrometeorology and medicine in antiquity may imply this parallel is no mere coincidence. See, e.g., Aetius of Amida’s *Tetrabiblos* (excerpt published in Wachsmuth 1897), or the Quintilian parapegma (Boll 1910).

5. “On the first day: According to Callippus Cancer begins to rise; summer solstice, and ἐπισημαίνει” (Geminus, p. 210, 14–15). All Geminus citations are from Manitius 1898.

6. The example cited by LSJ, Theophrastus *De signis* 10, does seem to be both intransitive and personal, and in this respect, Theophrastus’ use of ἐπισημαίνει does not fit that of the astrometeorological literature. Theophrastus uses ἐπισημαίνει intransitively but personally in *De signis* exactly where we would expect σημαίνει with a direct object. Indeed, he runs the two constructions in parallel: καὶ ἂν ἐπὶ τὸ Πήλιον νεφέλη προσίῃ, . . . ὕδωρ ἢ ἄνεμον σημαίνει. ὅταν ἱρίς γένηται, ἐπισημαίνει (Theophr. *De signis* 22). Compare Adamantius *De ventis* 38.225–29. Signification also seems to be present in Epicurus’ use of the noun in the *Letter to Pythocles*. See Diog. Laert. 10.98.8; 115.9; 116.1.

7. Rehm 1940, col. 181.

8. See Pfeiffer 1916, 85–86. Pfeiffer further claims that ἐπισημαίνει was sometimes written just as σημαίνει, but all but one of his examples are easily dismissed as scribal errors. His remaining example, from Lydus *De mensibus* 4.14 (see Lydus *De ostentis*, p. 296.1, in Wachsmuth 1897) cannot be an alternate writing for the intransitive ἐπισημαίνει since σημαίνει is being used transitively, with βροχῆς as its direct object.

9. See van der Waerden 1984, 105–6.

10. Geminus, p. 210.14–15.

11. “On the sixteenth day: According to Eudoxus ἐπισημαίνει” (Geminus, p. 212.23). See also p. 214.5; Ptol. *Phaseis*, p. 15.10, and passim (Heiberg 1907).

phase mentioned that could serve as logical subject, and the dative construction rules out taking ἡμέρα as an implied subject. If, however, we treat these uses as impersonal, we can render the meaning of ἐπισημαίνει as “there is a change [in the weather],” more or less equivalent to μεταβάλλει ὁ αἶθρ.

The attempt to maintain the sense of signification, reading ἐπισημαίνει as “there is a sign that the weather will change,” does not fit the general nature of these astrometeorological texts. An astrometeorological parapegma typically correlates days with stellar phases and weather predictions. The predictions are, almost without exception, concrete: “it will rain,” “there will be a south wind,” and so on.¹² In no case do the entries in parapegmata tell the reader to watch for vague and unspecified signs of any kind. Rather, they state that particular phenomena will occur on particular days.

Texts from outside the corpus of astrometeorological literature point to such an interpretation as well. Stobaeus reports that Anaximenes thought that τὰς δὲ ἐπισημασίας γίγνεσθαι διὰ τὸν ἥλιον μόνον.¹³ This sentence appears in the middle of a longer section on Anaximenes’ beliefs about the stars in general, and by saying that the ἐπισημασίαι happened because of the sun, Stobaeus would seem to imply from this that Anaximenes did *not* think that they came about because of the fixed stars.¹⁴ Now, if we interpret the ἐπισημασίαι here as signs of some kind, then the sentence is difficult to understand. Keep in mind what was being observed in astrometeorology: the horizon was watched at either sunrise or sunset for the appearance of a particular star. It was not the sun that was observed, although information about its position or motion could perhaps have been abstracted from the observation. So the phenomenon seen was simply the appearance of a star close to the horizon at sunrise or sunset. If we take ἐπισημασία to imply signification then we have the strange situation of the sign (by definition, something manifest, observable) happening by means of something not observed (the sun). We get around this problem, however, by translating ἐπισημασίαι here as “changes [in the weather].” So what Anaximenes is saying is that changes in the weather are due to the sun, not the stars.¹⁵

Further confirmation of the centrality of the notion of “change” rather than that of “signification” can be found in the earliest preserved astrometeorological parapegma, *P. Hibeh* 27, dating from about 300 B.C.E. There we find the following:

[Ἐπειφ] κγ ἰσημερία φθινοπωρινή, ἡ νύξ ὥρων ιβ, ἡ δ’ ἡμέρα ιβ, τοῦ Ἀνουβιος ἑορτή, καὶ ὁ ποταμὸς ἐπισημαίνει πρὸς τὴν ἀνάβασιν.¹⁶

12. The few instances where predictions are more vague are characterized by the following two traits: (1) they take the form of either (a) “a storm *usually* happens,” e.g., ἡμέρα Δημοκρίτῳ . . . ἄνεμοι χειμέριοι ὡς τὰ πολλά (Geminus, p. 218.15–16), or rarely, (b) “wind *tends to* blow,” e.g., ἡμέρα Δημοκρίτῳ . . . ἐπιπνεῖν φύλει (Geminus, p. 218.16), and (2) they are frequently attributed to Democritus, one of the earliest named sources for the parapegma tradition.

13. Stob. *Flor.* 1.24.1k.

14. My argument here does not claim that Anaximenes actually used the word ἐπισημασίαι (in which case he would be the earliest author known to have used it in reference to weather). All that matters to the present discussion is that Stobaeus himself used the word.

15. Such an interpretation *does* turn up in LSJ’s treatment of this noun (it reports that in the plural, ἐπισημασία can mean “changes in the weather”), but I am at a loss to explain why this meaning is absent in their entry for the verbal form of this word.

16. “[Epeiph] 23: Autumnal equinox; the night is twelve hours, the day twelve hours; festival of Anubis; and the river ἐπισημαίνει with respect to its rising” (Grenfell and Hunt 1906, vol. 1, p. 149, col. 12).

Here we note that, unlike elsewhere in the paraepgmatic literature, ἐπισημαίνει is being used personally. Grenfell and Hunt offer the following comment: “This entry ‘the river gives indication of rising,’ . . . refers apparently to the flood reaching its full height, which it usually does early in October. Epeiph 23 . . . being the day of the autumn equinox, was probably Sept. 27.”¹⁷ It is clear that the entry *does* refer either to the end of the rising of the river, or to the beginning of its receding. But rendering the idea that the river begins to recede as “the river gives indication of rising” loses this sense entirely. It is almost as strange as if we were to translate ἄνεμος μέγας πνεῖ as “the wind gives indication of calmness.” The solution of this difficulty lies in treating ἐπισημαίνει here as we have in the other paraepgmata, as fundamentally implying *change*, rather than signification. Our understanding of ὁ ποταμός ἐπισημαίνει πρὸς τὴν ἀνάβασιν would thus be: “the river changes with respect to its rising,” that is, either “it finishes rising,” or “it begins to recede.”

Combining this with the other evidence we have seen, the best translation of ἐπισημαίνει in the paraepgmata would thus be “there is a change [in the weather].”

ASTROMETEOROLOGICAL ΕΠΙΣΗΜΑΣΙΑ

We have already seen an example of ἐπισημασία meaning “changes in the weather” in the Stobaeus Anaximenes fragment quoted above. In astrometeorological contexts, this use is common. Take, for example, Geminus 17.2: καὶ πρῶτον μὲν προδιαληπτέον, ὅτι αἱ γινόμεναι ἐπισημασίαι ὁμβρῶν καὶ πνευμάτων περὶ τὴν γῆν γίνονται, εἰς δὲ πλεῖον ὕψος οὐ διατείνουσιν (“the changes in clouds and winds that occur happen near the earth, and do not extend very high”). His point here is that weather phenomena happen only below certain altitudes, and he refers us to a story (also found in the Pseudo-Aristotelian *Problems*)¹⁸ that is supposed to show that there is no wind above a certain height, since the ashes of sacrifices made on high mountains remain undisturbed over the course of the years. Now because they are earthly phenomena, ἐπισημασίαι cannot refer to the *signs* of the winds and clouds, since the signs are well beyond the height of the mountains.

Another example comes from Ptolemy *Tetrabiblos* 2.94: τὸ μὲν οὖν κριοῦ δωδεκατημόριον καθ’ ὅλου μὲν ἔστι διὰ τὴν ἰσημερινὴν ἐπισημασίαν βροντώδες ἢ χαλαζῶδες (“The zodiacal sign of Aries is, on the whole, thunderous or hail bringing, because of the equinoctial change”). This passage parallels Aristotle’s claim about the rising and setting of Orion being dangerous and uncertain because of the change (μεταβολή) of season.¹⁹

This being said, a very few passages in astrometeorological texts do seem to lean back towards the root meaning of ἐπισημασία as signification,²⁰ or even perhaps “astral influence [on the weather],”²¹ and in other astronomical and astrological contexts, ἐπισημασία frequently implies signification or significance.²² These differences

17. Grenfell and Hunt 1906, vol. 1, p. 156, nn. 168–69.

18. [*Pr.*] 944b11–20. Compare also *Mete.* 340b36.

19. *Mete.* 361b30.

20. See, e.g., Ptol. *Tetr.* 2.98.

21. Adamantius *De ventis* 48.6–10. I lean toward the idea of “influence” here, since Adamantius talks about τὸ τῆς ἐπισημασίας ἔργον in the context of the συμπάθεια and σύμπνοια between the stars and the weather, in which he says that stellar phases *shape* (τυποῦσι) the weather (47.20–25).

22. See, e.g., Ptol. *Alm.* 6.11.

in meaning point to a not-quite-complete crystallization of the noun as technical vocabulary, such that it retains a degree of homonymy.

UNUSUAL AND EXTENDED USES OF ΕΠΙΣΗΜΑΙΝΕΙ

There are a handful of instances of ἐπισημαίνει with a dative object: one is a Democritus fragment from Ptolemy (Δημοκρίτῳ ἐπισημαίνει ὕδασι καὶ ἀνέμοις),²³ another is the Miletus fragment 456B ([καὶ ἐπι]σημαίνει χαλάζῃ),²⁴ and a third instance is in Wachsmuth's edition of Geminus: (Δημοκρίτῳ . . . ἐπισημαίνειν φιλεῖ βροντῇ καὶ ἀστραπῇ καὶ ὕδατι ἢ ἀνέμῳ, ἢ ἀμφοτέρω ὡς ἐπὶ τὰ πολλά).²⁵ The most plausible reading is that these datives are comitative: "There will be a change in the weather, with hail," that is, "including hail."²⁶ Indeed, this is exactly how the dative is being used in the following: καὶ [Απριλίῳ] ἐὰν ἀνέμῳ ἀστράνῃ, ὁ βασιλεὺς τοὺς ἄρχοντας αὐτοῦ φονεύσει.²⁷ Another possibility, albeit one I consider less likely, is that these are datives of respect: "There will be a change in the weather [in particular] with respect to the winds and rain."

A second unusual use of ἐπισημαίνει occurs in Geminus 17, where he employs the verb in an extended sense. In a passage criticizing the paraepmatists, he says:

πολλάκις δὲ μεθ' ἡμέρας τρεῖς ἢ τέσσαρας ἐπεσήμηνε τῇ ἐπιτολῇ ἢ τῇ δώσει τοῦ ἄστρου, ὅστι δ' ὅτε προέλαβε τὴν ἐπισημασίαν πρὸ ἡμερῶν τεσσάρων.²⁸

I translate this as:

Often [the paraepmatist] *has marked a change in the weather* with the rising or setting of a star three or four days too late, and sometimes he has anticipated the change by four days.

Here the subject of ἐπεσήμηνε (the paraepmatist) is carried over from the previous sentences, and the verb itself seems to mean that he has put down or marked an

23. Ptol. *Phaseis*, p. 63.22–23 (Heiberg 1907).

24. Diels and Rehm 1904, p. 110, left side, 4. Diels and Rehm's restoration of [καὶ ἐπι] does not seem unlikely. σημαίνει χαλάζῃ on its own would be even more puzzling. Another instance of a dative construction occurs in a restoration by Rehm of a dative in the Miletus II paraepgma: [ὕας ἐώια ἐπιτέλλει κ]αὶ ἐπιση[μαίνει νότῳ]ι κατ' Εὐκτῆμονα (Rehm 1904, 756), but given the state of the text, this reading is highly uncertain.

25. Geminus, Sagittarius 16, in Wachsmuth 1897, and followed by Manitius 1898. The MSS all read Δημοκρίτῳ . . . ἐπισημαίνειν φιλεῖ βροντῇ καὶ ἀστραπῇ καὶ ὕδατι ἢ ἀνέμῳ ἢ ἀμφοτέρω ὡς ἐπὶ τὰ πολλά, but the accusatives here would be even stranger than datives (indeed, they would be unique). See Rehm 1940, col. 181.

26. Rehm thought that these datives following ἐπισημαίνει are instrumental, meaning that the sign itself is *derived from* the weather phenomenon in the dative (Rehm 1940, col. 181; see also col. 183). But only three predictions in the paraepmata are in this dative construction, and Rehm fails to show why so few occurrences of rain, wind, or hail were signs of particular phases. Secondly, we have already seen that the common absolute use of ἐπισημαίνει frequently has no stellar phase (nor anything else) attached to it, and thus, if we apply Rehm's interpretation consistently, these instances would be vague to the point of meaninglessness.

27. "And if [in the month of April] there is lightning with wind, the king will kill his magistrates" (CCAG 3:48).

28. Geminus, p. 188.18–21. Manitius inserts a (τις) after πολλάκις δέ, but I see no real need for it. He translates the passage thus: "Oft hat jemand drei oder vier Tage zu spät an den Auf- und Untergang des betreffenden Gestirns eine Voraussage geknüpft, bisweilen eine solche auch vier Tage zu früh angesetzt." (See Geminus, p. 189). Aujac, eliminating the τις, offers the following rather freely idiomatic translation: "Souvent aussi les indications données valent avec 3 ou 4 jours de retard sur le lever ou le coucher de l'étoile; à d'autres moments, les indications sont en avance de 4 jours" (Aujac 1975, 87).

ἐπισημασία beside or with the stellar phase. This use is a simple extension of the normal astrometeorological use of the nominal form ἐπισημασία.

ΕΠΙΣΗΜΑΣΙΑ AS MEDICAL TERMINOLOGY

A different specialized use of ἐπισημασία occurs in the medical literature. Galen defines ἐπισημασία as follows: καλῶ δ' εἰσβολὴν παροξυσμοῦ τὸν ἀκριβῶς ἥδη πρῶτον χρόνον ἀπλατῇ, τὸν δ' αὐτὸν τοῦτον ἐπισημασίαν εἰώθασιν ὀνομάζειν.²⁹ Elsewhere, he says: ὅταν ἐν ταῖς ἀρχαῖς τῶν παροξυσμῶν, ἃς ἐπισημασίας ὀνομάζουσιν . . .³⁰ and: ἐν ταῖς εἰσβολαῖς τῶν πυρετῶν, ἃς ἐπισημασίας ὀνομάζουσιν.³¹ According to this use, then, ἐπισημασία refers to the onset (and in some cases, the duration) of the appearance of the symptoms in a cyclic fever,³² and not typically to the symptoms (signs) themselves. Elsewhere, ἐπισημασία is contrasted with ἀνέσις, remission,³³ and means the “manifestation” of the disease, by which translation I wish to imply not simply a symptom abstracted as such, but rather the *period* of the disease during which the patient is feverish. Indeed, Galen even refers to the “symptoms of the ἐπισημασία” (τὰ τῆς ἐπισημασίας σημεῖα).³⁴ I choose “manifestation” rather than “access” simply because of the ambiguity of the English term access, which can refer just to the onset of symptoms.³⁵ For our present purposes, what is important to note here is that the idea of “signification” is, as in the astrometeorological literature, absent.³⁶

29. “I call the onset of a paroxysm the absolute first moment of stability, and this is the same as what is usually called the ἐπισημασία” (Galen *De morborum temporibus liber 5*).

30. “when, during the beginnings of paroxysms, which are called ἐπισημασίαι . . .” (Galen *In Hippocratis aphorismos commentarii* 2.1).

31. “during the onsets of fevers, which are called ἐπισημασίαι . . .” (Galen *In Hippocratis prognosticum commentaria* 2.4).

32. I exclude non-cyclic fevers, since Galen seems to think that continuous fevers do not have ἐπισημασία: ἐν μὲν γὰρ ἄλλοις ἅπασι πυρετοῖς αἱ τοιαῦτα εἰσβολαὶ ἀθλιπτοὶ γίνονται χωρὶς τοῦ τραφῆναι· κατὰ δὲ τοὺς ἐκτικοὺς πᾶν τὸ ἐναντιώτατον, οὐδ' ὅλως ἐπισημασία γίνεται κατ' οὐδένα χρόνον, ἀλλ' εἰς ἐστὶ συνεχὴς πυρετὸς ὥσπερ, ὁ καλούμενος ἰδίως σύννοχος (*De differentiis febrium* 1.11).

33. E.g., in Galen *De typis* 3.

34. See *De differentiis febrium* 2.7, *Synopsis librorum suorum de pulsibus* 16, *De praenotione ad posthumum* 11.

35. That more than just onset is often implied in the ancient medical literature becomes clear in the contrast between ἐπισημασία and ἀνέσις, as in Galen's *De typis*, where diseases are classified according to the *duration* of the ἐπισημασία versus that of the ἀνέσις: τῶν τύπων οἱ μὲν εἰσι πρῶτοι, οἱ δὲ δεῦτεροι· καὶ οἱ μὲν ἐστῶτες, οἱ δὲ κινούμενοι· καὶ πάλιν οἱ μὲν εἰσιν ἀπλοῖ, οἱ δὲ σύνθετοι. πρῶτοι μὲν οὖν εἰσιν οἱ μικρὰν μὲν ἔχοντες τὴν ἐπισημασίαν, μακρὰν δὲ τὴν ἀνέσιν (Galen *De typis* 3). Moreover, duration is implied in such statements as κατὰ τὸν καιρὸν τῆς ἐπισημασίας (“during the time of the ἐπισημασία,” Galen *Synopsis librorum suorum de pulsibus* 17); καταρρήξει τῶν ἐπισημασιῶν (“there will be discharges during the ἐπισημασία,” Archigenes *Fragmenta inedita* 68.6 Brescia); κατὰ μὲν οὖν τὸν πρῶτον χρόνον τῆς ἐπισημασίας (“during the beginning of the ἐπισημασία,” Anonymi medici *Peri lyncanthropias* 16 Ideler); ἡ ἀκμὴ τῆς ἐπισημασίας (“the peak of the ἐπισημασία,” Aetius of Amida, *Iatricorum* 78.41 Olivieri); ἐν ταῖς ἀρχαῖς τῶν ἐπισημασιῶν (“in the beginnings of the ἐπισημασία,” Aetius of Amida *Iatricorum* 83.25 Olivieri). The best way to keep the sense of these examples clear is to interpret ἐπισημασία as durative, i.e., taking place over some nontrivial length of time.

36. This holds true for virtually all the Galenic uses of ἐπισημασία (the exceptions occurring either in discussions of seasons and changes in the weather, as at *De diebus decretoris* 3.7, or in his quotations from and commentaries on Hippocratic works), and for post-Galenic medical writers in general (e.g., Paulus Aegineta, Stephanus of Athens, Aelius Aristides, Aetius, Erotianus, Dioscorides Padanius, Alexander Trallianus, and Adamantius Judaeus). This is not, however, generally the case in the Hippocratic corpus, with the notable exception of Hippocrates *De articulis* 67.16. In the Hippocratic works, a number of different uses of both the noun ἐπισημασία and the verb ἐπισημαίνει are evident, e.g., (1) “indicate” (synonymous with σημαίνει) (*De morbis popularibus* 1.9.5, 7.46.6, and possibly *De septemtrine partu* 9.4); (2) “symptoms appear” (*De morbis popularibus* 4.39.5); or just (3) “appear” (e.g., *De semine* 21.8, 44.3; *De articulis* 30.14, 41.36; and passim). This last meaning, that of “appearance,” is related to several other uses of ἐπισημαίνει in Greek.

CONCLUSION

It is apparent, then, that ἐπισημαίνει has some hitherto unrecognized meanings in the astrometeorological literature. Its impersonal and intransitive use in the parapegmatic tradition, meaning “there is a change [in the weather],” is quite different from its use in, for example, Theophrastus (intransitive, but personal: “*x indicates a change in the weather*”). This loss of the sense of indication or signification is not, however, unusual. This is exactly what happened to the noun ἐπισημασία in the post-Hippocratic medical literature as well.

As a final note, I would point out that in the Latin astrometeorological texts, we sometimes see the verb *significat* occur exactly where we should expect to see ἐπισημαίνει in a Greek text.³⁷ I would argue that reading *significat* as a rather literal translation of ἐπισημαίνει, “there is a change [in the weather],” will allow us to make a good deal more sense of such passages in the Latin texts, as well.³⁸

DARYN LEHOUX

University of King's College

37. See, for example, Columella *Rust.* 11.2.5: *III Kal. Febr. Delphinus incipit occidere, item Fidicula occidere, significat*. So also *Rust.* 11.2.94: *VIII Kal. Ian. brumale solstitium sic Chaldaei observant, significat*. In these instances *significat* is clearly intransitive, although not necessarily impersonal. More clearly impersonal uses are at *Rust.* 11.2.94: *XV Kal. Ian. ventorum commutationem significat*. We may be tempted to take the date as an implied subject, but that will not work in *Rust.* 11.2.34, since the verb would then have to be plural: *VII. Id. Apr. et VI et V Austri et Africi, tempestatem significat*. In these last two instances, as in most (but not all) of the instances of *significat* in Columella, some or all MSS have added direct objects in the accusative (*tempestatem, pluviam*) and modern editors have favored including these direct objects where possible as well. I would suggest, however, that if *significat* is a literal translation of ἐπισημαίνει, then *tempestatem significat* may actually be a corruption of *tempestas, significat*.

38. I would like to thank Alexander Jones, Brad Inwood, and CP's anonymous referee for their helpful comments on earlier drafts of this paper, and the Social Sciences and Humanities Research Council of Canada for funding this research.

LITERATURE CITED

- Aujac, G., ed. 1975. *Géminos: "Introduction aux phénomènes."* Paris.
- Boll, F. 1909. Fixsterne. *RE* 6:2407–31.
- . 1910. Der Kalender der Quintilier und die Überlieferung der Geoponica. In *Griechische Kalender*, vol. 2, ed. F. Boll. Sitzungsberichte der Heidelberger Akademie der Wissenschaften philosophisch-historische Klasse. Heidelberg.
- Brescia, C., ed. 1955. *Archigenes: Frammenti medicinali di Archigene*. Naples.
- Cumont, F., et al., eds. 1898–1953. *Catalogus codicum astrologorum Graecorum (CCAG)*. Brussels.
- Diels, H., and A. Rehm. 1904. Parapegmenfragmente aus Milet. *Sitzungsberichte der königlich Preussischen Akademie der Wissenschaften, philosophisch-historische Klasse* 23:92–111.
- Evans, J. 1998. *The History and Practice of Ancient Astronomy*. Oxford.
- Grenfell, B. P., and A. S. Hunt, eds. 1906. *The Hibeh Papyri*. London.
- Heiberg, J. L., ed. 1898. Ptolemy: “Almagest.” In *Claudii Ptolemaei opera quae exstant omnia*, vol. 1. Leipzig.
- . 1907. Ptolemy: “Phaseis.” In *Claudii Ptolemaei opera quae exstant omnia*, vol. 2. Leipzig.
- Ideler, J. L., ed. 1842. *Anonymi medici: "Peri lycanthropias."* In *Physici et medici Graeci minores*. Berlin.

- Lehoux, D. 2000. *Paraepmata, or, Astrology, Weather, and Calendars in the Ancient World*. Ph.D. diss., University of Toronto.
- Manitius, C., ed. 1898. *Geminus: Gemini elementa astronomiae*. Leipzig.
- Olivieri, A., ed. 1935–50. *Aetius of Amida: Aetii Amideni libri medicinales*. Leipzig.
- Pfeiffer, E. 1916. *Studien zum antiken Sternnglauben*. Leipzig.
- Rehm, A. 1904. Weiteres zu den milesischen Paraepmen. *Sitzungsberichte der königlich Preussischen Akademie der Wissenschaften, philosophisch-historische Klasse* 23:752–59.
- _____. 1940. *Episemasiai*. *RE* suppl. 7:175–98.
- van der Waerden, B. L. 1984. Greek Astronomical Calendars I: The Paraepma of Euctemon. *Archive for History of Exact Sciences* 29:101–14.
- Wachsmuth, C., ed. 1897. *Lydus, Johannes Laurentis: Ioannes Laurentii Lydi liber de ostentis et calendaria graeca omnia*. Leipzig.