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THEOPHRASTUS
DE CAUSIS PLANTARUM
BOOKS V-VI



Edited and translated by
BENEDICT EINARSON
and
GEORGE K.K. LINK

THEOPHRASTUS

DE CAUSIS PLANTARUM

BOOKS
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藏书章

AND

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SIGLA

(see volume I, pages lix–lxi)

U	Vatican City, Urbinas graecus 61 (11th century)
U ^d	the diorthotes of U
u	correctors (more probably an Italian corrector) of the 15th century
N	Florence, Laurentian Library, desk 85, 22 (15th century)
v	Venice, Library of St Mark 274 (dated 3 Jan. 1443)
Gaza	Theodorus Gaza's Latin translation (completed 1451)
M	Florence, Laurentian Library, desk 85, 3 (15th century)
C	Oxford, Corpus Christi College 113 (15th century)
H	Harvard College Library 17 (15th century)
a	Aldine Aristotle, fourth volume
P	Paris, National Library 2069 (15th century)
B	Vatican City, Vaticanus graecus 1305 (15th century)
U ^c	a correction by the first hand
U ^{cc}	such a correction made in the course of writing
U ^{ac}	the reading before correction by the first hand
U ^r	a reading due to erasure
U ^{ar}	the reading before erasure
U ^m	a reading or note in the margin by the first hand
U ^t	a reading in the text
U ^{ss}	a superscription
U ^l	a reading by the first hand

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ΠΕΡΙ ΦΥΤΩΝ ΑΙΤΙΩΝ

E-Z

E¹

1.1 τῶν ἐν τοῖς δένδροις καὶ φυτοῖς τὰ μὲν αὐτόματα γίγνεται, τὰ δ' ἐκ παρασκευῆς καὶ θεραπείας.

ἐκάτερα δὲ αὐτῶν ἔχει διαίρεσιν · τῶν γὰρ αὐτομάτων τὰ μὲν ἐστὶ φύσει, τὰ δὲ παρὰ φύσιν (καὶ γὰρ ἐν τοῖς φυτοῖς ὑπάρχει τι τοιοῦτον, ὥσπερ καὶ ἐν τοῖς ζώοις · οἷον ἐάν τι μὴ τὸν οἰκεῖον ἐνέγκῃ βλαστὸν ἢ καρπὸν, ἢ μὴ κατὰ τὴν τεταγμένην ὥραν, ἢ μὴ ἐκ τῶν εἰωθότων μερῶν, ἢ τι τοιοῦτον ἕτερον, ἅπαντα γὰρ ταῦτα παρὰ φύσιν) · τῶν δ' ἐκ τέχνης καὶ θεραπείας τὸ μὲν ἐστὶ συνεργοῦν τῇ φύσει πρὸς εὐκαρπίαν καὶ πλήθος, τὸ δὲ εἰς ἰδιότητα καὶ τὸ περιττὸν τῶν καρπῶν (οἷον τὸ ποιῆσαι βότρυν ἀγίγαρτον, ἢ ἐκ τοῦ αὐτοῦ κλήματος μέλανα καὶ λευκὸν φέρειν, ἢ καὶ ἐν αὐτῷ τῷ βότρυϊ, καὶ ὅσα δὴ τοιαῦθ' ἕτερα ποιοῦσι, πλείω γὰρ ἐστίν).

¹ αρχ(η) τοῦ εἶναι

BOOK V

A Fourfold Division

Some occurrences in trees and plants are spontaneous [A], others come from human provision and care [B]. 1.1

Each class is subdivided: spontaneous occurrences [A] are either natural [A1] or unnatural [A2] (for in plants, as in animals, there is such a thing as an unnatural occurrence; for example a tree or plant may not bear its proper shoot or fruit, or may bear it not at the regular season or from the usual parts, or may do some other such thing, all of these occurrences being unnatural). Among the procedures of art and care [B], on the other hand, there is one set [B1] that collaborates with the plant's nature to bring about good and abundant fruit, and another [B2] directed to producing fruit of a special and extraordinary character (for instance to grow a grape cluster that has no stones, or a black and a white cluster on the same twig, or black and white grapes in the same cluster, and all such other results as are obtained, for there are a number of them).

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- 1.2 *περὶ μὲν οὖν τῶν κατὰ φύσιν, καὶ τῶν συνεργούντων τῇ φύσει, πρότερον εἴρηται ·*

περὶ <δὲ>¹ τῶν παρὰ φύσιν, καὶ ὅσα πρὸς τὸ περιττὸν ἤκει, νῦν λεκτέον · καὶ πρῶτον μὲν² ὑπὲρ τῶν παρὰ φύσιν ἢ ὄντων ἢ δοκούντων, καὶ γὰρ τούτων ἐστὶ τις αἰτία, καθάπερ ἐν τοῖς πρώτοις (οἷον ὅσαι³ πάρωροι καρποτοκίαι, καὶ μὴ ἐκ τῶν αὐτῶν μερῶν⁴ γίνονται · λέγω δ' οἷον εἴ ποτε συκῇ κατὰ χειμῶνα, τοῦ ἥρος ὑποφαίνοντος, ἦνεγκε καρπὸν, καὶ ῥόα καὶ ἄμπελος ἐκ τῶν ἀκρεμόνων⁵ καὶ ἐκ τοῦ στελέχους, καὶ εἰ δὴ τι παραπλήσιον τουτοισί⁶).

- 1.3 *πρὸς⁷ δὴ ταῦτα λαβεῖν δεῖ πρῶτον μὲν, ὅτι συμβαίνει τὰ τοιαῦτα τοῖς πολυκάρποις καὶ ὑγροῖς (οἷον ἀμέλει καὶ τοῖς εἰρημένοις · ἅπαντα γὰρ [τὰ]⁸ ὑγρὰ ταῦτα καὶ πολύκαρπα), ξηρῷ δ' οὐδενὶ καὶ ὀλιγοκάρπῳ.*

δεύτερον δέ, πρὸς τε τὰς βλαστήσεις καὶ καρποτοκίας τὰς παρώρους, ὅτι πάντων ἔχουσιν τινὰς ἀρχὰς ἐν αὐτοῖς βλαστητικὰς ἢ κλῶνες, ἢ πτόρθοι, ἢ ἀκρεμόνες, ἢ ὅ τι χρὴ καλεῖν τὰ ἐσχα-

¹ a. ² Wimmer : ἢ U^c (ἢ U^{ac}) N : aP omit.

³ u a : ὅσαι U N P. ⁴ Wimmer : ὠρων U.

⁵ u : μονων U^t : κρεμονων U^c (κρε ss.).

⁶ U : τούτοις Heinsius. ⁷ u : πόρος U. ⁸ Itali.

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We have already discussed natural occurrence¹ 1.2 [A1] and procedures that collaborate with the nature of the plant² [B1].

The Unnatural [A2] : Three Premises

We must now discuss occurrences contrary to nature³ [A2] and procedures that achieve the extraordinary⁴ [B2], and first [A2] the occurrences that are either unnatural or regarded as such, since these too, like the matters first discussed,⁵ have some causation (as for instance the cases of fruit borne out of season or not borne from the same parts: I mean for example if a fig tree bears fruit in winter, when there is a hint of approaching spring, and if a pomegranate or vine bears from its boughs and trunk, and any other cases resembling these).

To explain these matters we must set up first 1.3 the point that such things occur in trees that are abundant bearers and fluid (as in fact the ones mentioned,⁶ all of them fluid and all abundant bearers), but in none that is dry and a scanty bearer.

A second point, to explain unseasonable sprouting and fruiting, is that in all of them the "twigs" (*klônes*) or "shoots" (*ptórthoi*) or "boughs" (*akre-*

¹ CP book 2. ² CP book 3.

³ CP 5 1-4

⁴ CP 5 5-7.

⁵ [A1] in CP 2 and [B1] in CP 3.

⁶ CP 5 1. 1 (fig, pomegranate and vine).

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τεύοντα τῶν δένδρων (οὐδὲν γὰρ ἐπὶ πᾶσι κοινόν, ἀλλ' ἔνια προσηγορίας <ἰδίας>¹ τινὰς ἔχει, καθάπερ θαλλία, κράδη, κλήμα · καλοῦσι δέ τινες καὶ κλῶνας). ὅτι δὲ ἔχουσιν ἀρχὰς τινὰς τοῦ βλαστάνειν φανερόν ἐκ τῶν καταπηγνυμένων, ἃ πολλάκις, ἀρριζώτων ὄντων τῶν κάτω, μεθίησι βλαστὸν (οἶον κλήματα καὶ κράδαι² καὶ ἐλάας χάρακες³), ἐνίοτε δὲ καὶ μὴ καταπαγέντα, ἀλλ' ἀφηρημένα (καθάπερ τὰ τε κλήματα καὶ τὰ τῆς ἐλαίας ξύλα).

τρίτον δ' ὅτι⁴ συμβαίνει τὴν πάρωρον βλάστησιν γίνεσθαι χειμῶνων μαλακῶν ἢ νοτίων γενομένων.

ἐκ τούτων γὰρ οὐκ ἂν δόξειεν ἄλογον εἶναι τὸ συμβαῖνον, ἡθροισμένης τῆς γονίμου δυνάμεως καὶ ὑγρότητος, ὅτε μὲν καθ' αὐτήν, ὅτε δὲ λειπομένης τῆς ἔμπροσθεν ἀφ' ἧς ὁ καρπὸς ἦλθεν, ὥσπερ

§1 4–5: Athenaeus III 2 (77 C).

¹ added by Heinsius after ἔχει, placed here by me.

² Heinsius (κράδας Scaliger) : κλάδη U

³ Schneider : χάρακας U

⁴ Wimmer · δέ τι U

mónes), or whatever one is to call the extremities of trees, contain in themselves certain starting-points capable of sprouting. (There is no name for these extremities that applies to all trees, but some have certain special names, as *thallía* [live-twign], *krádē* [fig-twign] and *klēma* [vine-twign]; some persons use for twig the word *klōnes*).¹ That the twigs have certain starting-points of sprouting is evident from those that are set in the ground, which often send out a shoot, although their lower parts have not rooted, as twigs of vine and fig and sticks of olive wood²; sometimes they do so even when not set in the ground, but merely removed from the tree, as with vine twigs³ and olive wood.⁴ 1.4

A third point is that unseasonable sprouting occurs when the winter has been mild or had winds from the south.

The Unnatural [A2] : Unseasonable "Fruit"

In the light of these points the occurrence would not appear unreasonable, once the generative power and fluid had been collected, sometimes independently, sometimes when the power and fluid that was there before and produced the fruit of the previous year has left a remainder, as occurs with the

¹ In *HP* 1 1 9 the twig is called *kládos*.

² Cf. *CP* 1 12. 9 (for vine, fig and olive); *CP* 1 3. 3 (for olive). ³ Cf. *CP* 1 13. 9. ⁴ Cf. *CP* 1 7. 4.

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συμβαίνει καὶ ἐπὶ τῆς συκῆς · ὑπολειπομένης γὰρ
 πλείονος τῆς τοιαύτης ὑγρότητος, ὅταν ἂν
 ἐπιγένηται μαλακὸς καὶ ὑγρὸς καὶ θερμὸς, ἐξε-
 15 καλέσατο τὴν βλάστησιν. ὅτι¹ δὲ τοῦτο συμβαί-
 νει φανερόν, ἐκ² τούτου³ <γὰρ>⁴ τοῦ μέρους ὁ
 καρπὸς ἀνίετο⁵ ὅθεν καὶ οἱ πρόδρομοι. τάχα δὲ
 καὶ οἱ πρόδρομοι μὲν διὰ τὴν μαλακότητα τοῦ ἀέ-
 ρος οὐ προτερουσί τε καὶ πέττονται μᾶλλον · εἰ δ'
 ἄρα μὴ τοῦτο, ἀλλὰ τᾶλλά γε πάντα διὰ τὰς
 αὐτὰς καὶ παραπλησίους αἰτίας ἐστίν, ἥτοι γενο-
 μένων τινῶν ὑπολειμμάτων, ἣ καθ' αὐτὰ⁶ συνι-
 σταμένων ἀμφοῖν.

¹ u^c P. ὅτε U · ὅτε u^{ac} N a.

² U : ὅτι ἐκ u : εἰ ἐκ Wimmer. ³ u : του U.

⁴ ego. ⁵ ego : ἀνιεται U.

⁶ Scaliger (*ex integro* Gaza) : καὶ ταῦτα U.

¹ Here the true fig or the fruiting shoot from which it is produced

² The fruit (*sýkon* or true fig) is produced in front of the leaf (that is, in the axil of the new leaf), and not, like the premature arrivals (*pródromoi*) and the *ólynthoi*, behind it (that is, in the axils of the leaves of previous years): cf. CP 5 1. 7; 5 1. 8.

³ *Pródromoi* in the Greek, literally "fore-runners" or "headlong runners." *Sýkon* (the true fig) is neuter, *pródromos* masculine; presumably *ólynthos* (masculine) was once understood. Four words are used of the true or

fig-tree. For if a good amount of such fluid is left over, ensuing mild, moist and warm weather calls forth sprouting. That this occurs is evident, since the fruit¹ was put forth from the part² from which the "premature arrivals"³ come. Perhaps in the case of the premature arrivals at least the earlier production and concoction⁴ is not so much due to the mildness of the air⁵; but even if this is not so, the rest of the imperfect productions⁶ are all due to the same and similar causes: either a remainder has been left over, or both collections⁷ are made independently. 1.5

false fig: (1) *sýkon*: the true fig; see also (4) below; (2) *ólynthos*: these come out in season, remain on the tree, and are sometimes edible (CP 5 1. 6–8); the term covers the varieties intermediate between *sýkon* and *pródromos*; (3) *pródromos* ("first arrival"): these come out far in advance of the season (although some come out later), are irregular in their production, soon fall off, and are never edible; (4) *erínón*: properly the fruit of the caprifig, but the term is also used of the "premature arrivals" and the unripe *sýkon*. ⁴ Only in colour: CP 5 1. 6.

⁵ It is due more to the state of the tree: cf. CP 5 1. 8 *ad fin.* The premature arrivals usually come so early that it is not easy to speak of them as called forth by the "mildness of the air."

⁶ The *ólynthoi* of various types: CP 5 1. 6 *ad fin.* and 5 1. 7.

⁷ That which produced last year's figs (*sýka*), and that which produces this year's "premature arrivals" (*pródromoi*) and *ólynthoi*.

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- 1.6 οὐκ ἄλογον δ' οὐδετέρως ·¹ προϋπάρχει γὰρ ἡ τοῦ δένδρου πρὸς ἅμφω φύσις ὑγρά τις οὔσα καὶ προβλαστής,² ὥστ' ἂν εὐδαίᾳ πλείω χρόνον ἐπιγίνωνται, καὶ τοῦ χρώματος ποιεῖν τὴν μεταβολήν (ἐπεὶ τὸν γε³ χυλὸν οὐ δύναται πέττειν οὐδαμῶς, ἀλλ' ἡ φαντασία σχεδὸν γίνεται κατὰ τὴν χροάν). οἱ δ' ὀλυνθοί, συνεργούσης ἤδη τῆς ὥρας, πεπαίνονται μέχρι τινός · ἔτι δ' οὗτοί γε κατὰ φύσιν πῶς εἰσιν, ἀεὶ γὰρ γίνονται τὴν αὐτὴν καὶ τεταγμένην ὥραν, ὥσπερ καὶ ὁ τῶν διφόρων
17 συκῶν λεγομένων⁴ καρπός. ἀλλ' ἐπὶ τοσοῦτον τὸ ὅμοιον ληπτέον, ὅτι παραπλησία τις ἡ αἰτία πάντων, ἐκ τοῦ συνίστασθαι τὴν τοιαύτην ὑγρότητα καὶ δύναμιν. διὸ καὶ ὁπισθεν τοῦ φύλλου πάντα ταῦτα γίγνεται, καὶ οὐχ, ὥσπερ τὸ σῦκον, ἔμ-

¹ οὐδ' ἑτέρως aP : οὐδ' ἕτερος U^c (ξ- U^{ac}) N : οὐδ' ἕτερον u.

² ego (cf. προαυξής) (πρωῖβλαστος Schneider . πρωῖβλαστής LSJ) · προβλάς U N P πρόβλαστος a. ³ Schneider : τε U.

⁴ Gaza, Scaliger · λεγόμενος U.

¹ The white *ólynthoi* of CP 5 1. 8; the black are meant by the "fruit of the so-called double-bearing 'fig-trees'" in the following sentence. Only the true fig (*sýkon*) is ever fully ripe ² Cf. HP 3 7. 3, cited in note 2 on CP 5 1. 8

³ A reference to the trees that bear both figs and black *ólynthoi* (CP 5 1. 8), the same as the "wild" fig-trees of CP 2 9. 13. There was some doubt whether they deserved

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Production of premature arrivals is unreasonable 1.6
 from neither source: the nature of the fig-tree is to
 begin with well fitted for either production, being
 fluid and given to early sprouting. So that if fair
 weather follows the production for any considerable
 time the tree goes on to change the colour of the
 premature arrival; as for the juice, the tree is quite
 unable to concoct it, the appearance of concoction
 being confined, one may say, to the coloration. The
ólynthoi, on the other hand, do get ripened up to a
 point,¹ with the season already lending its aid. But
 these moreover are in a way natural,² since they are
 always produced at the same regular season, as is
 also the fruit of the so-called double-bearing "fig-
 trees."³ But we can press the resemblance⁴ only 1.7
 so far as to say that the causation is similar in all,
 coming from the accumulation of this sort⁵ of fluid
 and power. This moreover is why all these grow
 from behind the leaf, and not, like the fig, from

the name of "fig-trees": cf. *HP* 3 7 3. "and if after all
 some fig-trees bear *ólynthoi*" The same tree is called an
ólynthos at *HP* 1 14. 1. "Bearing fruit from both old and
 new wood are any apple-trees there may be that bear two
 crops ; and further the *ólynthos* that concocts its fruit
 [that is, its *ólynthoi*] and bears figs on the new wood."

⁴ Between the black *ólynthoi*, the white *ólynthoi* and the
 premature arrivals

⁵ Presumably both collections were made before the new
 wood had developed far enough to have a collection of its
 own, producing the true fig

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- προσθεν. ἀλλ' αἱ μὲν φύουσai τοὺς προδρόμους
 ἀσθενέστεραι τυγχάνουσιν, ὥστε οὐδ' ἐπιμένειν
 δύνανται, τῆς βλαστήσεως γινομένης ἐκεῖσε.
- 1.8 ὅλως δὲ πολυειδὲς τι τὸ τῶν συκῶν ἐστιν · αἱ μὲν
 γὰρ ὀλυνθοφόροι μόνον, σῦκα δ' οὐ φέρουσιν (οἶον
 αἱ τοὺς λευκοὺς ὀλύνθους φέρουσai τοὺς ἔδωδί-
 μους) · ἕτεραι δὲ φέρουσι καὶ σῦκα καὶ ὀλύνθους
 μέλανας, ἀβρώτους δὲ τούτους ἢ καὶ ἔδωδίμους
 (φέρουσι¹ δὲ τὸν ὀλυνθον ὅπισθεν τοῦ θρίου ·
 γίνονται δ' ἐν αὐτοῖς καὶ ψῆγες) · αἱ <δ>² ὅλως
 οὐ φέρουσιν ὀλύνθους. πάλιν δὲ τοὺς προδρόμους
 αἱ μὲν φέρουσιν (οἶον ἢ τε Λακωνικὴ καὶ <ῆ>³
 λευκομφάλιος καὶ ἕτεραι πλείους), αἱ δ' οὐ φέρου-

§1.8: Cf. Athenaeus, iii. 12 (77 F); *ibid.* 77 C; Pliny N. H 16. 113.

¹ Gaza, Scaliger : -σαι U.

² u^{ss}? (δὲ Itali after Gaza).

³ Athenaeus.

¹ To the position in front of the leaf, from which position the true fig is produced. The occurrence mentioned in *HP* 2 3. 3 is therefore monstrous: "a fig-tree has been known to grow its figs from behind its *eriná* [that is, its premature arrivals]."

² Cf. *HP* 3 7. 3: "Whereas other trees bear both the