

Marie Cronier

Dioscorides Excerpts in Simon of Genoa's *Clavis sanationis*

The Greek pharmacologist Dioscorides (*floruit* during the second half of the first century AD) is one of the most frequently quoted authors in Simon of Genoa's *Clavis sanationis*. Simon also makes a statement to this effect in his *Praefatio* (§ 4), when he says: '*Primum ex grecis Dyas[coridis] liber producatur*', Among the Greeks, one must first refer to Dioscorides' book:¹ thus, Simon considers Dioscorides' treatise as the first and the most important.

This work Simon refers to is nowadays commonly referred to by its Latin title *De materia medica*, although it was written in Greek (Περὶ ὕλης ἰατρικῆς/*Peri hylēs iatrikēs*): it is a large encyclopedia of pharmacology, containing about eight hundred chapters, each of which being dedicated to one specific 'simple' (a plant, a vegetable, an animal, a metal, *etc.*).

1. General Remarks

It must first be stressed that Simon never seems to refer to other Greek treatises attributed to Dioscorides (*Euporista*, *Alexipharmaca*, or *Theriaca*), which are most probably apocryphal and, in any case, are not known through late antique or medieval Latin translations.

Usually, moreover, Simon's quotations of Dioscorides are quite long and often consist of several sentences. He introduces them with different abbreviations ('*Dyascor.*' or '*Dya.*' or even a simple '*D.*'), which can be found very often in Simon's work. I have not yet made an exhaustive list of all these quotations but a brief survey suggests that there are several hundred. However, in some chapters where Dioscorides' name is not mentioned, it is in fact possible to find authentic quotations of *De materia medica*. This is the case, for example, of chapter '*Apios siue camebalanos*' (tuberous spurge), as can be observed:

¹ In this paper, I will quote Simon's *Clavis sanationis* using the very useful online edition: <http://www.simonofgenoa.org>, with my own collations of the other witnesses, as proposed on this website. Translations are mine.

Apios. Siue camebalanos siue rafanus agrestis: astas habet duas uel tres, uiscosas et teneras et ruffas; folia sunt ei rute similia, longa uiridia et parua; fructus siue semen paruuum; cuius radix est affodilo similis, obrotunda, similis pile, lacrimo plena, a foris nigra, intus alba; radices eius due sunt super terram et cetera.

1 *apios* AC: *appios* B f | *rafanus* ABC: *raffanus* f | *astas* ABC: *hastas* f | *duas* B: *quinque* AC : *duas* e : (unclear) f | *uiscosas* ACf: *iuntosas* B

2 *uiridia* ABf : *uirida* C

3 *obrotunda* AC : *et obrotunda* B f | *a foris* ABC : *foris* f |

4 *nigra* Af : *niger* B

Apios [tuberous spurge], or *camebalanos* or *rafanus agrestis* [wild radish]: it has two or three stems, sticky, thin and red. Its leaves are similar to those of the rue, long, pale-green and small. Its fruit or seed is small. Its root is similar to that of the asphodel, round, like a ball², full of juice, black from outside but white inside. It has two roots above the ground.³

Although Dioscorides' name does not appear, even in an abbreviated form, this chapter is obviously a translation of the original Greek chapter from *De materia medica* (book IV, chapter 175: ἄπιος/apios):⁴

ἄπιος · οἱ δὲ ἰσχάδα, οἱ δὲ χαμαιβάλανον, οἱ δὲ ῥάφανον ἀγρίαν, οἱ δὲ λινοζώστιν καλοῦσι. κλωνία δύο ἢ τρία ἀπὸ γῆς σχοινώδη, λεπτά, ἐρυθρά, μικρὸν ὑπὲρ τῆς γῆς αἴροντα· φύλλα πηγάνω ἐοικότα, ἐπιμηκέστερα <δέ>, χλωρά· καρπὸς μικρός, ῥίζα ἀσφοδέλω παραπλησία, στρογγυλωτέρα δὲ καὶ πρὸς τὸ τοῦ ἀπίου σχῆμα, μεστή ὀποῦ, φλοιὸν ἔχουσα ἔξωθεν μέλανα, ἔνδοθεν δὲ λευκή. The tuberous spurge: some people call it *ischas*, others *chamaibalanon*, others *rhaphanos agria*, and others *linozostis*. It sends up from the ground two or three stringy little twigs, thin, red, and rising slightly above ground. The leaves resemble those of the rue but they are longer and pale-green. The fruit is small. The root closely resembles that of the asphodel but it is rounder, tending toward being pear-shaped, full of milky juice, and it has skin that is black on the outside, but inside the root is white.

² The altered form '*pile*' (*pila* has many significations, for example: ball) obviously comes from a confusion with '*pire*' (*pira*, pear), which is the correct form, cf. the Greek text.

³ The last sentence is probably the result of an alteration of some Greek words that had been omitted above, in the description of the stems: μικρὸν ὑπὲρ τῆς γῆς αἴροντα, *rising slightly above the ground* (cf. the Greek text).

⁴ The reference edition for the Greek text of *De materia medica* is: *Dioscorides De materia medica, libri quinque*, edited by Max Wellmann, 3 vol. (Berlin: Weidmann, 1906-1914. Revisions: Berlin, 2010) (quoted in the following: Wellmann). The English translation quoted in this paper is: Pedanius Dioscorides of Anazarbus. *De materia medica*, translated by Lily Y. Beck. *Altertumswissenschaftliche Texte und Studien* 38. Hildesheim-Zürich-New York: Olms-Weidmann, 2005. For the identifications of the plants, I mainly rely on: Max Aufmesser, *Etymologische und wortgeschichtliche Erläuterungen zu De materia medica des Pedanius Dioscorides Anazarbeus*. (Hildesheim-Zürich-New York: Olms-Weidmann, 2000).

In a consequence, the chapters coming from Dioscorides in Simon's treatise are even more numerous than those who bear the attribution to this author.

Another fact to be underlined is that, in general, Simon only quotes the descriptive part of Dioscorides' chapter and totally omits the passages dealing with therapeutic properties. Thus, when a 'simple' is dealt with in the *De materia medica*, it is almost always quoted by Simon, except when Dioscorides does not give any description of it but only speaks about its therapeutic properties: in this case, Simon either resorts to another author or gives his own description.

2. Simon's Sources for Dioscorides in Latin

First, let us have a look at what Simon says in his *Praefatio*:

Primum ex grecis Dyascoridis liber producat (..) Verum liber eius qui ab antiquo in latinum habetur a primo exemplari differt. Nam hic per alphabetum in latinum ordinatus est. Ille uero in V libris distinctus ut per ipsius prohemium demonstratur. Multa etiam capitula in hoc desunt que ille continet, aliqua etiam in hoc libro sunt addita, que ipsius auctoris non sunt: per Serapionem de simplicibus medicinis et per hoc opus ostenditur.

1. *ex ACf : de B | Dyascoridis C : Dyas. A, Diascoridis B, Dy. f |*

2. *habetur – latinum om. f | in AC : om. B*

3. *libris ABC : libros f*

4. *capitula ACf: capitulla B | in hoc ABC : om. f | libro ABC: om. f |*

5. *auctoris ABf : auctore C | per ABC: ut per f*

6. *opus AC: opus B f | ostenditur ACf: ostenditur B*

Among the Greeks, one must first refer to Dioscorides' book [...]. But his book that exists in Latin translation from the ancient period is different from our first exemplar. Indeed this one [the first exemplar] is organized through the alphabetical order in Latin whereas that one [the ancient translation] is structured in five books, as it can be demonstrated from its Prologue itself. Moreover, many chapters are lacking in this one [the first exemplar] but are preserved in that one [the ancient translation]. There are even some additions in this book [the first exemplar] that are not from this author: it can be established thanks to Serapion's *De simplicibus* and thanks to that book [the ancient translation].

Simon makes the distinction between two forms of Dioscorides in Latin:

- An ancient Latin translation, organized in five books with a prologue, exactly like the original Greek treatise.
- A Latin *Alphabetical Dioscorides*, which omits numerous chapters and contains apocryphal additions.

To determine what is or is not authentic, Simon refers to the quotations of Dioscorides in the *Liber Serapionis de simplicibus medicinis*:⁵ what does not appear there is suspected to be unauthentic.

We can now compare this statement with what we know about the Latin manuscript tradition of Dioscorides.⁶ There have been at least three Latin translations of *De materia medica* before the Renaissance: they are called translations A, B, and C. Translations A and B are not directly preserved: we know them only through quotations within other texts and authors. For example, Translation A is mainly preserved in a treatise known as *De herbis femininis*.⁷ Only the most recent (Translation C) has come directly to us, through several manuscripts: it should be dated to the sixth century and it has been edited in modern times.⁸ It is often referred to as '*Dioscorides Longobardus*', the name of its most famous manuscripts (München, *BSB Clm 337*, of the tenth century).⁹ But during the Middle Ages, this translation was not widely known.

5 As it has recently been demonstrated, this is a Latin translation of the Arabic treatise called *Kitāb al-Adwiya al-mufrada (Book on simple drugs)* by Ibn Wāfīd, a pharmacologist living in Toledo in the eleventh century, which relies mainly on Dioscorides and Galen, see: Peter Dilg, "The Liber aggregatus in medicinis simplicibus of Pseudo-Serapion: An influential work of medical Arabism," in Charles Burnett and Anna Contadini (Eds.), *Islam and the Italian Renaissance*, Warburg Institute Colloquia 5 (London: The Warburg Institute, 1999), 221–231 and Peter E. Pormann, "Yūḥannā ibn Sarābiyūn: Further Studies into the Transmission of his Works", in *Arabic sciences and philosophy* 14 (2004): 236–238. The Latin *De simplicibus medicinis* was first edited in 1473 with the attribution of the translation to Simon himself and to the Jew Abraham of Tortuso (actually this last must be the only translator): *Liber Serapionis agregatus in medicinis simplicibus, translatio Symonis Januensis, interprete Abraam Judæo tortuosiensis, de arabico in latinum*, (Milano: Antonio Zarotto, 1473).

6 This point has been very accurately studied by Arsenio Ferraces Rodríguez, whose conclusions I will only sum up here. See for example: Arsenio Ferraces Rodríguez, *Fitozoterapia antigua y altomedieval: textos y doctrinas* (A Coruña: Univ. da Coruña, Servizo de Publicacións, 1999).

7 Edition: Heinrich F. Kästner (ed.), "Pseudo-Dioscoridis *De herbis femininis*, *Hermes*, 31 (1896), 578–636, with an *addendum* in *Hermes*, 32 (1897), 160. A. Ferraces Rodríguez is preparing a new edition of it, hopefully to be soon published.

8 Edition: Konrad Hofmann, T.M. Auracher, "Der Longobardische Dioskorides des Marcellus Virgilius", *Romanische Forschungen*, 1, (1883), 49–105, Book I with prologue; Theodor M. Auracher, Hermann Stadler, "Die Berner Fragmente des lateinischen Dioskorides", *Archiv für lateinische Lexicographie und Grammatik*, 10 (1898): 117–124, only some fragments; Hermann Stadler, "Dioscorides Longobardus (Cod. Lat. Monac. 337)", *Romanische Forschungen* 10 (1899): 181–247, 369–446, book II and III; Hermann Stadler, "Dioscorides Longobardus (Cod. Lat. Monac. 337)", *Romanische Forschungen*, 11 (1901): 1–93, 94–121, book IV and variants of codex Paris, *BNF lat. 9332* for book II and III; Hermann Stadler, "Dioscorides Longobardus (Cod. Lat. Monac. 337)", *Romanische Forschungen*, 13 (1902): 161–243, book V; Hermann Stadler, "Dioscorides Longobardus (Cod. Lat. Monac. 337)", *Romanische Forschungen*, 14 (1903): 601–637, index; Hermann Stadler, "Die Vorrede des lateinischen Dioskorides", *Archiv für lateinische Lexicographie und Grammatik*, 12 (1902), 11–20, prologue. Book I has been re-edited (but without the prologue) by: Haralambie Mihăescu, *Dioscoride latino materia medica libro primo (lasi: Terek, 1938)*. On these editions, see: Bengt Löfstedt, "Textkritische Notizen zu Dioscurides Latinus", *Romanobarbarica* 18 (2003–2005): 91–95.

9 Photographs of this manuscript can be found in the digital library of the BSB: <http://www.digitale-sammlungen.de>

Indeed, in the last centuries of the Middle Ages, Dioscorides was most frequently transmitted in Latin as an alphabetical re-elaboration, the origin of which is still not known with certainty. The main source of this Latin *Alphabetical Dioscorides* was Translation C but many other fonts were used, among which (as I have recently tried to show), was an exemplary of Translation B.¹⁰ This Latin *Alphabetical Dioscorides* had a very wide diffusion at the end of the Middle Ages. Unfortunately, it was not edited in modern time and we have to refer to Renaissance editions.¹¹

Now, if we come back to Simon, we will notice that this statement about the manuscript tradition exactly fits what Simons says and, furthermore, what we can conclude from the analysis of Simon's work. It is indeed possible to prove that Simon directly read one manuscript of each of these two forms of Dioscorides in Latin. After having analysed, not all, but a large number of Dioscorides' quotations in the *Clavis sanationis*, I can say that:

- Simon's main source, what he calls 'Dyascorides' without any more precision, what is his '*primum exemplar*', first exemplar, is the alphabetical re-elaboration. It was very convenient for him, because it was alphabetical, exactly like the *Clavis sanationis*.
- The secondary source is what he calls '*antiqua translatio*', the ancient translation: this is a manuscript of Translation C. He generally refers to this as '*in uero Dyascoride*', in the true Dioscorides.

In practical terms, the distinction is quite difficult for us to make, because the *Alphabetical Dioscorides* mainly quotes Translation C. However, through details, we note that when the two versions are very close (as happens in most cases), Simon prefers to quote the alphabetical Dioscorides, probably because it is more accurate in a grammatical point of view whereas Translation C is written in a quite 'vulgar' Latin.¹² As an illustration of this fact, we can compare the four texts of the chapter dedicated to the thistle:

10 Marie Cronier, "Le Dioscoride alphabétique latin et les traductions latines du *De materia medica*." in Brigitte Maire, David Langslow (Eds.), *Body, Disease and Treatment in a Changing World. Latin texts and contexts in ancient and medieval medicine*. Proceedings of the IX International Conference "Ancient Latin Medical Texts." Hulme Hall, University of Manchester, 5th-8th September 2007. (Lausanne: BHMS, 2010), 189-200.

11 *Dioscorides de materia medica a Petro Paduano traductus, Colle per Johannem Alleanum de Medemblick*, 1478 (reeditions: Lyon 1512, Venezia 1514).

12 A very accurate linguistic analysis of translation-C can be read in: Haralambie Mihăescu, "La versione latina di Dioscoride, tradizione manoscritta, critica del testo, cenno linguistico." *Ephemeris Dacoromana* 8 (1938): 298-348.

Greek original	Translation-C ¹³	Alphabetical Dioscorides (letter C, chap. 17)	Simon, <i>Claui sanationis</i>
<p>Κρίσιον· ἀπαλὸν καυλίον ἐστίν, ὡς δίπηχυ, τρίγωνον τὸ κάτωθεν, ἀκάνθιά τε ἐκ διαστήματος ἐπ' αὐτῷ μαλακά· τὰ δὲ φύλλα βουγλώσσω ἐμφερῆ, δασέα μετρίως καὶ μικρότερα, ὑπόλευκα, ἀκανθώδη τοῖς πέρασι· τὸ δὲ ἀνωτάτω τοῦ καυλοῦ περιφέρεις, δασύ, καὶ ἐπ' αὐτοῦ κεφάλια ἀκροπόρφυρα, ἐκπαππούμενα.¹⁴</p>	<p>Crisio: Virga est mollis, longa duobus cubitis, trium angulorum, et spinosa est, circa qua folia sunt mollia, similia buglossu, sed aspriora et minora et subalba et spinosa; quae uirga in capite rotunda est et aspera; super qua capitella sunt purpurea, in quibus uelut cani sebu apparent.</p>	<p>Crision: Virga est mollis et longa duobus cubitis, trium angulorum, et spinosa est cum tirsulis purpureis atque senescentibus, circa quos folia sunt mollia et similia buglosso, sed asperiora et minora et subalbida et spinosa; que uirga in capite est rotunda. et aspera, super quam capitella sunt purpurea, in quibus uelut canapi semen apparet.</p>	<p>Crision . Dya. 'Virga est mollis et longa duobus cubitis, trium angulorum, spinosa cum tirsulis purpureis atque senescentibus, circa quos folia sunt mollia similia buglose, sed asperiora et minora, subalbida et spinosa; que uirga in capite rotunda est et aspera, supra quam capitella sunt purpurea in quibus ueluti canapis semen apparet.'</p>

(*Apparatus ad Simonem* : mollis AC : molis B | tirsulis AC: tyrsulis B | mollia AC: molia B | buglosse A: buglose BC | subalbida et spinosa B: om. AC | capitella AC: capitela B | canapis AC: canapi B)

We can note that the three versions are very close but that Simon and the *Alphabetical Dioscorides* share some minor variants, for example an addition ('*cum tirsulis purpureis atque senescentibus*', with little purple and white [like the hair of old people] stems) coming from another translation and being most probably a variant for the last words (κεφάλια ἀκροπόρφυρα, ἐκπαππούμενα, *purple-tipped heads that become plumed*, only transmitted through an altered form '*uelut(i) canapi(s) semen apparet*', it appears like the seed of '*canapi*', among Simon and the *Alphabetical Dioscorides*) inserted at a wrong place.

¹³ Edition: Stadler, *Dioscorides Longobardus*, 1901, 56: IV, 114 de crisio.

¹⁴ Cf. ed. Wellmann, IV, 118 (κρίσιον/*krission*): The thistle: it is a tender little stalk, about two cubits tall, triangular at its lower part, having on it at intervals soft little thorns. The leaves are like those of bugloss, moderately rough and smaller, whitish, and prickly at the ends; but the topmost part of the stalk is round, rough, and on it there are purple-tipped heads that become plumed.

In fact, Simon quotes Translation C only when both versions differ significantly; for example in the chapter dedicated to 'pelicinus' (axe weed), where Simon first quotes 'Dyascorides':¹⁵

Pelicinus. Dya<scorides>: 'Nascitur in triticea segete et ordeacea, cum laminis siue fibris semine plenis, amaris, flauis, baccis [= axi ?] similibus, nascitur in plurimis et tenuibus ramis. Folia habet pussilla et granula in folliculis sunt trina subruffa et amara ualde. miscetur in antidotis et cetera'.

2 *baccis* AC : *bacis* B | *plurimis* AC : *pulueris* B |

3 *folia* AB : *follia* C | *pussilla* A: *pusila* B *pussilia* C

4 *miscetur* AC : *miscentur* B

The axe weed. Dioscorides: 'It grows in wheat and barley fields, with pods or lobes which are full of seed, with a bitter taste, red, similar to berry [axe].¹⁶ It grows in numerous and tender branches. It has small leaves and its seeds, in pods, are in groups of three, pale-red, and very bitter. It is used for preparing antidotes, etc.'

This is exactly the text of the *Alphabetical Dioscorides*,¹⁷ which is very different from the equivalent in Translation C. This explains why Simon then adds another chapter, bearing almost the same title:

Pelecinus. In vero Dyas<coride>. 'Herba est habens folia similia ciceris, folliculos similes silique grece, ubi et semen est. ipsum uelut assindi duo rostra habens, unde et pelecinos dicta est quod assi pelix dicta est. gustu amagra, nascitur uero infra in triticum aut ordeum'.

1 *pelecinus* AC: *pelecicus* B | *habens folia* AC: *folia habens* B | *folliculos* AC: *foliculos* B

2 *est ipsum* AC: *ipsum est* B | *uelut* AC: *uelud* B | *assindi* AC : *assia* B |

3 *pelecinos* AC: *pelicinos* B | *assi* AC: *asi* B | *amagra* A: *amara* B, *amaga* C | in AC: *om.* B

The axe weed. In the true Dioscorides: 'It is an herb that has leaves similar to those of chickpea, and pods similar to those of the carob, in which is the seed. The seed itself is like an 'axe' with two 'heads'. Hence it is also called 'pelecinos', because the axe is called 'pelix' [in Greek]. It has a bitter taste. It grows among wheat or barley.'

15 Cf. ed. Wellmann III, 130 (ἡδύσαρον/hēdysaron): ἡδύσαρον τὸ ὑπὸ τῶν μυρεψῶν καλούμενον πελεκίνος· θάμνος ἐστὶ φυλλάρια ἔχων ἐρεβίνθω ὅμοια, λοβούς δὲ κερατίους εὐκότας, ἐν οἷς τὸ σπέρμα πυρρόν, ὅμοιον πελέκει ἀμφιστόμῳ, ὅθεν καὶ ὠνόμασται, πικρὸν γευσάμενῳ, εὐστόμαχον ποθέν· μείγνυται δὲ καὶ ἀντιδότοις (...) φύεται δὲ ἐν κριθαῖς καὶ πυροῖς. The axe weed which unguent makers call *pelecinos*: it is shrub having little leaves like the leaves of the chickpea and pods resembling little horns, wherein lies red seed, similar to a two-edged battleaxe, whence it was named. It tastes bitter and it is wholesome when drunk. They mix it with antidotes (...) It grows among barley and wheat.

16 'Baccis' (berries) is most probably a correction (and *lectio facillior*) for 'accis', that is 'axis' or 'assis' (axe).

17 Ed. 1478, letter P, chap. nr. 46.

This last text is exactly that of Translation C:¹⁸ we can notice that Simon considers it as more authentic than the first chapter attributed to Dioscorides and coming from the alphabetical version.

The second case when Simon quotes the 'ancient translation' is when the chapter is omitted in the *Alphabetical Dioscorides*. This is for example the case of the entry dedicated to the plant called *onoma* (stone bugloss):¹⁹

Onoma. Dya<scorides>: 'Aut nomidana aut flonitin aut nomen dixerunt, folia habet similia anchuse, sed oblonga et molliora, unius palmi habens altitudinem, spansa super terram sicut ancusa, sed nec astam habet nec semen nec florem, radix est illi tenera et minus fortis et rufa, nascitur locis asperis et cetera'.

1 *flonitin* AC *flontin* B | *nomen* AC: *nomi* B

2 *anchuse* AC: *anchuse* B | *oblonga* AC: *oblunga* B | *spansa* AC: *spansam* B

3 *sed* AC: om. B | *nec semen nec florem* AC: *nec florem nec semen* B

4 *rufa* AC: *ruffa* B

Onoma. Dioscorides: 'It is also called nomidana, or flonitin, or nomen. It has leaves similar to those of the alkanet but oblong and softer. It is one palm high and spread on the ground like the alkanet but it has neither stem nor seed nor flower. Its root is thin, with no strength, and red. It grows in rocky places'.

Although Simon does not introduce it with the precision '*in uero Dyascoride*', in the true Dioscorides, this chapter obviously comes from Translation C, in which the equivalent is almost identical: this occurs because this chapter is totally omitted in the Latin *Alphabetical Dioscorides*.

Nevertheless, to sum up, we can affirm that when he quotes Translation C, Simon almost always (but with some exceptions) uses the precision '*in uero Dyascoride*', in the true Dioscorides, whereas when he only says 'D.', or 'Dya.', or nothing, he generally quotes the *Alphabetical Dioscorides*.

We now have to examine the question of which exact manuscript he read; which is very difficult to establish. Concerning the *Alphabetical Dioscorides*, it seems impossible to determine which he read, since there exist no modern critical edition, nor any complete study of its manuscript tradition²⁰ at the moment. We must confess that for Translation C, it is quite difficult too. It has been said that Simon's exemplar was more complete than the manuscript used for the edition of Translation C (codex

¹⁸ Edition: Stadler, Dioscorides Longobardus, 1899, 434: book III, chap. 141, *De pelecino*.

¹⁹ Ed Wellmann III, 131 (ὄνοσμα/*onosma*).

²⁰ Riddle, John M. "The Latin Alphabetical Dioscorides Manuscript Group". In Proceedings of the XIIIth International Congress for the History of Science (Moscow 1971). Moscow: Nauka, 1974, Section IV, 204-209. Reprint: Riddle, John M. *Quid pro quo. Studies in the history of drugs*. Aldershot: Variorum, 1992, section V.

Monacensis Clm 337)²¹ but until now I have not been able to verify this assertion. I can only say that I have noticed that Simon's manuscript generally bears the same *lacunae*, as do the manuscripts we know today. For example, the beginning of the chapter dealing with tamarisk,²² Simon has to quote through the quotations of Dioscorides transmitted in pseudo-Serapion's *Liber de simplicibus* (see *infra*). Moreover, Simon never does mention any illustrations in the ancient translation; though this is not surprising, since among our manuscripts, only one has illustrations (the codex *Monacensis Clm 337*), whereas all the others do not.

3. Another Testimony of Latin Dioscorides for Simon: *De herbis femininis*

As I have mentioned above, this is a small treatise, dealing with seventy-one plants, of which about sixty percent come from another translation of Dioscorides (Translation A)²³, and was widely known during the Middle Ages. In these conditions, it is not surprising to notice that Simon had access to it and made use of it in *Clavis sanationis*. In fact, he does not expressly attribute it to Dioscorides but (as far as I have seen) he always quotes it after having mentioned Dioscorides. This treatise is described by Simon in different ways: for example '*in libro antiquo*', in the ancient book; '*liber antiquus hystoriatus*', the ancient illustrated book; or '*secundum descriptionem (...) alterius cuiusdam antiqui libri ubi herbe errant depicte*', according to the description... of a second ancient book where the herbs were pictured. I have listed at least five quotations but there may be more. Here is just one example:

Sion. Liber antiquus ystoriacus: 'Est que a Latinis labes appellatur, alii † auri uiridem † dicunt, nascitur locis aquosis. Folia eius olixatro [= olusatro] similia, minora tamen et gustu aromatica'.

1 *labes* AC: *laber* B

3 *gustu* AC: *gusta* B

21 Agostino Paravicini Bagliani, "Le biblioteche curiali duecentesche." in: *Libri, lettori e biblioteche dell'Italia medievale (secoli IX-XV). Fonti, testi, utilizzazione del libro*, ed. Giuseppe Lombardi and Donatella Nebbiai Dalla Guarda, (Roma: ICCU, (2000), 271.

22 Greek text in ed. Wellmann I, 87 (μυρικὴ/*myrikē*); Latin text of translation-C in Mihăescu, *Dioscoride latino...*, 50.

23 The relations between *De herbis femininis* (sometime also called *De herbis feminis* or *Ex herbis feminis*) and translation-A have been established and very precisely analyzed by Ferraces Rodríguez, *Estudios sobre textos latinos...* On this treatise, see also: John Riddle, "'Pseudo-Dioscorides' 'Ex herbis feminis' and Early Medieval Medical Botany." *Journal of the History of Biology* 14 (1981): 43-81.

Water parsnip. In the ancient illustrated book: 'It is the plant that Latins call labes, but some others call it [*laurum uiridem*, green laurel].²⁴ It grows in water. Its leaves are similar to Alexanders but smaller, and they have an aromatic taste.'

This exactly corresponds to chapter sixty-nine of *De herbis femininis*,²⁵ which comes from Translation A of Dioscorides' *De materia medica*.²⁶

However, one has to stay careful, since the words '*liber antiquus ubi herbe erant depicte*' the ancient book where the herbs were pictured, in Simon's *Clavis sanationis* can also designate other treatises: pseudo-Apuleius' *Herbarius*, for example.²⁷

4. Dioscorides in Greek

It is often said that Simon did not have great knowledge of Greek language, although he often explains the names of the plants through etymology of Greek roots.²⁸ Indeed, he never quotes the Greek text of Dioscorides. However, he sometimes refers to some illustrations he says he has seen 'in Greek manuscripts' but, until now, I have noticed only one passage where he says this Greek illustrated manuscript is by Dioscorides:

Lagopos. Grece est dictu pes leporis. Dya<scorides> : 'Dicta est a similitudine leporini pedis, nascitur in pratis et locis cultis et ubi oliue habundant et cetera.' Hanc ego uidi depictam in libro greco Dy<ascoridis> habentem folia pusilla, triangulate forme, per omnes ramulos utrinque ab ambobus lateribus contiguata,

24 These words are already corrupt in the source, *De herbis femininis: aurum uiride* ed. Kästner. In personal communication, resulting from unpublished investigation, Arsenio Ferraces Rodríguez proposes the emendation: *laurum uiridem* (green laurel), which seems very satisfying. However, when editing Simon's text, we have to keep the corrupted version as it was in the quoted source.

25 Edition: Kästner, "Addendum", 160; Greek original: ed Wellmann II, 127 (σῶν/sion).

26 The others four entries where *De herbis femininis* is quoted are: 1) *Achantis leuce* (= excerpt from chap. 1: ed. Kästner 591, l. 7); 2) *Achantos* (= chap. 3, *acantum*, ed. p. 592); 3) *Licanis stiphaica* (= chap. 68, *lichnis*: ed. p. 635); 4) *Splenion et asplenon et scolopendriam* (= chap. 40, *splenios*, ed. p. 616).

27 This is for example the case of the entry *artemisia* where, under the expression '*Quodam libro antiquo ubi herbe erant depicte*', in some ancient book where the herbs were illustrated, Simon obviously refers to chap. 10-12 of the *Herbarius* of pseudo-Apuleius, edition: Ernestus Howald and Henricus E. Sigerist, *Antonii Musae de herba uettonica liber. Pseudoapulei herbarius. Anonymi de taxone liber. Sexti Placiti medicinae ex animalibus, etc.*, *Corpus Medicorum Latinorum* (Leipzig and Berlin: Teubner, 1927), 42-45.

28 For example: Danielle Jacquart, "La coexistence du grec et de l'arabe dans le vocabulaire médical du latin médiéval: l'effort linguistique de Simon de Gênes." in Michèle Groult (Ed.), *Transferts de vocabulaire dans les sciences*, (Paris: CNRS, 1988), 277-290.

*per totum humilem plantulam expansam super faciem terre, in multis locis nascitur (...).*²⁹

1 *Dia. B: om. AC | similitudine AB: similitudine C*

2 *leporini pedis AC: pedis leporine B*

3 *Hanc ego uidi AC: ego uidi hanc B*

Hare's foot trefoil. In Greek it is called hare's foot. Dioscorides: 'It has such name because it resembles the foot of the hare. It grows in the meadows and the cultivated fields, and where the olives are abundant, etc.' I personally saw it pictured in a Greek book by Dioscorides: it had small leaves in a triangular form, being situated together in both sides of each branch; it is in general a very small plant that spreads over the ground. It grows in many places.

The fact that Simon here proposes his own description, made from the illustrations he sees, is quite rare in the *Clavis sanationis* but can be explained by the basic quality of Dioscorides' description. This brings up the question of the availability for Simon of Greek illustrated Dioscorides manuscripts. To my knowledge, there were only two such manuscripts in Western Europe (more precisely: in Italy) at the end of the thirteenth century:

- *Parisinus gr.* 2179: copied in the Syro-palestinian region at the end of the eighth century but brought to Southern Italy (Terra d'Otranto) before the middle of the thirteenth century (because it was copied there at that time into two Greek apographs). It bears several notes by thirteenth- and fourteenth-century Latin hands, but as far as I know, it remained in a monastery in Terra d'Otranto until the sixteenth century.³⁰
- *Neapolitanus gr.* 1* (*olim Vindobonensis suppl. gr.* 28): copied in Italy probably in the seventh century, it seems to have remained first in Calabria then in the Naples region, most probably in a monastery, until the eighteenth century. It also bears annotations by Latin hands of the thirteenth- and fourteenth-centuries, mainly next to the figures of the plants (the illustrations being the major interest of this manuscript for the Latin annotators). (online facsimile: <http://www.wdl.org/en/item/10690/>)

We do not have enough knowledge about Simon's biography to say whether it is possible or not that Simon had travelled to such monasteries and got access to these manuscripts, but what I can say is that the description of the illustrations

²⁹ Greek original chapter: ed. Wellmann IV, 17 (*λαγώπουν/lagōpoun*): although the name of Dioscorides is lacking in some testimonies of Simon's tradition, the sentence at the beginning of this entry comes from the equivalent chapter in the alphabetical Latin Dioscorides (itself coming from Translation C with minor changes).

³⁰ This information comes from my personal research, which has been included in my PhD thesis: Marie Cronier, *Recherches sur l'histoire du texte du De materia medica de Dioscoride*, (Diss. École pratique des Hautes Études, Paris, 2007), 83-95. See online facsimile of the manuscript in <http://gallica.bnf.fr>.

he gives does not fit the illustrations of these two Dioscorides manuscripts. In the Naples manuscript (f. 92r), the leaves are not triangular and the plant is not creeping, whereas in the Paris manuscript (f. 77r), the leaves are a little more triangular but the plant is not creeping.

However, there may be a quite simple explanation of this phenomenon. Since the beginning of the chapter comes from Dioscorides, but in some testimonies does not bear the mention of this author's name, we are allowed to suspect that the mention 'Dya.' that appears after '*in libro greco*', in the Greek book, may have been slightly displaced and was originally to be written not here but at the beginning of the entry. In a consequence, Simon would only speak about 'a Greek manuscript', not necessarily by Dioscorides, and there would not be any more mention of a Greek illustrated Dioscorides in the *Clavis sanationis*.

Indeed, there are three other cases where Simon speaks about some pictures he has seen in Greek manuscripts, without saying expressly they are Dioscorides manuscripts: in the chapters dedicated to the bear's-foot,³¹ the miltwaste (in two different entries),³² and the hackberry.³³ These illustrated Greek books do not seem to be by Dioscorides. In any case, what Simon tells us about their pictures does not fit the illustrations that have been preserved for the corresponding chapters by

31 *Achantos seu achantinos (...)* Reperii in libro greco hystoriato herbam depictam ut hic describitur, flore albo, pederos uocatam (...). *Achantos* [Bear's-foot] or *Achantinos*. I found in a Greek illustrated book this plant with a picture like it is described here, with a white flower, and called *pederos*. The original Greek chapter by Dioscorides is ed. Wellmann III, 17 (ἄκανθος/*akanthos*).

32 This discussion appears in two chapters, bearing similar titles and corresponding to one original Greek chapter (ed. Wellmann III, 134: ἄσπληνος/*asplēnos*): *asplenon* and *splenion* or *scolopendria*. The question is to determine whether they are dealing with the same plant and whether this plant is '*lingua ceruina*' (deer's-tongue) or '*ceterach*'. Simon tries to find arguments from the illustrations but he is forced to conclude that there is a general confusion even among the pictures in the manuscripts. This problem seems to have been of interest during the Middle Ages, as can be attested for example in the Naples Dioscorides manuscript where (f. 134r) Latin hands of the thirteenth - fourteenth centuries have written the names *ceterac* et *scholopendria* next to the figure of σκολοπένδριον/*skolopendria* (itself being associated to the text of <ἄσπληνος/*asplēnos*>!). It would deserve a wider discussion, which can not take place here.

33 *Lothos arbor (...)* In libro uero greco ubi depicte sunt herbe et arbores est illa quam fabam grecam ydiomate nostro uocamus. Hackberry ['lotos'-tree] ... But in the Greek book where the herbs and the trees are illustrated, it is the tree that in our language we call '*faba greca*' [Greek bean]. This corresponds to one of the (numerous) chapters called λωτός / *lōtos* in *De materia medica*, hence the discussion to determine which plant is dealt with (here: ed. Wellmann I, 117: λωτός τὸ δένδρον / *lōtos to dendron*, the 'lotos-tree'). To my knowledge, only two Greek Dioscorides manuscripts bear illustration for it (the Greek manuscripts containing illustrations for trees being in general very rare): New York, Morgan Library, M. 652, of the beginning of the tenth century (f. 256v), but this is a Constantinopolitan manuscript that reached the Occident not before the end of the 18th century; and Mount Athos, Monastery Megistis Lavras, codex Ω 75, of the eleventh century (f. 174v), a manuscript also produced in Constantinople and that never came to Occidental Europe.

Dioscorides in Greek manuscripts. However, I must confess I cannot say precisely which kind of manuscript Simon is talking about: it could have been an anonymous herbal that has not come down to us. Whereas many Latin illustrated herbals have been transmitted to us, the situation is very different for the Byzantine evidence, of which the number of books bearing botanical illustration is quite small.

In any case, we can sum up the situation by saying that there is very little evidence that Simon has used a Greek Dioscorides manuscript. However, he quite probably had access to some Greek illustrated manuscripts, which were not by Dioscorides but may be some popular and anonymous illustrated herbals.

5. Dioscorides in Arabic

There are two scenarios. Firstly: Simon's quotations of Dioscorides according to pseudo-Serapion. As I have said above, Simon sometimes resorts to 'Serapion' to determine if a chapter attributed to Dioscorides is authentic or not. Moreover, when Translation C and the *Alphabetical Dioscorides* are incomplete, Simon can quote Dioscorides' words according to Serapion. I will give just one example of this phenomenon, which is not frequent, in the chapter dedicated to the tamarisk:

*Tamariscus. Quamuis in antiqua translatione Dy<ascoridis> inueniatur ca<pitulum> de tamarisco et uocatur murice; non est tamen capitulum Dya<scoridis> secundum quod apparet in Ser<apionis> li<bro> in quo sic ex uerbo Dya<scoridis>: 'Est, inquit, arbor erecta que nascitur in aquis, intelligo iuxta aquas uel locis aquosis, habet fructum qui assimilatur floribus (...).'*³⁴

3 in Ser. li. AC : in libro Serap. B |

4 arbor erecta AC: errecta arbor B |

Tamarisk. Although in the ancient translation of Dioscorides there is a chapter about tamarisk, that is called 'murice', it is not the Dioscorides chapter according to what appears in Serapion's book, in which there is this quotation attributed to Dioscorides: 'He says this is a tall tree that grows in waters, I understand next to the waters or in humid places; it has a fruit that is similar to the flowers...'

Simon is annoyed by the fact that his two Latin Dioscorides translations, which are here almost identical, do not contain any physical description of this tree but only mention its therapeutic properties (which, as we have seen, Simon is not

34 These words exactly correspond to the beginning of the chapter called 'tamariscus' in the 1473 edition of pseudo-Serapion's *De simplicibus medicina* (f. 27v). Original Greek chapter: ed. Wellmann I, 87(μυρικὴ/*myrike*).

interested in with regards to *De materia medica*). However, he has noticed that in the chapter dedicated to the same plant (*tamariscus*), pseudo-Serapion quotes explicitly Dioscorides, giving a description of it. In fact, both pseudo-Serapion's quotation and that of the two Latin versions come from the same original Greek chapter by Dioscorides but, for an undetermined reason, Translation C (followed by the *Alphabetical Dioscorides*) omits the first part of this chapter (with the description). The words quoted by Simon fit the original Greek but differ from the three already known Latin translations: this proves that they come from a translation from Arabic into Latin, actually that of Ibn Wāfid 's *Book on simple drugs*, itself quoting Dioscorides through an Arabic translation from Greek.

The second case – even more rare than the previous one – is when Simon says that he is quoting directly from an Arabic Dioscorides manuscript. Let's examine one example of it, in the chapter dedicated to the feverfew (*Pyrethrum parthenium*):

Achauë. (...) Item in Dya<scoride> arabico libro primo: 'Senchaet amaracinum est dehen alachauë, id est oleum de achauë, et cetera'. Item idem in libro .iii.: 'Barthenion, ('b' ponens pro 'p' littera qua carent Arabes): Sunt inquit qui uocant eam amaracum et ipsa est alachauë'.

1 in *Dya. arabico* AC: *Dia. in arabico* B | *senchaet* AC: *seuhaet* B | *amaracinum* AC: *amaracum* B

2 *idem* AC: *ibidem* B | *barthenion*: *barthemon* ABC

4 *alachauë* AC: *alachanë* B

Feverfew ... Then, in the Arabic Dioscorides, book one: '*Senchaet* of feverfew is dehen al-achauë, that is to say: achauë oil, et cetera.' Then in book tree, the same: '*Barthenion* (using 'b' instead of 'p', a letter that lacks in Arabic): Some people, he says, call it *amaracum*, and this is *alachavë* [the feverfew].'³⁵

Indeed, we can find back in the Arabic translation of Dioscorides³⁶ the very Arabic words Simon is quoting. First, in Book I of this translation

35 Original Greek chapter: ed. Wellmann III, 138 (παρθένιον/parthenion).

36 Although we considered until recently that there have existed three Arabic translations of Dioscorides, Manfred Ullmann has discovered a fourth one, probably more ancient than the three others and attested only in the manuscript of Istanbul, Süleymaniye Kütüphanesi, Ayasofia 3704: see Manfred Ullmann, *Untersuchungen zur arabischen Überlieferung der Materia medica des Dioskurides*. (Wiesbaden: Harrassowitz 2009). However, only one of them has been published: César Emil Dubler, *La 'Materia médica' de Dioscórides. Transmisión medieval y renacentista*, (Barcelona, Tipografía Emporium, 1952-1959), 6 vol., vol. 2: *La versión árabe de la 'Materia médica' de Dioscórides. Texto, variantes e índices*. Its author was Iṣṭifān ibn Basīl (Stephen, the son of Basil), a disciple of the famous translator Ḥunain ibn Ishāq, living in Bagdad in the middle of the ninth century. This translation was the most wide known in the Arabic world during the Middle Ages. I have made a comparison only with Stephen's translation, and thus noticed that Simon's words fit it, but a comparison with the three others translations may be of interest.

(as well as in the original Greek treatise), the chapter dealing with the unguent of *amarakon* begins this way: صنعة اماراقينون و هو دهن الاقحوان (*ṣanʿatu āmārāqīnuni wa huwa duhnun al-uqḥuwāni*, recipe of *amarāqinun*, that is unguent of feverfew).³⁷ Then, in Book III, here is the beginning of the chapter on feverfew: فرثانيون و هو الاقحوان. و من الناس من يسمه اماراقن (*farṭāniyūnun, wa huwa al-uqḥuwānun, wa min an-nāsi man yusmiha āmārāqunun, Farthenion*). This is the feverfew. Some people call it *amarāqun*)³⁸. Simon transcribes the Arabic words in a quite accurate way, although of course, not corresponding to the actual scientific criteria. For example, he transcribes لاقحوان *al-uqḥuwān* through 'alachauē', صنعة *ṣanʿat* through *senchaet* and دهن *duhn* through *dehen*. We can thus imagine that he had direct access to an Arabic Dioscorides manuscript and not only to Latin quotations through Avicenna and pseudo-Serapion. He also may have been able, if not to perfectly read and understand it, at least to decipher some few words, maybe with the help of someone else. In this specific case, however, I must say that all the Arabic Dioscorides manuscripts I know, do transcribe the Greek παρθένιον/*parthenion* with the initial ف/f, never with the initial ب/b as Simon says his own manuscript does.³⁹

It is important that his Arabic Dioscorides preserved the original structure, that is to say that it contained the chapters about oils and unguents in Book I and the chapter about feverfew in Book III, exactly as in the original Greek form. In addition, it must be stressed that Simon's Arabic manuscript contained illustrations, as we can see in the following chapter, dealing with the madwort:⁴⁰

Auricula muris (...) Verum ego uidi ipsam depictam in libro D<ioscoridis> arabico diuersam ab aliis plantis.

1 arabico AC: in ara. B

2 aliis AC: his B

Madwort ... However, I personally saw it illustrated in an Arabic book of Dioscorides differently from the other plants.

37 Cf. ed. Wellmann I, 58 (ἀμαράκινον μύρον/*amarakinon myron*); Dubler I, 54. There is no entry called ἀμάρακον/*amarakon* in *De materia medica*, hence the present confusion between two plants: ἀμάρακον/*amarakon* usually designates the marjoram (*Origanum majorana* L.), a plant which is called σάμψουχον/*sampsouchon* by Dioscorides (III, 39), but, as indicated by Dioscorides himself, ἀμάρακον/*amarakon* is also used as a synonym for παρθένιον/*parthenion*, the feverfew (*Pyrethrum Parthenium*). The Arabic translator only knows this last meaning.

38 Cf. ed. Wellmann III, 138 (παρθένιον/*parthenion*); Dubler III, 131.

39 However, the codex Ayasofia 3704 (see n. 36) does not give any title for this chapter and the Arabic manuscript Paris, BNF ar. 4947, the main testimony of a different translation than that edited by Dubler, here bears a lacuna. Photographs of this manuscript and those of the two other Dioscorides Arabic manuscripts of the BNF (nr. 2849 and 2850) are available on the Gallica digital library: <http://gallica.bnf.fr>

40 Wellmann II, 183 (μυδὸς ὄτα/*myos ota*).

Once again, we have to face the question of the availability of Arabic manuscripts by Dioscorides to Simon of Genoa and I must confess that, to my knowledge, none of the Arabic Dioscorides manuscripts we know today were available in Western Europe at the time of Simon, except in Spain. For example, the manuscripts of Paris, *BNF ar.* 2850, and of Madrid, *BN* 5006, were copied in Al-Andalus in the twelfth to thirteenth century (only the first of them bearing illustrations). In consequence, Spain would be the most likely place for Simon to get access to such a book, although this field surely needs more investigation.

To conclude, we can sum up the situation in this way:

As concerns the Latin sources of Dioscorides, what was available to Simon perfectly fits what we know about Dioscorides' manuscript tradition. He had access to Translation C (an interesting phenomenon, because it was quite rare at this time), to the *Alphabetical Dioscorides* (a medieval re-elaboration of Translation C with many additions), and to the *De herbis femininis* (indirect testimony of Translation A). He does not seem to know a textual version, which would have been lost for us, so his quotations have little interest for editing the Latin Dioscorides. Nevertheless, Simon has a very interesting critical attitude, which he expresses by comparing both versions and trying to determine what is authentic or not, and, most times, he is right. It is quite remarkable too, that he resorts to indirect Arabic Dioscorides tradition, mainly in the quotations by pseudo-Serapion, so as to determine what is or is not authentic.

Moreover, the study of Simon's quotations of Dioscorides brings up the question of whether he has directly used Greek and Arabic Dioscorides manuscripts. The answer is not easy to establish and has not yet exhaustively been investigated but, for the moment, I would say that his access to Greek Dioscorides is quite problematic whereas he is more likely to have seen Arabic Dioscorides.

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