

πυξίς

Lexicalia / Containers

var.dim. πυξίδιον

lat. *pyxis*; dim. *pyxidicula*, *pyxidulum*

Definition

The Greek πυξίς (Lat. *pyxis*) is a **small round box** or casket usually with a separate lid. It was named after the boxwood, *i.e.* the wood of the πύξος (*Buxus sempervirens*), of which it was originally made. Later it became common in any wood and in other materials, especially metals. This container was mostly and primarily employed in the medical field for holding drugs and remedies, but it was also used by women to store cosmetics and ointments, jewels and toiletries. The wide range of uses and contents that written sources attest in relation to the *pyxis* seems to indicate that, beyond the specific contexts in which this post-classical noun developed a technical meaning, it has also acquired the general sense of ‘box’ in Antiquity. Moreover, the Latin form has become current in anatomy and botany with other specialized semantic developments up to modern times.

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A. Linguistic section

1. Etymology

The derivation πυξίς < πύξος is certain, as already pointed out by ancient sources. In the second half of the I cent. BCE, for instance, the grammarian Trypho *Trop.* II (III 192,26 Spengel) καὶ πάλιν πυξίς μὲν λέγεται ἢ ἐκ πύξου κατεσκευασμένη, καταχρηστικῶς δὲ καὶ ἢ χαλκῇ καὶ ἢ ἐξ οἴας δήποτε πεποιημένη ὕλης stresses the

origin of *πυξίς* from the boxwood illustrating the phenomenon of the catachresis, *i.e.* the incorrect use of one word for another.¹

πύξος is considered a loanword of unknown origin. Several etymologies have been proposed, but they all are unconvincing,² such as the hypothesis of a derivation from IE **b^hHu-*, «grow» (cf. Gr. φύω and Arm. *boys*, «plant»),³ or from **b^heuǵ^h-*, «bend».⁴ Moreover, the Greek *πύξος* has a parallel in the Mycenaean *pu-ko-so*.⁵

2. General linguistic commentary

The form *πυξξίδη pro πυξίδι* in [10] represents a scribal error, not an actual orthographic variation. Gemination is indeed a phonological phenomenon very common throughout the Roman and Byzantine periods.⁶ It indicates the identification in speech of single and double consonants, which reflects in writing, and occurs also elsewhere in the *Michigan Medical Codex*.⁷

Variae lectiones of the Latin transliteration *pyxis* are *puxis*, several times in the *recentiores*, *pixis* (sometimes *pis-*), *buxis*, form clearly influenced by *buxus*, *i.q.* Greek *πύξος*.⁸

Derivatives are the diminutives *πυξίδιον* in Greek and *pyxidicula* (see [3]) and *pyxidulum* in Latin, as well as the Latin adjective *pyxidatus*, «having the shape of a *pyxis*», that is a *hapax* in Plin. *Nat.* XXXI 57,3.⁹

It is not totally clear whether the Latin *buxus* and the later *pyxis* and *pyxinum* depend on *πύξος* or whether they are independent borrowings.¹⁰ But it is certain that the modern forms of this root were in turn borrowed from Latin, *e.g.* Fr. *buis* and *boîte* (Old Fr.

¹ Likewise in later grammatical or rhetorical writings, *e.g.* Choerob. *Trop.* III (III 246,23-9 Spengel) and *EM* 696,58-697,2 Gaisford.

² Cf. BOISACQ, DELG 827 *s.v.*; CHANTRAINE, DELG II 956 *s.v.*; FRISK, GEW II 626 e III 174 *s.v.*; BEEKES, EDG II 1259 *s.v.*

³ Cf. SCARDIGLI 1960, 220-30.

⁴ Cf. CARNOY 1955, 22 and 1956, 284.

⁵ The Mycenaean term is attested in the dual compound adjective, though written with a word-divider, *pu-ko-so e-ke-e* in a tablet from Pylo, PY Ta 715,3, an inventory list of household items, in particular tables: the first member *πυξο-*, «boxwood», is unanimously admitted, but the meaning of the second one is uncertain. According to DORIA 1956, 10, the word means **πυξο-ηερκής* (cf. *ἔρκος*), «(sc. due tavoli) dal bordo di bosso», whereas according to PALMER 1957, 67 and 88, the second constituent has to be connected to the verbal root *ἐχ-*, *i.e.* **πυξο-(h)εχής*, «(sc. two tables) with boxwood». Cf. also SCARDIGLI 1958, 156-7; CHADWICK-BAUMBACH 1963, 241 *s.v.* *πύξος*; MORPURGO, MGL 264 *s.v.* *pu-ko-so e-ke-e*; and especially DMic. II 169 *s.v.* *pu-ko-so e-ke-e* for other interpretations and further bibliography.

⁶ On the interchange of η > ι and the germination of consonants in the papyri, cf. respectively MAYSER, GGP I/1 52-3 and 191-4, and GIGNAC, GGP I 154-62 (p. 162 for the case of ξ > ξξ) and 235-7.

⁷ See [σ]υνενώσας *pro* [σ]υνενώσας in fr. Av,3 as well as *ῥίτζης pro ῥίτζης* and *ῥίτζαν pro ῥίτζαν* in fr. Ev,5 and 7.

⁸ Cf. TLL X,2,2 2796,73-2797,9 *s.v.*; HILGERS, LG 265 *s.v.*

⁹ See especially TLL X,2,2 2796,41-50, HILGERS, LG 267 and SAALFELD, TIG 966 *s.v.* Cf. also *pixidula* in HOVEN, LLR 413. No other derivative of *πυξίς* in the ancient languages. On the contrary, there are some compounds of *πύξος*, *e.g.* *πυξιόπους*, «with feet of box-wood», *πυξοειδής / pyxodes*, «like box-wood», cf. LSJ⁹ 1554 *s.vv.*; ThGL VII 2240-2 *s.vv.*; TLL X,2,2 2796-8 *s.vv.*; FORCELLINI, LTL III 983 *s.vv.*; CHANTRAINE, DELG II 956 *s.v.* *πύξος*; FRISK, GEW II 626 *s.v.* *πύξος*; BEEKES, EDG II 1259 *s.v.* *πύξος*.

¹⁰ Cf. CHANTRAINE, DELG II 956 *s.v.*; FRISK, GEW II 626 *s.v.*; BEEKES, EDG II 1259 *s.v.* with references.

boiste and Old Prov. *boysola, boisseza*), German *Büchse* (Old High German *buhsa*), Engl. *pyx* and *box*.¹¹

The term lives on in modern Greek with a nautical specialized meaning as *πυξίς* (ναυτική), *i.e.* «mariners' compass».¹²

Greek words of this root were borrowed into Coptic, such as ΠΥΞΟC < *πύξος* and ΠΗΞΙΝΟC < *πύξινος* (cf. KSB I 6,49).¹³

Chronology The word *πυξίς* spread in Greek in post-classical period, not before the III-II century BCE, as documentary (BGU VI 1300, 8 [III-II BCE, ?]) and medical ([1]) papyrus texts confirm, whereas it has the earliest attestations in Latin during the I cent. BCE. It is indeed significantly absent in Hippocrates and in Greek physicians before that time. As a result, the numerous 'pyxides' dating to the Classical Age or earlier supplied by archaeological excavations (see C 2) and so conventionally defined had originally other names, such as *κυλιχνίς*, given by contemporary references to vessels of this sort, at least in Athenian dialect. From Athenaeus onwards it is indeed stated that the Athenians named *κυλιχνίς* the (ceramic) medical implement commonly labeled *πυξίς* at his time (see [7]).¹⁴ The fact itself that classical comic authors like Aristophanes use *κυλιχνίς* / *κυλίχνιον* denoting the medical box¹⁵ can add a confirmation to the absence of *πυξίς* in the Hippocratic corpus, as «the oldest Hippocratic writings are roughly contemporary with Old Comedy and therefore easily comparable».¹⁶ So, it seems that *κυλιχνίς* was the Athenian name of the medical 'box', replaced by *πυξίς* in the κοινή. As a consequence, *kylinchis* (not *pyxis*) might be the proper name of the Attic 'pyxides' so often excavated by archaeologists.¹⁷

¹¹ Cf. SHIPP 1979, 477 *s.v.* See also TLL X,2.2 2797,18-24 *s.v.* and, on the semantic developments of the Latin term throughout the Middle Ages, NIERMEYER, MLLM 799 *s.v.* and DMLBS XIII 2593 *s.v.*

¹² Cf. *e.g.* ANDRIOTHS, ΕΛΚΝ 304 *s.v.*; DIMITRAKOS, ΜΑ XII 6352 e ΝΑ 1189 *s.v.*; STAMATAKOS, ΛΝΕΓ III 2444 *s.v.*

¹³ Cf. CHERIX, IGC 142 and FÖRSTER, WGW 707.

¹⁴ Cf. also *e.g.* Eust. *ad* Hom. ε 220,34-55 (1538,41) and EM 544,40 Gaisford [≅ Zon. π 1596,18 T.] *κυλικνίδες παρὰ Ἀθηναίοις αἱ πυξίδες*. Differently *Et.Gud.* 353,16-7 Sturz *κυλικνίδες παρὰ Ῥωμαίοις αἱ πυξίδες*. For the connection between *κυλιχνίς* and *πυξίς*, cf. also Hesych. κ 4503 L. *s.v.* *κυλίχνη· φιάλη· καὶ ἡ ἰατρικὴ πυξίς* and 4504 L. *s.v.* *κυλιχνίδες· πυξίδες· ἄλλοι λιβανωτρίδες· ἕτεροι ἀγγεῖα κεραμεῖα· ἄλλοι κύλικας· ἄλλοι πυξίδας ἰατρικάς*; Phot. κ 1191 Th. *s.v.* *κυλιχνίδα· τὴν ἰατρικὴν πυξίδα*. Different *interpretamenta* in Gal. *Ling. s. dict. exolet. expl.* κ (XIX 115,17-8 Kühn) *s.v.* *κυγχνίδα (l. κυλιχνίδα)· τὴν τε σμικρὰν κύλικα καὶ τὴν ἰατρικὴν πιθάκνην* and in Hdn. *Orth.* III/2 456,8 Lentz *κυλίχνη, σημαίνει δὲ φιάλην ἰατρικὴν*. Cf. FISCHER 1992, 143.

¹⁵ Cf. *Eq.* 906-7 *ἐγὼ δὲ κυλίχνιον γέ σοι καὶ φάρμακον δίδωμι / τὰν τοῖσιν ἀντικνημίους ἐλκύδρια περιαιλείφειν* and related scholium [*schol. vet. Tr.* 906, 212,13-4 Koster ≅ *Suda* κ 2668 Adler *s.v.*] *κυλίχνιον· ἔκπωμα, ὃ νῦν λέγουσι πυξίδιον· ἔχουσι δὲ οἱ ἰατροὶ τὰ πυξίδια, ἐν οἷς προσβάλλουσι τὰ πάσματα*. Furthermore, in Antiph. fr. 206,3 K.-A. (IV BCE) some *κυλιχνίδες* are listed among other medical tools; maybe also in this case they correspond to the later *πυξίδες*. As regards Aristophanes, see the general conclusion of WILLI 2003, 268-9: «Aristophanes wrote as an Athenian, for Athenians, and on Athenian matters. Could there have been a more suitable medium than the purest Athenian language?».

¹⁶ WILLI 2003, 79.

¹⁷ Similar conclusions have already been reached by MILNE 1939, 247-54. See also RICHTER-MILNE 1935, 20.

One could ask why this box (and its name) has become so prominent. It might be supposed that *πυξίς* has been involved in a process of internationalization: maybe the word, emerged in the Hellenistic period, firstly flourished in Alexandria, where the advanced medical school was established. Outstanding Alexandrian physicians who laid the foundations for the scientific study of anatomy and physiology were Herophilus and Erasistratus, and maybe Erasistratus' fr. 283 Garofalo (see C 1) contains the first attestation of *πυξίς*. Since then, the term spread in the Graeco-Roman world becoming a sort of international word, probably replacing dialectal terms such as the aforementioned *κυλιχνίς*, and it reached a remarkable peak of references in the Roman period, especially among Greek medical writers.

'Technicality' and semantic developments

A possible reason of the material and etymological connection between this container and the boxwood may lie in the virtues attributed to this type of wood in relation to the storage of drugs and pharmaceutical products. According to Dioscorides, indeed, among wooden containers, those of boxwood were considered the most suitable, at least for moist remedies (*MM, Praef. 9,10-2* [I 5,8-10 Wellmann] *πρὸς δὲ τὰ ὑγρὰ φάρμακα ἀρμόσει [...] ξυλίνων δὲ ὅσα ἐκ πύξου κατασκευάζεται*).

The word *πυξίς* has a 'technical' birth and a linguistic history of specializations. From a diachronic perspective, it spread in specific fields in Antiquity – medical, hence magical-alchemical, mechanical, cosmetic – and it remains nowadays in liturgical Christian context denoting the *sacra pyxis*, *i.e.* the vessel still used for preserving and transporting the Blessed Eucharist.¹⁸ Other technical-scientific specializations in modern languages demonstrate a certain, even if sectorial, vitality of the word. In nautical vocabulary, it denotes the mariners' compass, a magnetic implement used for the orientation in the open-sea navigation, originally contained in a box made of glass, then of boxwood, hence the names of *bossolo* and *bussola*.¹⁹ In botany, *pyxis* or *pyxidium* is a capsule formed by a lower cup, the *theca*, and opening by transverse dehiscence, so that the *operculum* falls off to release the seeds: it is so called in analogy with a small box with a lid.²⁰ In anatomy, the *acetabulum* of the hip-bone is defined as *pyxis*, *i.e.* the coxofemoral cavity which receives the head of the thigh-bone, also named cotyloid cavity, resembling the *κοτύλη*: in both cases there is a process of metaphorical association, a linguistic strategy very common to create a technical terminology.²¹ The metaphorical use of the names of vessels is rather widespread, particularly in the field of human anatomy.²²

¹⁸ Even if this liturgical meaning become technical in a later stage, *i.e.* in Medieval Times, the *pyxis* in such a context was a simple storage box at the beginning. See DU CANGE, GMIG I 1274 s.v. *πυξίον*; GMIL VI 580 s.v. *pyxis*; LATHAM, RML 385 s.v. *pyxis*.

¹⁹ Cf. DU CANGE, GMIL VI 580 s.v. *pyxis*, as well as, *e.g.*, DELI I 179 s.v. *bussola* for the Italian; SOED II 1721 s.v. 3 for the English; DIMITRAKOS, MA II 1411 and NA 1189 s.v., STAMATAKOS, ANEF III 2444 s.v. for the modern Greek.

²⁰ Cf. *e.g.* BERTANI 1818, 107-8; JACKSON 1900, 217 s.v. *pyxidate*; DELI IV 935 s.v. *piSSIDe*; SOED II 1721 s.v. *pyxidium*.

²¹ Cf. SKODA 1988, 54-6; SCHIRONI 2010, 342-5; SOED II 1721 s.v. 2; DUNGLISON 1839, 165 s.v. *cotyloid*.

²² Cf. RADICI COLACE 1993, 201 and n. 30.

The ‘technical’ nature of the noun *πυξίς* is more pronounced in the Greek world, since in Latin the word has a definitely higher number of occurrences in more strictly literary genres, e.g. poetry, orations, history, even if, however, with a technical (especially medical) meaning. The presence of technical – in particular medical – terms in literary works is not unusual since many technical words «were subsequently used in their new “medical” sense by other writers of antiquity».²³

On the other hand, the term has probably enjoyed a certain popularity, as might be suggested by its presence in *sententiae* and writings influenced by popular philosophy (cf. Bion fr. 75 Kindstrand [= GV 157, 66,13-5 Sternbach], see *infra* C 1).²⁴

Accordingly, the word *πυξίς* seems to have acquired a linguistic diffusion in double direction: technical-scientific in most cases, but also more popular, becoming a technical term with an everyday character, a sort of “daily technicism”.

Though not pertinent to the medical context, it might be worth to point out the general difficulty of distinguishing whether *πυξίς* is used with a technical value or not. In certain cases there are ambiguities that the punctual analysis of the context may contribute to understand. An emblematic example involves the sphere of women. The meaning of *πυξίς* has to be considered technical when the box contains ointments and cosmetics, as well as when it stores pharmaceutical products.²⁵ By contrast, when the *πυξίς* is filled with other – even if female – items, such as trinkets and jewels, toiletries or money belonging to a woman, it becomes a simple ‘box’ and the word loses its technical nature. Thus, the fact that the term is traditionally connected to the female world is not enough in itself to state that the word *πυξίς* acquires a technical value whenever it is referred to a woman. This aspect can be problematic also reading documentary texts on papyrus. Among the six papyri that explicitly link a *πυξίς* to a woman, four reveal the general, non-technical meaning of ‘box’,²⁶ while the last two are far more complicated. In BGU VI 1300,8 (III-II BCE, ?) *πυξίδας μέσ[α]σ. β. καὶ ἐλάσσους γ.* «two medium-sides boxes and three smaller ones»,²⁷ are listed among containers of varied nature (ll.7-12, e.g. an ἐξάλειπτρον, an

²³ LIPOURLIS 2010, 1110.

²⁴ Cf. also e.g. Diog. Ep. 50,3-4 (258,10-1 Hercher) ἂ ταῖς κεναῖς καὶ δυσανοίκτοις πυξίσιν ἔουκεν and Sen. fr. 9,18 Haase *plerique philosophorum [...] quos non aliter intueri decet quam medicos, quorum tituli remedia habent, pyxides venena*.

²⁵ It is well documented by archaeological evidence as many ‘pyxides’ have been found still containing traces of the ancient products inside, e.g. scented dry powders or rouge, and images on them usually depict scenes of the *mundus muliebris*. References to this occur several times in Latin literature (cf. Ov. Rem. 353 and Ars III 209; Sen. Suas. II 21; Paul. Sent. III 6,83 [*buxides*]; Petron. 110,2; Mart. IX 37,4; Zeno 2, 7,8; Isid. Orig. XX 7,3). On the contrary, it is very rare among Greek writers, with some exceptions such as Luc. Asin. 12,17 (as well as 13,10 and 14,4), in a magical-female context.

²⁶ In P.Ryl. II 125,13-20 (28-29 CE, Euhemeria) earrings, bracelets, a necklace, other jewels and silver drachmae are deposited in the stolen *πυξίδιον* of Orsenouphis’ mother. A stolen *πυξίδιον* of wood containing money appears also in P.Ryl. II 127,30 (29 CE, Euhemeria). In both cases the word acquires the general value of ‘box’, as well as in ChLA IV 249r,11 and 14 (second half of the II CE, Philadelphia), in which the object is enumerated among other vessels and containers included in the dowry of a young bride. Also in P.Oxy. XIV 1658v,10 (IV CE), a list of various items, the *πυξίδιον* very likely has the general meaning of ‘box’ and it is recorded among other containers, small knives, couches and objects belonging to the field of navigation.

²⁷ Cf. BAGNALL-CRIBIORE 2006, 106.

«unguent-box»), *aromata* and unguents (ll.13-6), jewels and other objects (ll.16-8), and finally hair accessories, like combs, hairnets, hair clasps, as well as earrings and a stater of sea-purple dye (ll.23-6). Which could have been the content of these *πυξίδες*? The presence of both cosmetics and ornaments in the rest of the letter does not help to clarify the issue, so that the value of the term remains ambiguous. The case of P.Fuad I Univ. 12r is even more problematic due to the fragmentary condition of the text, which preserves only the final parts of the lines on the *verso*. Below ll.28-31:

]ν ἢ μήτηρ
] . βαλανίου
 30]ιδ . πυξιδιν
]κου α χρῶσαι

29 l. βαλανείου

30 l. πυξιδιον

How to connect these elements? Maybe a woman, the *μήτηρ*, had something to do with a (public?)²⁸ bath, the *βαλανεῖον*, and she carried a *πυξίδιον* which might have been full of something ending in *-κου*. This is not enough to make hypothesis, but the mention of a *βαλανεῖον* and of a *πυξίδιον* provides some chance to imagine that *-κου* conceals the name of a cosmetic or that it is an adjectives referred to a product of this kind. In such a (unverifiable) case the term *πυξίδιον* might have a technical value.

3. Abbreviation(s) in the papyri

No abbreviated forms had appeared, as yet.

B. *Testimonia* – a selection of representative sources

1. GMP I 10, fr.B, col.I, l.15-9 (LDAB 6898, MP3 2394 + 2879) – late II BCE

ἄλλο κ . [|]ολον . . . κους παρεις οὐ τοῖς . [|]οις ἢ ὑοσκυάμου σπέσμα[. . .] . [|] . . .
 χει μέλιτος ἐφθοῦ τὸ . [|] ἀναλαμβάνειν ὡς ῥητίνη . . . [|] πυξιδ[α] κεραμηαν (l.
 κεραμεῶν).

«Another (remedy) ... for (those affected by colics) ... having remitted (?) ... not with ... or with seeds of henbane ... pour into boiled honey ... take with resin ... **into a vase of clay**».
 (Transl. ANDORLINI 2001, 113)

2. PSI XXI Congr. 3v (LDAB 6775, MP3 2419.2) – I BCE

Col.I, l.6:]ην πυξίδα

«... (in) a **box**».

²⁸ Cf. RUSSO 1999, 181.

Col.I, II.1-4: ἄλλ' ἡ· πρὸς τὰ λευκώμα[τ]α· | ἀφροῦ νίτρου — ζμύρνης < α | ἐβένου = μετὰ μέ[λι]τος | Ἀττικοῦ εἰς **πυξίδα** χρ[ῶι].

«Another (prescription) for the leucoma. (Mix) 1 ob. of sodium carbonate, 1 ob. of myrrh, 1 ob. of ebony with Attic wine, (store) **in a box** and use».

3. Cels. Med. VI 6, 5b,1-5 (CML I 262,14-8 Marx) – I BCE-ICE

Attalium quoque ad idem est, maxime ubi multa pituita profluit: castorei P. X-; aloes P. X- =; croci P. X-I; murrae P. X-II; Lyci P. X-III; cadmia curatae P. X-VIII; stibis tantundem, acaciae suci P. X-XII. Quod <cum> cummis <q>uid hoc non habet, liquidum **in puxidicula** seruatur.

«There is also for the same complaint the salve of Attalus especially when the rheum is profuse: castoreum 0,33 grms.; lign-aloes 0,66 grms.; saffron 4 grms.; myrrh 8 grms.; lyceum 12 grms.; prepared zinc oxide 32 grms.; a like quantity of antimony sulphide and acacia juice 48 grms. And when no gum is added it is preserved liquid **in a small receptacle**».

(Transl. W.G. Spencer [Cambridge-London 1961] 195)

4. Dsc. MM III 11, 2,3-4 (II 19,8-9 Wellmann) – I CE

ἀποτίθεσθαι δὲ δεῖ τὸ φάρμακον εἰς χαλκῆν πυξίδα.

«It is necessary to store the remedy **into a bronze pyxis**».

5. Gal. De comp. med. sec. loc. I 2 (XII 405,8-9 K.) – II CE

ἀποτίθεσθω εἰς πυξίδα χαλκῆν τὸ φάρμακον καὶ ἀνατριβέσθω ἢ ἀλωπεκία.

«Store the remedy **into a bronze pyxis** and rub the alopecia».

6. P.Haun. III 47r,12-3 (LDAB 4713, MP3 2398.11) – II CE

[πρὸς] ὑπόχυσιν. ὑάινης χολὴν μ[ετὰ μέλιτος μίξας καὶ ἀπόθου] | [εἰς] **πυξίδα χαλκῆν**.

«For cataract. Mix the gall of a hyena with honey, (boil), and store **in a bronze box**».

(Transl. YOUTIE 1985, 372)

7. Athen. XI 480c – II-III CE

ταῦτα (sc. κύλιξ and cognates) δ' ἐστὶ κεράμεα ποτήρια καὶ λέγεται ἀπὸ τοῦ κυλίεσθαι τῷ τροχῷ. [...] Ἀθηναῖοι δὲ καὶ τὴν **ιατρικὴν πυξίδα** καλοῦσι κυλιχνίδα διὰ τὸ τῷ τῶν κερυκίεσθαι.

«These are ceramic cups which get their name from the fact that they are turned on a potter's wheel. [...] The Athenians also refer to a **physician's storage box** as a *kulichnis*, because it has been turned on a lathe».

(Transl. S.D. Olson [Cambridge-London 2009] 333)

8. Orib. Coll. VIII 43, 2-5 (CMG VI 1,1, 293,10-22 Raeder) ≅ Syn. III 211, 1-5 (CMG VI 3, 119,8-20 Raeder) – IV CE

σκαμμωνία μεθ' ἄλῶν [...] λειοῦται ἐφ' ἱκανόν, ἔπειτα ἐψεῖται ἐν **πυξίδι μολυβδῆ**. τρόπος δὲ τῆς ἐψήσεως ὅδε· **πυξίς μολυβδῆ** ἐστὶ διπλῆ· τὸ δ' ἐπίθεμα αὐτῆς ἢ τρημα ἢ αὐλὸν ἔχειν ὀφείλει· ἐνταῦθα ἢ μετὰ τῶν ἄλῶν λελειωμένη βάλλεται σκαμμωνία, καὶ ἐγκαθίσταται τὸ ἀγγεῖον τοῦτο λοπάδι ἐρεγμοῦ πλήρει. ἐψεῖται δ' ὁ ἐρεγμὸς ἔχων τὴν **μολυβδῆν πυξίδα**, ὀξυκράτου ἐπιχυθέντος καὶ οὐχ ὕδατος. ἐπειδὴν τοῦτο γένηται, ἀποψῦξαι **τῇ πυξίδι** τὸ φάρμακον χρῆ καὶ αὐθις λειοῦν κτλ.

«The scammony is adequately smoothed with salt [...], and then is boiled **in a lead pyxis**. This is the way of boiling: the **lead pyxis** is double and it is necessary that its cover has a hole or a pipe. The scammony smoothed with salt is thrown there, and this container is placed in a casserole full of bruised corn. The bruised corn is boiled in the **lead pyxis**, the sour wine and not the water being pour over [...]. After this, it is necessary to cool down the remedy in the **pyxis** and to make it smooth again».

9. Id. Syn. III 135, 2 (CMG VI 3, 102,6-9 Raeder)

οἴνω Χίῳ λεαίνεται [...], ἕως μιγῆ τὸ φάρμακον, εἴτ' εἰς χαλκοῦν ἀναληφθὲν ἀγγεῖον ἐψεται ἐπὶ μαλακοῦ πυρός, μέχρι γένηται ἰξῶδες, εἶτα μεταχεῖται εἰς **χαλκῆν πυξίδα**.

«The remedy is pounded with wine of Chios [...], in order to mix the ingredients, then is boiled over low heat into a bronze vessel while it is taken up, until it becomes sticky, next it is pour **into a bronze pyxis**».

10. P.Mich. XVII 758 Av,4 (LDAB 430, MP3 2407.01) – IV CE

]τα [|] . . . καὶ τὴν λιθ[άρ-] | γυρον. [σ]υεννώ[σ]ας ἐπ' οἴν[ον] | ἐν κα[θαρ]ᾷ πυξίδῃ (*l. πυξίδι*).

«... having mixed together the ... and the litharge with wine, (store it) **in a clean casket**».
(Transl. YOUTIE 1996, 10)

11. Aët. VII 101,57-62 (CMG VIII 2, 352,24-353,5 Olivieri) – VI CE

χολὴν ταυρείαν ὅλην κενώσας εἰς **πυξίδα χαλκῆν** ἕα ἡμέρας δέκα...

«After having emptied out all the gall of bull, leave it in a **in a bronze pyxis** for ten days...».

12. Paul.Aeg. III 1, ,6 (CMG IX 1, 130,24 Heiberg) – VII CE

ἀνελόμενος εἰς **πυξίδα μολυβδίνην** φύλαττε.

«Taking it up preserve **in a leaden pyxis**».

C. Commentary

1. πυξίς and its medical sources

The word *πυξίς* counts many occurrences in written sources. Even if the corresponding object covers a wide range of uses and is filled with various contents,²⁹ the main field of use is medicine, as attested by both medical and non-medical writers. The earliest extant literary occurrences of the term date back to the III-II cent. BCE in Greek, to the I cent. BCE in Latin.

The very first attestations would seem to be in authors of the III cent. BCE. The word *πυξίς* occurs in some versions of the renowned *πάγχρηστος ύγρόα*, *i.e.* «all-useful watery collyrium», of Erasistratus (fr. 283 Garofalo), whose acme can be dated around the middle of the III century BCE.³⁰ The actual passage of the Hellenistic physician has not been preserved,³¹ but his prescription is reported with some variations by later authors.³² The *πυξίς* is mentioned only by Galen, Oribasius and Aëtius, so it is absolutely uncertain whether Erasistratus himself mentioned it.

The Cynic philosopher Bion of Borysthenes (ca. 335 BCE-mid III cent. BCE)³³ might also have employed the term, since it appears in a *sententia* ascribed to him, the source of which is the *Gnomologium Vaticanum* (157, 66,13-5 Sternbach). In this anecdote, fr. 75 Kindstrand *ὁ αὐτὸς ἐρωτηθεὶς ὑπὸ τινος διὰ τί αὐτὸν οὐκ ὠφελεῖ τὰ ὑπ' αὐτοῦ λεγόμενα 'οὐδὲ γὰρ αἱ πυξίδες,' εἶπεν, 'αἱ τὰ χρηστότατα φάρμακα ἔχουσαι ἀπ' αὐτῶν ὠφελοῦνται'*, the *πυξίς* is used in a comparison: according to the common opinion that the teaching of philosophers was useless, the interlocutor, who has access to Bion, is not helped by him, as the 'pyxides', which contain the best medicaments, are not helped by them; Bion's lectures are thus compared with medicines.³⁴ As KINDSTRAND 1976, 292 points out, «the Cynics were very fond of comparisons and similes from the medical field» and the word was rather popular in philosophical writings. Also in this case it is hard to prove the authenticity of the mention, since it is impossible to decide whether Bion's extant fragments literally reproduce what the philosopher wrote or whether the later authors who quote him have adapted his texts to their own style and language.³⁵ As a result, it is quite likely that this *apophthegma* has had a later origin or at least an adaptation of some sort and thus it has been included in the Byzantine collection.³⁶

²⁹ For all these aspects, see BONTI 2014 *s.v.*

³⁰ On Erasistratus' life and chronology see GAROFALO 1988, 17-22 with references.

³¹ Cf. FUCHS 1894, 171 *verba ad ipso Erasistrato conscripta recuperare non licet*.

³² Celsus (*Med.* VI 7, 2a,7-2b,6 [CML I, 277,4-10 Marx]) and Galen (*De comp. med. sec. loc.* IV 8 [XII 735,17-736,7 K.]) in the I and II cent. CE, Oribasius (*Syn.* III 135,1-2 [CMG VI 3, 101,24-102,9 Raeder]) in the IV cent. CE, Aëtius (VII 101,36-44 [CMG VIII 2, 352,3-11 Olivieri]) in the VI cent. CE, Paulus of Aegina (VII 16, 57,1-6 [CMG IX 2, 346,11-6 Heiberg]) in the VII cent. CE, as well as Theophanes Nonnus (*Epit. de curat. morbor.* 49) and other Byzantine authors. For a detailed discussion of these versions, see BONATI 2014 *s.v.* 3[1].

³³ For his chronology, cf. KINDSTRAND 1976, 5-6.

³⁴ See the interpretation of KINDSTRAND 1976, 292-3. See also p. 31.

³⁵ For these aspects see KINDSTRAND 1976, 22 and 25-6, as well as pp. 90 and 92-3.

³⁶ Between the III and the II century BCE other non-medical authors connect the word *πυξίς* to the medical context. The philosopher and physician Bolus of Mendes mentions the word in the spurious *ad Leucippem*, published *sub nomine Democriti* (cf. I 55,24 Berthelot *λαβόμενος χαλκόν τε εἰς τὴν ἰγδὴν ἐλαιῶδες φάρμακον, κατάθου εἰς πυξίδα*), while the engineer and writer on mechanics Philon of

The earliest occurrences of the term in Latin literature date back to the first half of the I cent. BCE. According to Plin. *Nat.* XXXVI 203,1-2, Varro might have used *pyxis*. Plinius, indeed, dealing with the *medica vis* of the fire, asserts to report Varro's own words: *ipsis enim verbis eius utar – pyxis sit, inquit, focus*.³⁷

From the I cent. CE onwards the use of the word *πυξίς* becomes widespread, with a noticeable peak of references during Roman times, especially in medical authors.³⁸

Further occurrences are found, for instance, in the *Hippiatrica* (7)³⁹ and in other medical writings,⁴⁰ as well as in alchemical⁴¹ and magical⁴² texts with similar formulations.

Several times the *pyxis* is mentioned in Latin writings of medical context, e.g. once in Celsus ([3]) in the diminutive form *puxidicula*, eight times in Scribonius Largus (I CE), fifteen times in Plinius (I CE),⁴³ thirty-nine times in Marcellus Empiricus (IV-V CE).⁴⁴

There are references to the medical *pyxis* or to *pyxides* in connection with *φάρμακα* also in non-medical Greek and Latin writers,⁴⁵ and the word is numbered among the *ferramenta medicinis* in the *Hermeneumata Monacensia* (CGL III 208,2 Goetz).

Though rhetorical figures of speech peculiar to the poetic language,⁴⁶ shifts of meanings and metonymies are also a strategy to create a technical terminology,

Byzantium, describing a machine invented by Ctesibius of Alexandria in his work on catapults, the *Belopoeica*, mentions twice some «vessels similar in shape to medical boxes» (cf. *Bel.* 60 [77,28-9 Thevenot = 65,19-20 Diels-Schramm] διὸ κατασκεύασεν ἀγγεῖα τοῖς μὲν σχήμασιν ὅμοια πυξίσιν ἰατρικαῖς μὴ ἐχούσαις πώματα, ἐξ ἑλατοῦ μὲν χαλκοῦ and 62 [78,12 Thevenot = 67,7 Diels-Schramm] τοιαῦτα οὖν δύο κατασκευάσας ἀγγεῖα, καθ' ὅτι εἶπομεν, ὅμοια πυξίσιν).

³⁷ Furthermore, in Cicero's *Pro Caelio* the word is employed eight times to denote a little vase containing poison (cf. 61,5; 63,12 and 14; 64,8; 65,2, as well as 5 and 10; 69,2). The same meaning is present also in later authors, e.g. *Svet. Nero* 47, 1,5 and 3,8; *Apul. Met.* 10, 27,15; *Herm. Vulg. vis.* III 9,7; *Sen. fr.* 9,18 Haase.

³⁸ Number of attestations in main Greek medical authors: Dioscorides (I CE) 7; Galen and Ps.-Galen (II CE) 36; Oribasius (IV CE) 16; Aëtius (VI CE) 26; Alexander of Tralles (VI CE) 5; Paulus of Aegina (VII AD) 5.

³⁹ *Hippiatr. Berol.* XI 30,3 and 28, 1,3 (= I 68,1 and 145,5 Oder-Hoppe); *Paris.* 252,3 e 357,3 (= II 50,12 and 57,12 Oder-Hoppe); *Cant.* VIII 9,8 and 14,2 (= II 138,10 and 139,4 Oder-Hoppe); *Exc. Lugd.* 132,6 (= II 302,16 Oder-Hoppe).

⁴⁰ Cf. e.g. *Philum. Ven.* IV 13,2 (CMG X 1,1, 8,30 Wellmann); *Afric. Cest.* II 11,9 and III 2,33 (211,13 and 227,17 Vieillefond).

⁴¹ Cf. *Iamb.* II 285,21 and 286,5-6 Berthelot; *Moses* II 301,6 Berthelot.

⁴² Cf. e.g. *Cyran.* I 12,39.

⁴³ The term is mentioned two other times (*Nat.* IX 37,2 and XVIII 112,3) with meanings unrelated to the medical field.

⁴⁴ For further references see TLL X,2.2 2797,54-2798,16 s.v. and HILGERS, LG 265 s.v.

⁴⁵ Cf. e.g. *Sen. Ep.* 95, 18,9; *J. AJ* XVII 77,1 and 78,1, as well as *BJ* I 598,1 and 4; *Luc. Philops.* 21,5; *Hippol. Haer.* IV 30, 2,2 (119,2 Marcovich).

⁴⁶ Indeed, a poetic usage of the word is found in *Iuv.* 13,23-5 *quae tam fausta dies, ut cesset prodere furtum, / perfidiam, fraudes atque omni ex crimine lucrum / quaesitum et partos gladio uel pyxide nummos?*. In this passage the term *pyxis*, i.e. the 'poison box', is interpreted as indicating by metonymy the content itself of the container, i.e. the 'poison', as suggested by the related scholium (*schol. vet.* 25^d [201,6 Wessner] (*partos gladio*) *vel pyxide nummos: veneno aut gladio*), see also COURTNEY 1980, 540; TLL X,2.2 2798,22-3 and POTTIER, DA IV/1 794 n. 12 s.v. Likewise, according to the modern interpretation of the verses, in *Id.* 2,140-1 *steriles moriuntur, et illis / turgida non prodest condita pyxide Lyde*, the secret medicine box of the swollen Lyde, totally useless against sterility, seems to become metonymy for the remedy or drugs that it contains (see e.g. S. Morton

originating semantic neologisms.⁴⁷ A case of this kind is represented by the use of *πυξίς* as a name of remedy,⁴⁸ i.e. a ‘plaster’, an ‘emollient ointment’ for gout in some passages of Aëtius and Paulus of Aegina.⁴⁹ In one of these, Aët. XII 63,30 (101,21 Kostomiris), it is extensively labeled *ἡ πυξίς ποδαγωγική*, whereas it is simply named *πυξίς* in the other ones. The medicament is said to be stored *ἐν ἀγγείῳ πυξίνῳ*, «in a vessel made of boxwood», by Paul.Aeg. VII 19, 12,5 (CMG IX 2, 377,23 Heiberg) and *εἰς πυξίδα ξυλίνην*, «in a wooden ‘pyxis’», by Aët. XII 63,36 (102,6 Kostomiris). It seems that both these expressions share the same semantic value, the former specifying the generic *ἀγγεῖον* with *πύξινος*, the latter accompanying the ‘etymological’ *πυξίς* with the generic *ξυλίνη*. As a result, one might suppose that such a designation is due to the storage of the ointment in a container made of boxwood, etymologically a ‘pyxis’. The name of this container is thus metonymically transferred to the remedy itself. Also in the case of the *πυξίς ποδαγωγική* there is a semantic shift. The adjective *ποδαγωγικός*, often referred to medicaments for gout⁵⁰ or becoming itself the name of a remedy (*ἡ ποδαγωγική*),⁵¹ belongs to a class of denominal formations with suffix in *-ικός*, expressing a link, a connection or a state, that is very productive in technical languages and in scientific prose, especially in the philosophical and medical field.⁵² The sense of this adjective here might originally have been ‘*ἡ πυξίς, this is a podagric remedy*’ (something like *ἡ πυξίς. ποδαγωγική*), with a following transference on the name of the remedy.

In a passage by Ps.-Lucianus (*Am.* 39,15) among female articles like mirrors and precious vessels of different types «a multitude of boxes like in the shop of the apothecary» (*καθάπερ ἐν φαρμακοπώλου πυξίδων ὄχλον*) is recorded. In such a case the word is involved in a metaphor that links the numerous boxes used by women – *πυξίδες* either with the technical meaning of ‘containers for cosmetics’ or with the non-technical

Braund’s translation in Loeb edition [London 2004, 161] «they die infertile, and swollen Lyde with her secret medicine box is no use to them», COURTNEY 1980, 145-6 «a fat quack with her fertility drugs» and TLL X,2.2 2798,23-4). A ‘mythological’ interpretation is provided by the scholia, cf. *schol. vet.* 141 (27,14-20 Wessner) 1^s *Turgida: ‘turgida[s]’ genus medicamenti, quod praegnantes facit et fecundas.* 2 (*Condita*) *pyxide Lyde: de Lydia, unde Arachne fuit in araneam conversa. haec inclusa in pyxide araneam textit, quae permixta potui fecundam mulierem de sterilitate facit.* 3 *Turgida: adludens: crassa simpliciter intellegendum sit aut praegnans*, followed by Valla’s explanation (*Lyde, quae in araneam versa est ira Palladis, pro ipsa aranea posita est. haec inclusa in pyxide fecundam mulierem de sterili facit*), and *schol. rec.* 141 (104,20-105,3 Grazzini) 1 *Turgida (non prodest) condita pyxide lide: ferunt phisici quod mulier quae sterilis est possit concipere si pyxide inclusam araneam gestet in sinu.* 2 *Condita autem pyxide dixit pro condita aranea quae condiebatur in pyxide {de} aromatibus ne puteret.* 3 *Aranea graece lide dicitur.* [...] 5 (*Condita pyxide*): *pro eo quod est ipsa condita ne putrefiat.* [...] 7 *Lide aranea dicta est antequam mutata a Minerva esset.* 8 *Fuit etiam meretrix cuius medica minibus conceptus dabatur.* The last one is closer to the modern interpretation of the text.

⁴⁷ See for instance CALLEBAT 1990, 50-1 referring to Latin technical languages and ADAMS 1995, 671 for the case of Pelagonius’ veterinary technical vocabulary.

⁴⁸ Cf. LSJ⁹ 1554 s.v. IV.

⁴⁹ Cf. Aët. XII P 74 (5,8 Kostomiris), the title chapter, and *ibid.* 63,30-7 (101,21-102,7 Kostomiris) as well as XV 15,443-50 (88,3-10 Zervos); Paul.Aeg. III 78, 19,6 and IV 55,10 (CMG IX 1, 306,4 and 380,27 Heiberg) as well as VII 19, 12,1-5 (CMG IX 2, 377,19-23 Heiberg).

⁵⁰ Cf. e.g. Gal. *De san. tuenda* VII 11 (VI 436,11 and 15-6 K.); *De simpl. med. fac.* I 29 (XI 432, 16 K.).

⁵¹ Cf. e.g. Paul.Aeg. VII 11, 59,2,19,25 and 32 (CMG IX 2, 312,8 and 25-313,4 and 11 Heiberg).

⁵² Cf. CHANTRAINE, FN 384-96; PEPPLER 1910, 428-44; WILLI 2003, 142-5; LIPOURLIS 2010, 1110-2; SCHIRONI 2010, 341.

meaning of ‘boxes for female items’ (see *supra*, A 2) – to the numerous boxes (very often *πυξίδες* properly said) on the shelves of a *φαρμακοπώλης*. The reason of this metaphor might be on the one hand the common use of *πυξίδες* in both of these contexts, on the other hand the fact that women frequently bought their *medicamina faciei* at the shop of the apothecary, since certain cosmetics were actual medicaments for skin.⁵³ As a matter of fact, recipes for medicinal-cosmetic remedies are commonly found in the pharmacological treatises of Greek and Latin medical authors that became part of the *materia medica* of the following centuries.

The word *πυξίς* is attested in four papyri of medical content ranging in date from the II cent. BCE to the IV cent. CE: [1] (late II BCE, ?), containing medical prescriptions; [2] (I BCE, ?), three columns of a recipe book; [6] (II CE, ?), preserving prescriptions for eye-salves; [10] (IV CE, ?), the pharmacological-therapeutic manual known as *Michigan Medical Codex*. In these papyri the container is always used in the phase of preservation and storage of remedies until their use. Furthermore, elements concerning the material features of the object and the medical products inside confirm what is known from literary sources (see *infra*).

Formulations very similar to those of medical texts also appear in some magical papyri, such as PGM I 4,2463-6, in which a magical compound is stored in a leaden *πυξίς*:⁵⁴ ταῦτα πάντα βάλε εἰς ὄλμον σὺν τῷ μυγαλῶ καὶ τοῖς λοιποῖς καὶ κόψας καλλίστως ἔχε ἐπὶ τῶν χρεῶν ἀποθέμενος εἰς πυξίδα μολιβῆν.

The word, also in the diminutive form, occurs eight times, often accompanied by an adjective specifying its material, *i.e.* wood or ivory, in a series of five inscriptions from the Asklepieion of Delos dating back to the mid II BCE.⁵⁵ These documents – fragments of acts of Athenian officials responsible for the administration of Delian sanctuaries – contain inventories of goods and votive offerings registered year by year.⁵⁶ The fact that some *πυξίδες* full of silver pieces (*ψηγγμάτια ἀργυρᾶ*) and small golden models (*τύπια χρυσᾶ*) – maybe representing anatomical parts –⁵⁷ were offered to the sanctuary of Asklepios, the god of medicine, might perhaps symbolically allude to the use of the *πυξίς* in medical context. Occasionally, medicine containers and bottles has been found in holy places serving as votive gifts to the gods. These objects, which thus acquired a symbolic value,

⁵³ For instance, this aspect has been proved by GREEN 1979, 381-92 in the case of the five recipes for face packs reported by Ovid in the surviving fragments of its *Medicamina Faciei Feminae*. See also JACKSON 1988, 55.

⁵⁴ The word occurs also in PGM II 15,18-9 and 37,7.

⁵⁵ Cf. ID III 1414, fr.b, col.II, l. 4 [ψηγγ]μάτ[ι]α ἀργυρᾶ [ἐ]μ πυξιδίωι and l.5 [ἐ]μ πυξιδίωι; ID III 1416, A, col.II, ll.14-5 ἄλλα ψηγγά|τ[ι]α ἀργυρᾶ ἐμ πυξιδίωι and l.21 [πυξίδα ἐλ]εφαντίνην; ID III 1417, B, col.I, l.139 ψηγγάτια ἀργυρᾶ ἐμ πυξιδίωι and l.143 πυξίδα ἐλεφαντίνην; ID III 1442, A,83-4 τύπια χρυσᾶ κατεαγότα καὶ ἐνόνητα ἐν πυξίδι ἐλ[ε]φαντίνει; ID III 1444, Ba,19-20 [τύπια χρυσᾶ κατ]εαγότα καὶ ἐνόνητα ἐμ πυξίδι ξυλίνοι. Moreover, the diminutive *πυξίδιον* occurs in SGDI II 2275,17 from Delphi (ca. 150-140 BCE, *Priesterschaft* VI), and is also doubtfully restored in another inscription from Delphi, CID II 35,3-4, dating back to the IV cent. BCE (343-342 BC ?), but it is very likely wrong as the term is never attested at that time.

⁵⁶ On Delian inventories, cf. HAMILTON 2000.

⁵⁷ Anatomical votive figurines have often been found in the Asklepieion of Delos. For this and other aspects about the sanctuary see MELFI 2007, 456-80.

were often filled with coins, probably marking the degree of gratitude expressed by the donor toward the helping divinity.⁵⁸

Material, features and contents A multidisciplinary approach provides a broad overview of the material features of the *πυξίς* and sheds light on its medical contents. Ancient Greeks and Romans used to give considerable attention to the possible interference of the material of the container on drugs and medical compounds held inside. Therefore, they tended to choose the receptacle in relation to its content on the basis of two factors, the shape and the material.⁵⁹ Elements emerging from papyrus texts and literary sources basically confirm each other.

Only two medical papyri mention the material: [1] *πυξίδ[α] κεραμηαν* (*l. κεραμεᾶν*) and [6] *[εἰς] πυξίδα χαλκῆν*. But a reference to the material might be concealed by the lacuna in [2] col.I, 1.6 *ην πυξίδα*.⁶⁰ The fact that the *πυξίς* of [1] is made of clay has a certain interest since this material is explicitly mentioned in few medical texts, *i.e.* Orib. *Syn.* VIII 45, 4,3 (CMG VI 3, 265,15 Raeder) *εἰς πυξίδα κεραμιαίαν*, Aët. VIII 12,88 (CMG VIII 2, 418,9 Olivieri) *εἰς πυξίδα κεραμεᾶν*, Paul. Aeg. III 22, 26,25 (CMG IX 1, 183,2 Heiberg) *εἰς πυξίδα κεραμιαίαν*. Actually, pottery ‘*pyxides*’ were very common. It is proven by archaeological finds and Phot. κ 1191 Th. *s.v.* *κύβηλις· ἀγγεῖον κεραμεοῦν ὡς πυξίς* cites the *πυξίς* as an earthen vessel. The same can be inferred by [7], being the *κυλιχνίς* a ceramic box turned on a potter’s wheel.⁶¹ The consistency of the remedy, maybe against colics,⁶² kept in the *πυξίς* of [1] was likely determined by the presence of boiled honey (1.17 *] . . χει μέλιτος ἐφθοῦ τὸ . [*) and resin (1.18 *] ἀναλαμβάνειν ὡς ῥητίνη . . [*) among the ingredients. Also in the three cases in which medical authors mention a *pyxis* made of clay (*πυξίς κεραμεᾶ / κεραμιαία*) the remedy has the consistency of an ointment, *i.e.* the remedy *περὶ στιγμαμάτων* described by Aët. VIII 12,88 (CMG VIII 2, 418,8 Olivieri), which contains honey, and the remedy for eye ulcers illustrated by Oribasius (*Syn.* VIII 45, 3-4 [CMG VI 3, 265,11-5 Raeder]) and Paulus of Aegina (III 22, 26,22-6 [CMG IX 1, 182,26-183,3 Heiberg]) with slight variations, as is suggested by the final verb *ὑπαλείφω*, «lay on, spread like salve» (LSJ⁹ 1851 *s.v.*).

The *πυξίς* of [6] is made of bronze, which is the most common material for this container in medical writers.⁶³ The papyrus preserves a remedy for cataracts prepared with gall of hyena, very effective for eye diseases,⁶⁴ and probably honey.⁶⁵ Remedies

⁵⁸ See *e.g.* SJÖQVIST 1960, 78 and 80.

⁵⁹ According to Plin. *Nat.* XIII 19,1-8 and Dsc. *MM, Praef.* 9,7-15 (I 5,5-13 Wellmann), particular virtues were recognized to different materials of pharmaceutical containers. For this aspect see ANDORLINI 2007, 28-9 and especially TABORELLI 1996, 153.

⁶⁰ *χαλκῆν* is possible, but also *εἰς τῆν* and *αὐτῆν*, as proposed by ANDORLINI 1995, 16 *ad l.*

⁶¹ Cf. also Gal. *Ling. s. dict. exolet. expl.* Σ (XIX 138,2-3 K.) *σιπύδα: πυξίδα, δηλοῖ δὲ ἄλλως τοῦνομα καὶ κεραμεοῦν τι σκεῦος εἰς ὃ ἄλφιτον ἐμβάλλεται*.

⁶² Cf. ANDORLINI 2001, 117.

⁶³ Cf. *e.g.* Dsc. *MM* III 11, 2,3-4 and IV 31, 1,7 (II 19,8-9 and 193,9 Wellmann); Gal. *De comp. med. sec. loc.* I 2 and II 2 (XII 405,8-9 and 583,17 K.); Orib. *Syn.* III 135, 2,3-4 and VIII 50, 5,1 (CMG VI 3, 102,8-9 and 267,19 Raeder); Aët. VI 15,10-1 and 24,68 (CMG VIII 2, 155,16-7 and 166,5 Olivieri); *Hippiatr. Berol.* XI 30,3 (I 68,1 Oder-Hoppe) and *Paris.* 357,3 (II 57,12 Oder-Hoppe).

⁶⁴ Cf. especially Dsc. *MM* II 78,1-4 (I 159,8-160,18 Wellmann).

prepared with gall and stored in mainly bronze *πυξίδες* also occur in other passages, such as a prescription of the Roman physician Cassius reported by Gal. *De comp. med. sec. loc.* IV 8 (XII 738,10-6 K.) and Aët. VII 101,56-62 (CMG VIII 2, 352,23-353,5 Olivieri), a recipe *περὶ ἀμαυρώσεως καὶ ἀμβλυωπίας* in Paul.Aeg. III 22, 31,1-13 (CMG IX 1, 185,14-186,2 Heiberg) and another one *πρὸς ἐπιδρομὴν ὀφθαλμοῦ* in *Hippiat. Cant.* VIII 14,1-2 (= II 139,3-4 Oder-Hoppe), where the receptacle is made of silver.

According to Youtie's plausible integration,⁶⁶ in [10] the word is defined *καθαρά* in the sense of "clean", an adjective identifying the "condition" of the object that is never attested in literary sources accompanying *πυξίς*. Adjectives with similar meaning (e.g. *προπεπλυμένος / προπλυθεῖσα*, «washed clean before» [LSJ⁹ 1495 s.v.], i.e. "well cleaned" before new use) are usually found in case of materials, like ceramic, which tend to soak up the substances inside with the consequent, even if slight, alteration of new substances put into the vessel.⁶⁷ But an evident connection between containers explicitly said made of clay and the need that they were "clean" does not emerge from Greek authors, although it can sometimes be deduced from the juxtaposition of *καθαρός* to containers, such as the *χύτρα* (vd. s.v., C 1), that usually are made of clay.⁶⁸ Anyway, the use of this qualifier is not enough to suppose that the *πυξίς* of [10] is in ceramic. It may be pointed out, however, that the substance stored into it, the litharge, i.e. the lead monoxide (II.2-3), that is mixed with wine, is mainly attested in relation to earthen, or sometimes bronze, receptacles used during the preparation of remedies, such as the *χύτρα* and the *λοπάς*.⁶⁹ In spite of this, in Dsc. *MM* V 87,8 (III 59,21-3 Wellmann) the litharge, in form of *pastilli* (*τροχίσκοι*), is kept in a leaden *πυξίς* (*εἰς μολυβῆν πυξίδα*).

In [2] the word *πυξίς* occurs twice. In the very fragmentary col.I, which is completely lost in the left-hand side, it appears at the end of l.7 preceded at l.6 by the mention of the consistency of the remedy, as *ἰξῶδες* indicates. Among possible supplements, *ἰξῶδες* denotes a sticky density.⁷⁰ The adjective occurs in relation to a *πυξίς* only in Oribasius' version of the *πάγχρηστος ὑγρὰ* of Erasistratus (see [14]), whereas other adjectives ending in *-ξῶδες* are never attested in connection with this container. In the *πυξίς* of the second column is held a remedy *πρὸς λευκώματα* made with sodium carbonate, myrrh, ebony and Attic honey. Of these four ingredients, the sodium carbonate and the Attic honey are found, among many others, in Gal. *De comp. med. sec. loc.* IV 8 (XII 737,5-11 K.), who describes a medicament *πρὸς τύλους καὶ λευκώματα* recommending to store it in a *πυξίς* made of holm-oak wood (*εἰς πυξίδα πρινίνην*).

⁶⁵ Cf. YOUTIE 1985, 370-2.

⁶⁶ Cf. YOUTIE 1996, 10.

⁶⁷ See what is said s.vv. *χύτρα* and *κακκάβη* C 1.

⁶⁸ With earthen vessels is more often used the adjective *καινός*, «new». See especially Gal. *De simpl. med. fac.* XI 44 (XII 364,9-10 K.) and *De comp. med. sec. loc.* I 2 (XII 433,10 K.). The *καινός* is also attested in a medical papyrus, GMP I 4,7-8 *ἀγγεῖον κ[ε]ρα/μεοῦν καινόν* (LDAB 3910; MP3 2412). Cf. LUISELLI 2001, 62 and TABORELLI 1996, 153.

⁶⁹ Cf. e.g. Gal. *De comp. med. sec. per gen.* II 17 and V 10, as well as VII 12 (XIII 538,9-10 and 822,18-823,1, as well as 917,4-5 K.).

⁷⁰ Cf. ANDORLINI 1995, 16: «la finale ammette anche altre soluzioni, come *μυ]ξῶδες* ('di muffa', detto per di più di un 'liquido' organico [...]), e forse *ὀ]ξῶδες*, che connota una proprietà 'aspra come l'aceto'».

An overview of Greek medical sources relating to the materials of the *πυξίς* shows a wide variety ranging from the bronze and the lead, the most widespread materials, to the wood, the horn, the silver, the glass, the clay, the tin, the iron.⁷¹ The range of the consistencies of products stored in *πυξίδες* is also wide and includes ointments and salves, different kinds of thickness (e.g. oily, greasy, sticky and resinous), as well as liquids (see e.g. [3]), *pastilli* (τροχίσκοι) and dry powders (ξηρία).⁷² Thus, it seems that there was no exclusive connection between consistency of the content and material of the container and that the *πυξίς* was very versatile and suitable for different typologies and densities of *medicamenta*.

Use The verbal indicators confirm the usage of the *πυξίς* to keep and store the remedies until their use, as often the final formula *χρῶ*, «use», makes clear. The most common verbs are *ἀποτίθημι*, in the sense of «put away», «store» (see e.g. [4] and [5]), usually in the formula *ἀπόθου εἰς πυξίδα vel sim.*, and *ἀναιρέω*, i.e. «take up» (see e.g. [12]). Other, less attested, verbs expressing similar meanings are, e.g., *τίθημι*, «put», *ἀναλαμβάνω*, «take up», *ἔάω*, «deposit», *ἔχω*, «keep», *φυλάττω*, «preserve» (see e.g. [12]), *τηρέω*, «retain», *ἀπόκειμαι*, «be laid up». As a rule, they are found in the final section of the prescription, in a context which suggests the stasis after the preparation of remedies, and only sometimes an interval during it (see [11]).⁷³ This situation is consistent in medical authors (Dioscorides, Galen, Aëtius, Alexander of Tralles and Paulus of Aegina) with the exception of Oribasius, as he refers to the use of a double leaden container named *πυξίς* during the phase of preparation (see [8]). In this passage describing the recipe of a purgative, the *καθαριστικὸν Λύκου*, a *πυξίς* is employed firstly to ‘boil’ (*ἔψω*), then to ‘cool down’ the remedy. Elsewhere, however, he uses the usual verbs *ἀποτίθημι* and *ἀναιρέω*, but also *μεταχέω*, «pour from one vessel into another» (LSJ⁹ 1118 s.v.), in his version of Erasistratus’ *πάγχρηστος ὑγρὰ* (see [9]).

2. *πυξίς* word and object

Even though no direct evidence (e.g. *dipinti* inscriptions) points at a specific object, the ‘pyxis’ is usually identified as a small round box with a separate lid. The shape of the container called ‘pyxis’ by archaeologists can be traced back to the Protogeometric period (1050-900 BCE). During the Geometric period (IX-VIII cent. BCE) two typologies spread: the oldest one, which did not outlive the IX cent. BCE, was pointed, whereas the other one, which grew larger and squatter into the late Geometric, had convex walls and a flat lid with elaborate sculptures having function of handles. This kind of vessel reached its greatest popularity in Athens during the VI cent. BCE, but especially from the mid V cent. BCE, with several variations in style and with figured scenes of women depicted on the

⁷¹ Cf. BONATI 2014 s.v. 4. A similar situation in Latin literature, cf. HILGERS, LG 266 s.v. See also POTTIER, DA IV/1 794 and nn. 5-11 s.v., as well as TABORELLI 1996, 156 for the specific case of Scribonius Largus.

⁷² Cf. *Suda* κ 2668 Adler (≅ *schol. Ar. Eq.* 906,1-2) s.v. *κυλίχνιον· ἔκπωμα· ὁ νῦν λέγουσι πυξίδιον· ἔχουσι δὲ οἱ ἰατροὶ τὰ πυξίδια, ἐν οἷς βάλλουσι τὰ πάσματα.*

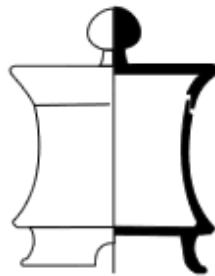
⁷³ Cf. also e.g. Dsc. MM III 83, 3,6-7 (II 100,12-3 Wellmann).

body and on the cover. The Attic 'pyxides' were then modified and adapted through the rest of the Greco-Roman world. Below a list of the main types of Attic 'pyxides':⁷⁴

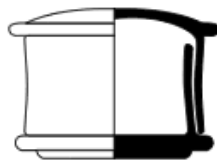
- nikosthenic pyxis: introduced during the late VI cent. BCE by the potter Nikosthenes, it has a tall, flaring body (average h 20 cm), a low stemmed foot and a domed lid with a knob;



- type A: quite high (average h 15 cm), with concave walls and low foot-disc or three notched feet, it is covered by a flattened lid with a round knob (VI-IV cent. BCE);

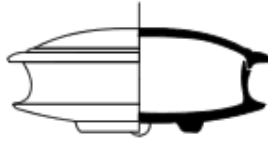


- type B: it has low concave walls (average h 5-10 cm), a low foot and a slightly domed lid without knob (late V-IV BCE);



- type C: it has shallow body with concave sides (average h 5 cm), wider flaring lip and base, domed cover sometimes with a bronze lid on the top (late V-IV BCE);

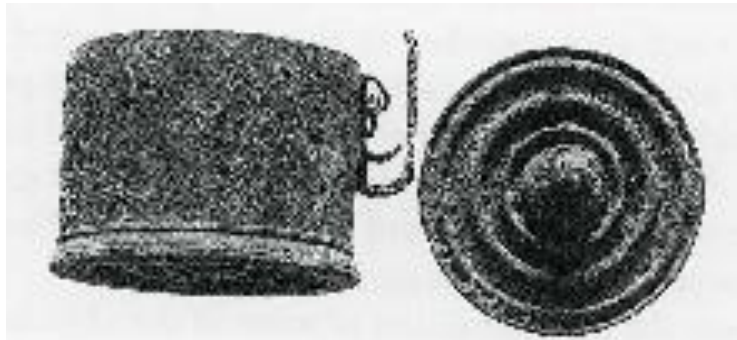
⁷⁴ Cf. KISA 1908 (II), 337-8; POTTIER, DA IV/1 795 s.v.; RICHTER-MILNE 1935, 20-1; EAA II 503 with references, as well as the web page <http://www.perseus.tufts.edu/hopper/text?doc=Perseus:text:1999.04.0004:id=pyxis>.



- type D: similar to type B, it has cylindrical walls and a shallow, flat lid without handle (average h 5-10 cm).



Archaeological excavations have supplied a certain number of sturdy round containers having lids attached with chains that have often been interpreted as storage boxes for holding medicaments or drugs. Although there is no direct proof that the name of these boxes was *pyxis*, they might well represent the *pyxides* mentioned by ancient writers of *materia medica*. A very well preserved exemplar in the Depository of the National Archaeological Museum of Naples is inventoried by Bliquez as no. 323.⁷⁵



Medicine container, unknown provenance.

Copper alloy.

H 6,4 cm, W. 4,7 cm.

Naples, National Archaeological Museum (Depository, box 8).

⁷⁵ Cf. BLIQUEZ 1994, 70, with imm. (here reproduced) on p. 199 (ill. no. 210). The author also suggests an alternative use as ink-pot (*atramentarium*). Anyway, also this object could be named $\pi\upsilon\chi\acute{\iota}\varsigma$, as documented by late sources (cf. Nilus Cabasil. *Ep.* p. 103).

D. Bibliography

1. Lexicon entries

ThGL VII 2241C-D *s.v.*; LSJ⁹ 1554 *s.v.*; TLL X,2.2 2796,73-2798,52 *s.v.*; DU CANGE, GMIG I 1274 *s.v.* πύξιον; GMIL VI 580 *s.v.*; LSJ⁹ 1554 *s.v.*; FORCELLINI, LTL III 983-4 *s.v.*; BOISACQ, DELG 827 *s.v.* πύξος; CHANTRAINE, DELG II 956 *s.v.* πύξος; FRISK, GEW II 626 and III 174 *s.v.* πύξος; BEEKES, EDG II 1259 *s.v.* πύξος; SAALFELD, TIG 966 *s.v.*; SHIPP 1979, 477 *s.v.*; LATHAM, RML 385 *s.v.*; ANDRIOTHS, EAKN 304 *s.v.*; DIMITRAKOS, MA II 1411 e NA 1189 *s.v.*; STAMATAKOS, ANET III 2444 *s.v.*; POTTIER, DA IV/1 794-5 *s.v.*; HILGERS, LG 265-7 *s.v.*; KIPFER 2000, 463 *s.v.*; PREISIGKE, Wb II 436 *s.v.*

2. Secondary literature

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