

For Whom Did the Top Spin? A Boeotian Spinning Top in Context

with an Appendix by Nikoletta Kanella Kladouri

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Abstract

The paper presents a rare clay spintop from a child burial at Akraiphia, Boeotia in the context of its funerary assemblage. The object's shape is a low cylinder tapering sharply to a fragile tip and bears polychrome decoration on a white ground, thus it is a votive simulacrum rather than a functional toy. It dates to the last third of the 5th c. BC based on diagnostic, locally made, co-finds such as a floral cup and a kantharos. It is comparable to Attic and Boeotian types of spintops, the latter dedicated plentifully to the Kabirion sanctuary where they must have served as iconic toys with cultural importance offered to a divine male pair, namely the mature symposiast Kabiros and his adolescent acolyte Pais, protectors of youth and maturation in the Archaic and the Classical periods. Although Kabiric spintops are usually interpreted in the context of Dionysiac mystery cult based on late testimonia, the further discovery of such cultural ludic objects also in other deities' sanctuaries points to a widespread cultic use associated with coming of age. In tombs of nonadults simulacra of spintops functioned as markers of premature demise.

1. Playthings and Spintops in Boeotia

Boeotia, one of Greece's richest regions in material culture, is also home to a variety of playthings in a number of media. These include “dolls”, dice, sound-making objects such as rattles, bells and phormiskoi, a “yo-yo”,

knucklebones and, of interest to us here, spintops (Sabetai 2021; Sabetai 2022). If terracotta animals and other miniature objects in the form of shields and baskets are also regarded as cultural artifacts with a playful facet, the quantity of ludic material from Boeotia increases considerably. Although the majority of objects associated with play is derived from the region's extensive cemeteries, some are best known from its sanctuaries. This is the case of the multifunctional astragals and of the spintops. The latter are almost solely known from the Kabirion, a sanctuary west of Thebes which housed the cult of two deities, Kabiros and Pais, a duet cast in a "senior-junior" sympotic relationship on custom-made pottery (Schachter 2003). The surviving spintops from the Kabirion date from the 5th c. BC onwards and are made in clay, stone and metal (Wolters, Bruns 1940: 89; 123–124; pl. 18, nos. 2; 4–11; pl. 19, nos. 4–7; pl. 41, no. 7; pl. 42, no. 13; pl. 48, no. 19; pl. 49, nos. 11–14 and pl. 61, no. 4; Braun, Haevernick 1981: 36–37; 48–49; 61; 114; pl. 3, nos. 1–4; pl. 4, no. 14; pl. 6, nos. 6–7; pl. 7, nos. 4; 7 and 13; pl. 8, no. 1; pl. 19, nos. 3–4 and 6; Cruccas 2014; Giuman 2020: 53; 59–64; 71–72; Sabetai 2022; Avronidaki 2023: 156–157; pl. 5–7). Their material, size and weight suggest that they were mostly votive simulacra rather than functional toys. Some clay tops bear figured and floral decoration in black and red-figure, while others are black-glazed or undecorated; most are grooved at the side. The offer of spintops in the Kabirion is documented in a Hellenistic inscription found in situ which attests further to the importance of dedicating them in this cult place (Wolters, Bruns 1940: 21–22, no. 2, lines 21–23). The Greek term in this inscription is «στρούβιλος» and the testimonium mentions also the whip used to set it in motion («μάστιξ»).

Surprisingly, spintops from Boeotian tombs are reported rarely, despite the fact that those accommodating children and adolescents were furnished with a plethora of clay funerary gifts from the 6th to the 4th c. BC. It is unknown if, and to what degree, the lack of published tops may reflect modern bias which prioritizes the study of pottery, figurines and jewellery to the detriment of other categories of material, such as minor objects. The possibility that wheel-turned clay objects, such as tops, lay unmended and unidentified in museum storerooms cannot be excluded either. We should further remember that real spintops may have been numerous both in tombs and sanctuaries, but left no trace in the archaeological record because they were made of perishable materials, such as wood. No matter what the truth is, the tops' transcription in various media and sizes as well as their dedication to a major sanctuary underlines their iconic character and cultural importance. I have argued elsewhere that the "monumentalized" spintops in marble, metal and painted clay in conjunction with the diptych of the "senior-junior" Kabiric deities to whom a plethora of figurines of youths was offered, point to male maturation rites in this cult place (Sabetai 2022). The memorialization of the important transition from childhood to adulthood was marked with votive practices which not only comprised

playthings but accorded an important role to the spintop, a toy requiring skill and dexterity in order to be set in motion. An epigram in the *Anthologia Palatina* (6.309) attests to such practices, as it states that Philokles offered his toys, including a «ῥόμβος», to Hermes; the term has been thought to refer to a spintop of some kind¹.

2. A Spintop from an Akraiphian Child Tomb: Findspot

In view of the above, the rare discovery of clay spintops in Boeotian tombs is a welcome addition to the already known corpus from the Kabirion. The following discussion presents one such toy from an Akraiphian child grave while drawing comparisons with the only other extant example from the same cemetery which is known from brief notes in preliminary reports.

The spintop (cat. 1; figg. 1a-1d) presented here was unearthed in the grave T.209 which forms part of the extended necropolis of Akraiphia, an important city of the Boeotian confederacy to the northeast of Thebes and not far from the famous sanctuary of Apollo Ptoos². The tomb dates to the last third of the 5th c. BC. It is a rectangular pit with irregular “ledges” along its long sides and measures 1.30 x 1.04 m. at the exterior and 1.24 x 0.72 m at the interior, which suggests that the deceased, whose bones had totally decomposed, was a child of unknown sex. The tomb’s SE corner violated another, underlying, child tomb (T.208) which dates to the first decades of the 5th c. BC, but this small intrusion did not seem to disturb the contents of neither of them as they lay on different elevations, except, perhaps, for a dubious pig figurine (cat. 7).

The spintop was unearthed in the west corner of the small tomb. It was found with its tip pointing upwards, presumably on the spot where it was originally deposited next to the dead child. The burial was frugally furnished with a few ceramics, while the spintop must have been the most important object in its assemblage. The co-found pottery includes a few large and small vases, namely a black-glazed kantharos (cat. 2; fig. 2), a miniature trefoil oinochoe (cat. 3; fig.

1 For the terms *bembix*, *strobilos* or *konos*, see Dasen 2016: 82-85. Weiss, Buhl 1990: 505 and Dasen 2018: 30 caution that the term *rhombos* in the *Anthologia Palatina* VI, 309 may refer to the yo-yo. Levaniouk 2007: 175-180 connects it to the bull-roarer. Two ivory *rhomboi* are mentioned in an inventory list from the sanctuary of Artemis Brauronia found in Oropos, see Kalliontzis 2021: 128-129, nos. 62 and 70.

2 The tomb T.209 was excavated by K. Kostanti in the rescue digs of 1996 at the widening of the National road Athens-Thessaloniki which cuts through the necropolis of Akraiphia (Kilometer 102.170 North; orientation NW-SE). Clusters of graves of all types were unearthed at the north and south side of the road in the years 1994-1998. For bibliography on specific studies treating this material see Vlachogianni 2012: 1007-1008, n. 3. For an overview of Akraiphian child tombs see Sabetai 2000. All the finds presented here are kept in the Museum of Thebes.

3 left), a saltcellar (cat. 4; fig. 3 middle), the body of a miniature pyxis (cat. 5; fig. 3 right), a Boeotian floral cup and sherds of at least another (cat. 6; fig. 4).



Fig. 1a



Fig. 1b



Fig. 1c



Fig. 1d

Fig. 1a-d. Clay spintop, from Akraiphia, tomb T.209; 430/425 - 415/410 BC. Thebes Museum, inv. 99729 (Copyright © Hellenic Ministry of Culture and Sports – Ephorate of Antiquities of Boeotia. Photographer: V. Sabetai).

Non-joining sherds collected in the grave once belonged to one or two floral cups, a kantharos and an open-shaped pot (cat. 11; fig. 5). The pig figurine (cat. 7; fig. 6) may have been part of this assemblage, but this is not entirely certain. Apart from the miniature pots, all the rest were found badly damaged, presumably due to the lack of cover slabs which would have protected the objects deposited inside the pit or because they were exterior offerings.³ Spots of ash randomly attested on the earth during excavation suggest a funerary ritual at the closing of the tomb which probably involved burning of seeds and food-stuffs as indicated by a charred fig (cat. 9), a symbolic multi-seeded fruit which is attested also elsewhere in this necropolis' burials. In that area were found also clay beads from a funerary wreath (cat. 8; fig. 7). The finds from the child

³ The objects' bad state of preservation is not uncommon at the lakeside necropolis of Akraiphia which suffered from inundations. Items from pit graves and cremations are usually the worst preserved.

tomb are rather few in comparison to other such contemporaneous Akraiphian interments, possibly because some of the external offerings got swept away.⁴



Fig. 2. Black-glazed kantharos, from Akraiphia, tomb T.209; 430/425 - 415/410 BC. Thebes Museum inv. 99730 (Copyright © Hellenic Ministry of Culture and Sports – Ephorate of Antiquities of Boeotia. Photographer: V. Sabetai).



Fig. 3. Miniature oinochoe (left), glazed saltcellar (middle), powder pyxis (right), from Akraiphia, tomb T.209; 430/425 - 415/410 BC. Thebes Museum inv. 99731, 99732, 99733 (Copyright © Hellenic Ministry of Culture and Sports – Ephorate of Antiquities of Boeotia. Photographer: V. Sabetai).

4 A burnt area ca. 0.60m SW of the tomb T.209 contained ashes, three female terracotta heads wearing a polos, a male figurine and glass beads. Although of similar date, these loose finds are of undetermined association to this child tomb and may have belonged to other nearby interments or cremations.



Fig. 4. Floral cup, from Akraiphia, tomb T.209; 430/425 - 415/410 BC. Thebes Museum inv. 99734 (Copyright © Hellenic Ministry of Culture and Sports – Ephorate of Antiquities of Boeotia. Photographer: V. Sabetai).



Fig. 5. Sherds from floral cups from Akraiphia, tomb T.209; 430/425 - 415/410 BC. (Copyright © Hellenic Ministry of Culture and Sports – Ephorate of Antiquities of Boeotia. Photographer: V. Sabetai).



Fig. 6. Pig figurine, from Akraiphia, tomb T.209; 430/425 - 415/410 BC. Thebes Museum inv. 30775 (Copyright © Hellenic Ministry of Culture and Sports – Ephorate of Antiquities of Boeotia. Photographer: V. Sabetai).



Fig. 7. Clay beads from a funerary wreath from Akraiphia, tomb T.209; 430/425 - 415/410 BC. (Copyright © Hellenic Ministry of Culture and Sports – Ephorate of Antiquities of Boeotia. Photographer: V. Sabetai).

3. Form, Material, and Decoration of the Akraiphian Spintops

The terracotta top from this child tomb is wheelmade and shaped as a low cylinder tapering sharply to a thin tip whose edge has been broken. The base of the cylinder features a small recession at its edge while also lacking the central hole that occurs often on other examples. Its side is ungrooved, while the entire

surface is coated with a white ground on which slight traces of linear or floral designs in added red colour can still be discerned.

The low, broad shape of the spintop, its ungrooved side, and its long and thin tip find a close comparandum in an example from the partly published Akraiphian tomb KOΛ/84 (height 6.5 cm; diameter 6 cm; Andreiomenou 1991: 43-44, fig. 76; Andreiomenou 1994: 238-239, fig. 103; figg. 8-9). That piece is also coated with white ground and preserves a floral decoration on its conical part, namely three silhouetted palmettes whose central leaves converge towards the centre.



Fig. 8. Clay spintop, from Akraiphian, tomb KOΛ/84; third quarter 5th c. BC. Thebes Museum (from ANDREIOMENOU 1994: 239, fig. 103).

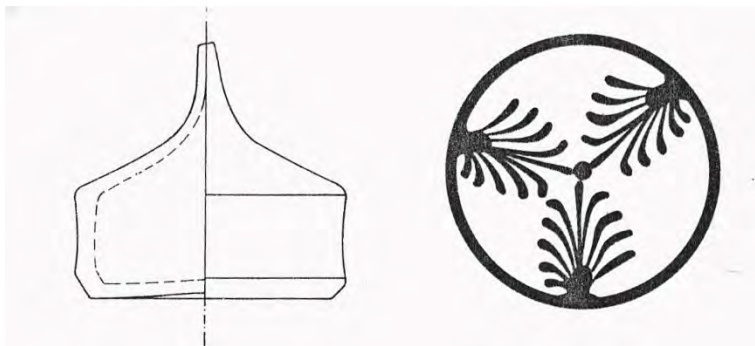


Fig. 9. Clay spintop, from Akraiphian, tomb KOΛ/84; third quarter 5th c. BC (drawing). Thebes Museum (from ANDREIOMENOU 1991: 44, fig. 76).

The Boeotian spintops are kindred to Attic models in that they are shaped as a cylinder which tapers to a cone (see, e.g., Knigge 1976: 192, ES 34, pl. 94, 4; Klinger 2021: 104, no. 134, pl. 20). Yet, they differ in the detail, for the Akraiphian pair has a long and angular tip in comparison to the sturdier examples from the Kabirion whose lower part may either be more strictly conical, or end to a low tip which barely protrudes from the cylinder (cf. Cruccas 2014: 471, fig. 3). The Kabiric examples (figg. 11a/b-14) present further variation in the decoration and grooving, the latter suggesting imitation of whipping tops (see, e.g., Wolters, Bruns 1940: pl. 18, 4-5; 7-8 and 11); one rare clay example is even coated with tin which would have made it a shining object (see *Appendix*). Attic and Boeotian whipping tops are, however, quite different from another type which occurs in the sanctuary of Demeter and Kore at Corinth and is made of two conical halves with pointed end that join at their maximum diameter, as recognized by Sonia Klinger (Klinger 2021: 100-105). The unidentified cones and biconical objects from a rich votive pit at a sanctuary in the Megarid may also be recognized as halves or entire spintops which were not whipped but twirled with the fingers (see Kyriakou-Zapheirou 2014-2015: 383-384, nos. Δ45-Δ53).⁵ They have been dated from 630 BC to the first half of the 6th c. BC and may count as the earliest known spintops from a Greek cult site (fig. 10).



Fig. 10. Half cone and biconical object from a sanctuary in the Megarid; Archaic period (from KYRIAKOU-ZAPHEIROPOULOU 2014-2015: 384, figs. 225-226).

The close resemblance of the two Akraiphian, white-ground spintops suggests local manufacture. The evidence from the Kabirion, on the other hand,

5 The figure composed of two cones on opposite sides of the same base was termed *ρόμβος στερεός*, see Liddell Scott, s.v. citing Archimedes, *On the Sphere and Cylinder* [Archim.Sph.Cyl.] 1.26, al.: *σχῆμα συνιστάμενον ἐκ δύο κόνων συνημμένας ἐν τῷ αὐτῷ τὰς βάσεις ἔχόντων* (Greek: Ἀρχιμήδ., Περὶ σφαίρας καὶ κυλίνδρου).

attests to diversity in form and decoration which points to numerous production centres in the region among which at least one associated with Kabiric ware. From low to tall cylinders with grooved or ungrooved side, and from plain to decorated in polychrome or black and red figure, such clay toys were popular and cherished objects across Boeotia and a number of workshops must have potted them along with other types of ceramic artifacts.



Fig. 11a. Clay spintops from the Kabirion; from left to right, inv. 421 and 10446. Athens, National Archaeological Museum (National Archaeological Museum, Athens. Copyright © Hellenic Ministry of Culture and Sports/ Hellenic Organization of Cultural Resources Development. Photographer: K. Xylina).



Fig. 11b. Clay spintop from the Kabirion, inv. 421; detail of the body and of the pierced base. Athens, National Archaeological Museum (National Archaeological Museum, Athens. Copyright © Hellenic Ministry of Culture and Sports/ Hellenic Organization of Cultural Resources Development. Photographer: N. Kladouri).



Fig. 12. Clay spintops from the Kabirion; from left to right, inv. 10450, 10445 and 10447. Athens, National Archaeological Museum (National Archaeological Museum, Athens. Copyright © Hellenic Ministry of Culture and Sports/ Hellenic Organization of Cultural Resources Development. Photographer: K. Xylina).



Fig. 13. Clay spintop from the Kabirion; inv. 10451. Athens, National Archaeological Museum (National Archaeological Museum, Athens. Copyright © Hellenic Ministry of Culture and Sports/ Hellenic Organization of Cultural Resources Development. Photographer: K. Xylina).



Fig. 14. Clay spintop from the Kabirion; inv. 10444. Athens, National Archaeological Museum (National Archaeological Museum, Athens. Copyright © Hellenic Ministry of Culture and Sports/ Hellenic Organization of Cultural Resources Development. Photographer: K. Xylina).

4. Date

The Akraiphian spintops may be placed in the last third of the 5th c. BC and are the first of their kind to be securely dated on the basis of their co-found vases and figurines. Both tomb assemblages included floral cups, a popular class of decorative ware which was produced by a number of Boeotian workshops. The inception of the series is placed ca. 430 BC on the basis of examples from the Thespian Polyandrion which accommodated the fallen in the battle of Delion of 424 BC, while their production peaked at the end of the 5th and the early 4th c. BC (Sabetai 2001: text to pl. 13, 2-4; Heymans 2013). The floral cup from tomb T.209 features palmettes whose fleshy petals are rendered with thickened tips. Such renderings characterize the early phase of the series and point to a date ca. 430/425 - 415/410 BC. This is in accordance with the tomb's kantharos which features a high stem circled by a flat plastic ring at its midpoint and a rather narrow disc foot. A similar date has been proposed for the richer Akraiphian tomb KOA/84 where the spintop itself is decorated with palmettes, a popular design also on other Kabiric spintops. The excavator dated its grave goods to the third quarter of the 5th c. BC and noted briefly that among the 20 vases most are floral cups, while three figurines depict a youth wearing a symmetrical himation covering his back and sides, a type with a notable

presence in the Kabirion (Andreiomenou 1991: 43; Andreiomenou 1994: 239). A slightly later date for that tomb cannot be excluded, as both floral cups and male figurines span the latter part of the 5th c. BC.

5. Function

The actual whipping top required much skill in order to be spun with the use of a whip and could be played by older children, not infants. Its depiction in Attic vase-painting shows it often in a context of initiatory pederasty involving adolescents in the company of gods or elders who oversee them or teach them how to play it (see, e.g., pelike Basel BS483; *BAPD* 205409; cup Baltimore, Johns Hopkins University B9; *BAPD* 205298). The boys may hold iconic toys and animals, such as hoops and roosters, or appear fully enveloped in their garment in the passive and modest posture of the immature apprentice who is “initiated” in the art of spinning the top. Females appear associated with this toy too, albeit in decontextualized settings in the 5th c. BC. The spintop’s association with the transient sphere between childhood and adolescence in the framework of pederastic initiation which formed part of the education and incorporation of young males in the polis system, may explain its cultural importance and conspicuous presence in the sacred space. The votive function of tops may be documented also on the basis of the Akraiphian examples. Their fragile material, angular tip, lack of lateral grooves and evanescent decoration on white ground point to the ephemeral life of the offering rather than the functional toy which can endure whipping and spinning. Thus, these spintops must be simulacra which were deposited in the grave as markers of an age class. Yet, not all copies in clay were strictly destined for the tomb, as documented by the Kabiric examples which, however, are sturdier, pierced on their upper part and occasionally bear steadfast decoration. These features may perhaps suggest that they could withstand a limited, ritual use on the occasion of their dedication to the sanctuary. The accumulation of clay spintops in the cult place rather than in the tombs may suggest that they were produced primarily for votive and ritual use. In the Kabirion they would be ephebic thank offerings and mementos of a childhood left behind upon maturation, while at the grave they would highlight the missed chance to dedicate them to the sanctuary due to premature demise.

6. For Whom Did the Top Spin?

As to the identity of the individuals who were buried with the simulacrum of a spintop at Akraiphia, the interior dimensions of tomb T.209 and the total decomposition of the skeleton point clearly to a child as suggested also by the co-found miniature pottery. It was probably not an infant, as these are

not usually buried with a wreath, but rather, an older child. Unfortunately, the tomb's remaining pottery is not diagnostic for narrowing the age and sex of the deceased, as besides small, also regular-size vases, such as kantharoi and floral cups, form part of the assemblage. Other objects from our tomb, such as the powder pyxis, are not diagnostic either as they may occur in burials of both sexes. The Akraiphian tomb KOA/84 however, offers some clues which point to a male adolescent, namely three male figurines that are comparable to those from the Kabirion, as already said (Andreiomenou 1994: 239, with n. 304, citing Higgins 1967: pl. 33E). That grave is a cremation, a type used commonly for adults at Akraiphia from the late 6th to the mid 4th c. BC in contrast to children who receive interment. Thus, a cremation of smaller dimensions such as KOA/84 suggests a subadult deceased.

7. Conclusion

The two clay spintops presented here in context are rare finds from Boeotian tombs which complement the varied series from the Kabirion sanctuary. Their rarity in the cemeteries may suggest that the real toy was made in more durable but perishable materials, that clay examples were aimed primarily at the cult place or that they are ill-represented in the published funerary record.

The spintops from the Akraiphian necropolis may be dated to the last third of the 5th c. BC based on their tomb-group, especially the floral cups. Their type with a low and broad cylindrical part tapering to an angular, easily breakable tip as well as their fragile decoration on white ground makes them simulacra rather than functional toys. The low or high cylinder with conical top is the main type of spintop in Boeotia in the latter part of the 5th c. BC and may be compared to Attic models. This type must have been favoured in the area in the Classical period, in contrast to the Archaic, biconical twirlers from the Corinthian and Megarian sanctuaries.

The Akraiphian spinning tops accompanied an inhumed child and a cremated, possibly male, subadult, each. The offer of iconic toys to the prematurely deceased highlights their cultural import in the context of the *mors immatura*. The spintop, in particular, is associated with skill on the basis of Attic images with adults of status who display their ease in spinning it in front of demure boys who are cast in a figure type associated with initiatory pederasty. The players' expressive gestures suggest that they are engaged in teaching the modest youths a dexterity with the use of an iconic toy. The Attic imagery helps further understand the votive practice with whipping tops in the Kabirion. In this important extra-urban Theban sanctuary the elder-younger sympotic relationship depicted on local pottery, the plethora of youthful male figurines and the spintops draw a picture of male voters who dedicate toys on the occasion of coming of age. It is quite revealing that the scene of a youth with a hoop was

selected to decorate a Kabiric spintop (Braun, Haevernick 1981: 49, no. 153, pl. 6, 7; Sabetai 2022: 157, pl. 3, c). The combination of these toys occurs in Attic scenes depicting Zeus pursuing Ganymede. The boy rolls his hoop while bearing a cock and looks at one of his peers who holds a spintop and a whip (pelike Basel BS483; *BAPD* 205409, mentioned above). It remains unknown whether the tops were offered to Pais, the immature sympotic acolyte or to the Kabiros, the mature symposiast, or to both. Attic vase-painting indicates that learning how to spin the toy involved, in fact, both players, the elder as teacher and the youth as learner and recipient of knowledge concerning a skill.

Although it has been suggested that spintops were offered to the Kabiros in the context of a mystery cult in accordance with late testimonia, the discovery of such iconic toys in the neighbouring sanctuaries of Demeter at Corinth and the unidentified deity in the Megarid suggests that they were not particular to the Kabiric cult. In the Archaic and the Classical period at least, they could be used as a telling offering to various gods protecting youth on the occasion of coming of age. In tombs of nonadults they were markers of premature demise.

Catalogue of objects from Tomb T.209

1. inv. 99729 (fig. 1a-d). Clay spintop. Mended from fragments but missing its tip. Wheelmade; no hole at the centre of the cylinder's base, as typical in other examples. Coated with white ground for polychrome decoration. Traces of red preserved on its conical part. Height 5.5 cm; diameter 7 cm; weight 80.67 gr. Cf. Andreiomenou 1991: 43-44, fig. 76; Andreiomenou 1994: 238-239, fig. 103.
2. inv. 99730 (fig. 2). Black-glazed, shallow-bottomed, high-stemmed kantharos missing its high-swung handles as well as part of its body and foot. Height: 22 cm; diameter 15.5 cm. Cf. Ure 1927: 36, pl. X, 123.2 and 123.7 (ca. 440 BC to some date later than 424 BC); *CV4* Thessaloniki, Aristotle University, Cast Museum, Greece 13, (Athens 2012) pl. 26, 3.
3. inv. 99731 (fig. 3 left). Miniature oinochoe coated with white ground for polychrome decoration. Short cylindrical neck flaring to trefoil mouth, rounded conical body, flat resting surface and strap handle. Height 4.5 cm; diameter mouth 1.5 cm; base diameter 3 cm. Cf. Pemberton 1989: 170, pl. 50, no. 514; late 6th c. BC.
4. inv. 99732 (fig. 3 middle). Red-glazed saltcellar with echinus wall. Height 2.5 cm; diameter 5.5 cm; base diameter 3 cm. Cf. Sparkes, Talcott 1970: 301, pl. 34, nos. 914-915 (425-400 BC). Cf. Ure 1927: 38, pl. X, 123.30 (latter part 5th c. BC).

5. inv. 99733 (fig. 3 right). Powder pyxis (bowl). Height 3.5 cm; mouth diameter 4.9 cm; base diameter 5 cm. Slightly diagonal flange, flat underside. Cf. Pemberton 1989: 105, pl. 19, no. 180; 3rd c. BC.
6. inv. 99734 (fig. 4). Floral cup preserved in fragments. Chain of scrolled palmettes with fleshy leaves and thickened tips alternating with lotus flowers. Max. diameter 31. Cf. Ure 1927: 76, pl. XXIV, 114, a16; 123.32 (ca. 424 BC).
7. inv. 30775 (fig. 6). Terracotta pig. The pig's eyes and snout are rendered in relief, and a thick ridge runs the length of the back. Coated in white slip. Height 5.5 cm; length 8.7 cm. Cf. Vierneisel-Schlörb 1997: 173, pl. 99, nos. 568 (450-430 BC) and 569. Higgins 1954: 77-78, pl. 33, nos. 179, 181-182.
8. Ca. 60 clay, half-pierced beads from a funerary wreath (fig. 7). Cfr. Sabetai 2012: 309-310.
9. Charred fig.
10. Iron nails from a coffin.
11. Sherds (kantharos; floral cups; open-shaped pot) (fig. 5).

APPENDIX

The Spinning-Top inv. 421 in the National Archaeological Museum at Athens

by Nikoletta Kanella Kladouri

According to information kindly provided by Christina Avronidaki, the spinning-top inv. 421 (fig. 11a left, 11b) was purchased by the Archaeological Society (inv. AE 4290) via P. Wolters, who acquired it from the Theban antiquities dealer Apostolos Kalabakas in 28/11/1888. The object was registered in the Museum in 2/1/1895. The Archaeological Society's inventory states that it came from the Kabirion (presumably according to information by the dealer). It is wheel-made, has a hole on its base and was once coated with tin (see the data from the X-ray fluorescence analysis below). The spintop's measurements are: height, 5 cm; diameter of base 4.5 cm; max. diameter 5.5 cm.

Non-destructive X-ray fluorescence analysis on the spinning-top inv. 421 was conducted at the Laboratory of Physical-Chemical Research & Archaeometry of the National Archaeological Museum in Athens. The application of the X-ray fluorescence (p-XRF) analysis aimed to identify the material used for the grey coating on the artefact's surface.

The p-XRF analysis was applied both on the clay body and the grey coating of the sample, using a portable Bruker Tracer 5i spectrometer. Prior to measurements, all areas were simply treated with water to remove soil and particles with little adherence to the surface. The chemical characterisation of the clay and the coating was performed with the integrated calibration packages of the portable

XRF spectrometer. During each measurement a photograph was also taken with the integrated camera to assure reproducible positioning of the measuring probe, as well as visualization and documentation of the analysed area. The spinning-top was analysed at three different spots, in order to assess the uncertainties potentially introduced by the method or by the selection of the measured area. The total real-time acquisition of 180s was conducted in the air.

The ceramic body of the spinning-top appears to consist of a calcareous clay with no visible traces of tin. However, the results attest to the presence of tin as an outer coating layer on the artefact. As can be seen in the figure (line in black color), the tin peaks K and L are clearly visible in the spectrum. Based on the data obtained, the grey coating consists of almost pure tin. Elements present in trace concentrations such as iron, titanium, zirconium etc. most likely originate from the clay substrate.

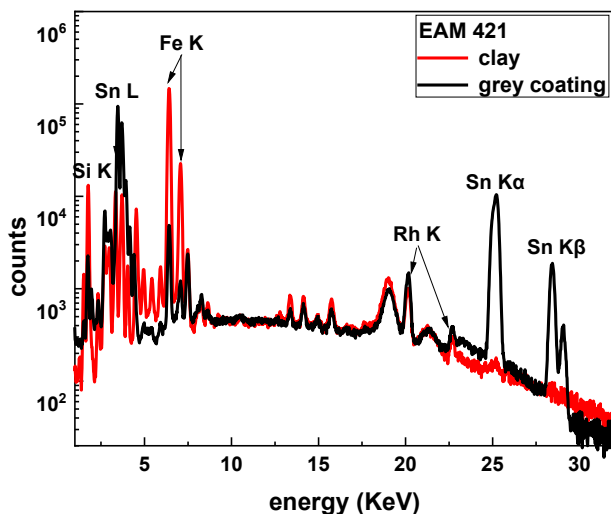


Fig. 15 Acquired spectra from the clay body and the coating

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