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A painful matter: the sandal as a hitting implement in Athenian iconography

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The article examines a series of images on Athenian ceramic vases in which sandals are depicted as a hitting implement. This iconographic motif appears mainly in two contexts: educational scenes, where an adult hits a subordinate, and erotic scenes, where the hitting action is almost always performed by males upon female prostitutes. The utilisation of this specific mundane object, rather than equally available others, for these violent acts is explored in light of psychologist James J. Gibson's term "affordance", which refers to the potentialities held by an object for a particular set of actions, stemming from its material properties. I suggest that the choice of the sandal is not arbitrary: it supports these aggressors' desire to cause pain to those of lower status, thereby controlling and humiliating them. The affordances of the sandal, stemming from its shape and material and the inherent potentialities for action, are perceived and exploited by the hitters. Though not designed as a hitting implement, in the hands of these privileged figures in these specific situations, the mundane, ordinary sandal becomes the medium, a social agent, by which their control attains physical embodiment. Thanks to the Athenian vase painters, we are able to register and visualise latent affordances of the sandal that previously lay out of sight. It seems that in the context of Athenian society, the supposed dichotomy between the ordinary usage and the extraordinary violent usage of the sandal collapses. In this particular case, hitting with a sandal seems as ordinary as donning it in everyday use.

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Introduction

wo identical Attic pelikai attributed to the Athenian painter Euphronios, both housed in the Villa Giulia Museum and dating to ca. 510 BCE, depict related scenes. In one, we see a seated youth being assisted by a boy, who is tying a sandal to his master's feet.¹ In the other, another similarly seated youth is about to strike an ithyphallic boy with a sandal, which, as is typical, is shown from its back side (the sole), and bears a characteristic contour line (Fig. 1).² The identical setting and the formal features of both pelikai, including the kalos name and the use of patterns, juxtaposed with the fact that they are the only pelikai attributed to this painter (Robertson, 1992, p. 33), make them, in all probability, a pair (Moon and Berge, 1979, p. 137; Venit, 2002, p. 322). As such, they present a fuller picture than either one could on its own: the first represents the normative usage of the sandal as an object designed for wearing, while the other represents a violent usage of the same object, that to our modern eyes seems non-normative.³ Taken together, they serve as an excellent reminder that, alongside widespread representations of the normative usage of the sandal, vase painters also depicted a usage of the sandal for which it obviously was not designed-that is to say, as a hitting implement. In this case, the ordinary object becomes a surprising one. The question to what extent it becomes extraordinary will be discussed below.

The purpose of my article is to examine this latter type of visual representations in Athenian vases during the Late Archaic and Early Classical periods, in light of the concept of "affordance", which refers to the potentialities held by an object for a particular set of actions, stemming from its material properties (see more detailed explanation below). I wish to argue that in vase paintings, the selection of the sandal as a hitting implement is not arbitrary as it might at first appear, but rather is closely based on the material and formal features of that object. In the contexts in which we find this usage—primarily educational and erotic scenes —the sandal becomes the visual embodiment of the power, privilege, and status of the aggressor.

The sandal

Sandals, part of the larger category of footwear, were mundane dressing items in ancient Greece and were considered elementary sartorial articles in everyday outfits (Blundell, 2006, pp. 30–49; Lee, 2015, pp. 160–164). They were constructed from a sole, made usually of leather but sometimes of wood or cork, and straps made of leather (Hurschmann, 2006a; Goubitz, 2007, pp. 29–30). Literary sources attest to the diversity and widespread usage of

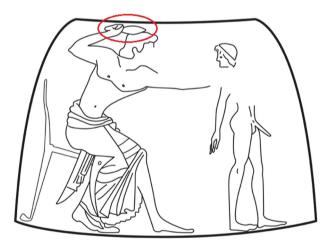


Fig. 1 Attic red-figure pelike attributed to Euphronios, ca. 510 BCE. Rome, Museo Nazionale Etrusco di Villa Giulia, 121109. Illustration: Nurit Young.

the footwear in general—shod by men and women, rich and poor, citizens and slaves—and of the sandal in particular (Bryant, 1899, pp. 72–95; Hurschmann, 2006b).

Unfortunately, archaeology is not a helpful resource for understanding more about sandals (or, for that matter, any type of footwear) of the time, because cases of ancient Greek sandals, or even parts of sandals, surviving intact are extremely rare (Lee, 2015, p. 161).⁴ Hence, we have to rely mainly on visual representations when discussing how sandals were used. Sandals first enter the repertoire of objects represented in Attic ware in the first half of the sixth century BCE, where we see various figures wearing them. The locus classicus of such a depiction is the British Museum's famous black-figure dinos signed by Sophilos.⁵ In the main scene, narrating the wedding of Peleus and Thetis, we are treated to the sight of several women, among them Hebe and the nymph Chariklo, clad in elaborate sandals, all apparently of the same type. However, for some reason, in subsequent black-figure ceramic vases sandals seldom appear. Indeed, it is only in the last quarter of the sixth century BCE, during the transition of Athenian vase painting from the black-figure technique to the red-figure one, that we begin to see sandals appear frequently in visual representations. They are shown hanging on the pictorial field of numerous scenes, a topic that has been adequately addressed by Waite and Gooch (2019, pp. 26-38); and we also find scenes of sandal donning, in which we see youth and women, mostly identified as hetairai, in the midst of tying their sandals (Young, 2015, pp. 2-5; Young, 2019). The pelike of Euphronios, depicting the boy tying the sandal of his master, belongs to this latter category, though this specific iconography is quite rare (Young, 2019, p. 111). This phase is also the point at which the iconography of the sandal as a hitting implement rapidly enters red-figure vases.

Hitting implement in educational scenes

Images of the sandal as a hitting implement first appear on a few Attic black-figure vases dating to the middle of the sixth century BCE, in scenes usually interpreted as educational ones (Beck, 1975, pp. 44-46; Laxander, 2000, p. 40, OS2; Neils and Oakley, 2003, p. 25; Schmitz, 2005, pp. 110-119).⁶ One of the earliest of these is seen on an Attic black-figure lekythos in Bologna's archaeological museum, attributed to the Sandal painter and dating to ca. 550 BCE.⁷ A naked male grasps a small child with his left arm, while in his raised right arm he wields a sandal, clearly about to smack him with it. The youngster strains to his left while looking backwards at the man, and reaches out an arm to where, at the scene's right, a woman, most probably his mother (Golden, 2015, p. 89), stands with outstretched arms, pleading for the child. Another scene decorates an Attic black-figure amphora attributed to the painter of Würzburg 252 and housed in Adolphseck, dating to ca. 540 BCE (Fig. 2).8 On one side of the amphora we see a clothed man seated on a stool, bending forward. With his left hand he firmly grasps the back of small child, while in his right hand, raised high above his head, he holds a sandal. The child's head faces upwards, a gesture that might express fear, and he tries to defend himself with his raised hand. The aggressor may be the child's father, or perhaps a pedagogues. Two onlookers—partly clothed youths—flank the scene, gesturing towards the central violent occurrence. The context of both scenes described is most probably educational, involving as it does an adult male conducting corporal punishment upon a young child in a context that we can deduce, from the objects represented, as being a domestic one.

This motif recurs on both black-figure and red-figure vases, but the total number of such scenes is rather small.⁹ In several cases, such educational scenes occur in the context of satyrs. A good

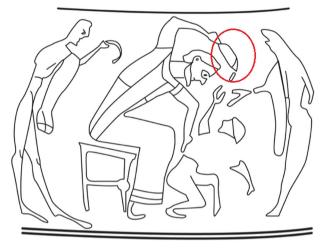


Fig. 2 Attic black-figure amphora attributed to the painter of Würzburg 252, ca. 540 BCE. Adolphseck, Schloss Fasanerie, 130. Illustration: Nurit Young.

example is found in the Vatican's collection: a cup attributed to Douris, dating to ca. 490 BCE.¹⁰ In the centre stands a satyr, with right hand raised and gripping a sandal, about to hit a satyr child whose face is upturned towards him while his body faces in the other direction, towards another satyr standing to the right. The latter stretches out his hands in a pleading gesture over the head of the child towards the first satyr, trying to prevent the violent act from occurring. To the left, we have a third adult satyr who holds a pointed amphora horizontally to his temple, on his frontal face an expression that might be interpreted as great anxiety, thus expressing extreme emotion.¹¹ Two other representations, this time humorous in nature, depict a satyr "punishing" a wine container. On the tondo of an Attic red-figure cup, attributed to an anonymous painter from the circle of the Nikosthenes painter and housed in Munich, we see a satyr firmly grasping a wineskin between his legs. His left hand grips its mouth, while his raised right hand holds a sandal, with which he is clearly about to strike the wineskin.¹² In similar vein, decorating a late Attic black-figure oinochoe attributed to the Athena painter is a scene showing a satyr about to strike a pointed amphora resting between his legs using the sandal in his raised right hand.¹³ At times Dionysos is also depicted as beating a satyr with a sandal. An example is a red-figure chous from a private collection, dating to ca. 425 BCE:¹⁴ seated on a stool, Dionysos raises his right hand which is holding a sandal, and is about to strike a bending satyr. In the centre we see a broken vessel, most probably the cause for the beating.

A late representation of the motif is seen on a fragmentary Attic hydria attributed to the manner of the Meidias painter.¹⁵ The hydria is housed in Tübingen and dating to ca. 420–410 BCE. To the right, Aphrodite is shown, a sandal in her right hand; in the centre, the small winged figure of Eros stands, his head turned toward his mother while his hands are outstretched in the other direction, the viewer's left, where Peitho watches the scene. This image of Aphrodite threatening her child with this object became common in later art, including Roman. It is also preserved in an anecdote in Lucian's *Dialogues of the Gods* 11 (Venit, 2002, p. 317). In all of these educational scenes, an adult—be it a man, a satyr, a goddess, or a god—uses the sandal as a means to conduct a corporal punishment on a minor or subordinate.

In several depictions, such educational scenes take place in erotically charged spaces—the gymnasium and the symposium. On a cup attributed to Onesimos and housed in Munich we see



Fig. 3 Attic balck-figure pottery stemmed cup attributed to the manner of the Lysippides painter, ca. 520 BCE. Oxford, Ashmolean Museum, AN1974.344. This figure is not covered by the Creative Commons Attribution 4.0 International License. Reproduced with permission of Ashmolean museum, Oxford. copyrights © Ashmolean Museum, University of Oxford, all rights reserved.

several athletes practising.¹⁶ In the centre are two figures. One is a youth, holding jumping weights and facing frontwards with a look of anxiety. The other, to the right of him, is a bearded manmost probably his trainer-who leans on his staff and gestures somewhat threateningly in the youth's direction with the sandal in his outstretched right hand. Eros can also impose force by means of a sandal in a gymnastic setting, as is shown on a lost cup attributed to Douris.¹⁷ The outer sides of the cup are decorated with gymnasium scenes. On one side we see, to the right, an athlete pulling his companion, who holds an athletic kit, towards a high basin. To the left, another athlete places his left leg on the basin's base, bending over to tie the straps of his sandal with both hands. On the cup's other side, we see Eros pursuing two fleeing clothed youths, about to strike one of them with a sandal.¹⁸ Here, Douris has juxtaposed in the same cup both the normative usage of the sandal as footwear and a usage for which it was not designed-namely, as a hitting implement. The very fact that Eros is the punisher serves to enhance the erotic aspect of the scene and remind us that Eros is not always a pleasant force (Lear and Cantarella, 2010, pp. 162-163). In such cases the sandal also becomes an emblem of a passion that cannot or should not be fulfilled.19

We conclude the discussion of educational scenes with the picture decorating the much-discussed Bomford cup in the Ashmolean Museum, an Attic black-figure eye-cup dating to ca. 520 BCE (Boardman, 1976; Osborne, 1998, p. 134; Levine, 2005, pp. 57-59, 66; Cohen, 2006, pp. 258-259, No. 74; Yatromanolakis, 2009, pp. 428-464; Bundrick, 2019, pp. 96-105; Neer, 2019, pp. 14–15).²⁰ The cup, attributed to the manner of the Lysippides painter, bears on each of the two outer sides a satyr mask situated between two eyes, and in lieu of the foot we see male genitals. In the tondo, we see a symposium scene taking place in an open-air vineyard (Fig. 3). Six males, some dressed in oriental headgear, recline on cushions. Five of them are bearded and hold drinking vessels, while the sixth is a youth playing the flutes. Next to one of the symposiasts stands a small naked servant boy stretching out his right arm towards this symposiast, with an oinochoe in his other hand. The male he is serving holds in his left hand a cup and in his right a sandal-clearly a threatening object, ready to be used to spank the servant as required. Here, alongside the educational interpretation we may also interpret the spanking as

being loaded with implicit erotic significance, knowing as we do that the sympotic environment was charged with erotic overtones. This servant boy may be the object of the mature men's (erotic?) gaze (Levine, 2005, p. 58). Notwithstanding the erotic component, and the fact that sandals may be an emblem of passion and temptation (cf. the ithyphallic youth on Fig. 1), such scenes should still be categorised as educational, for they lack the explicit sex that is characteristic to purely erotic scenes—our next topic.

Hitting implement in erotic scenes

The other context in which we can find depictions of the sandal as a hitting implement is in erotic scenes, in which most commonly a man hits a woman. In almost all cases, the sympotic context is clear and thus the identity of the participating women as prostitutes is undisputed (Lewis, 2002, p. 112; Kapparis, 2018, p. 360). In addition, the violent action almost always occurs in what are called scenes of group sex, though this latter is not always easy to define (Parker, 2015, p. 85ff.)²¹ While group sex does appear on black-figure vases, sandals play no role there. Depictions of hitting with sandals in the context of group sex seem to appear only on red-figure vases, starting from ca. 520 BCE. Here, the group sex scenes appear in a more complex setting, clearly denoting the symposium. This series of images, or part of it, has been discussed already by a range of scholars from various vantage points relating to sexual behaviour (Johns, 1982, p. 127; Peschel, 1987, pp. 50-52, 61-68, 128-132; Reinsberg, 1989, pp. 98-104; Sutton, 1992, pp. 7-12; Dierichs, 1993, pp. 79-84; Keuls, 1993, pp. 180-187; Kilmer, 1997, pp. 124-128; Lewis, 2002, pp. 124-125; Venit, 2002, pp. 319-320; Robson, 2013, pp. 133-137, section 5.6; Lear and Cantarella, 2010, pp. 119-123; Sánchez, 2013, p. 129; Parker, 2015, p. 85ff.; Kapparis, 2018, pp. 233-236). The most comprehensive list of erotic scenes involving hitting with sandals has been compiled by Martin Kilmer (1993, pp. 104-124) under the chapter headed "Sadism and Masochism". Kilmer divides the discussion into three suggested scene categories: (a) homosexual; (b) heterosexual: sandal wielded by male (with further sub-division according to erotic situation); and (c) heterosexual: sandal wielded by female.

The first category is somewhat arbitrary. Two of the three vases appearing under this title, "male homosexual sadism and masochism", have already been discussed above: the Euphronios pelike, in which a youth hits a boy (Fig. 1) and the Vatican cup, in which we see a satyr attacking a small satyr boy. The third vase in this category is a pelike housed in Berlin, which depicts a small slave crouching and cleaning a sandal while a youth bathes next to a high basin.²² Of the three, the most relevant candidate for classification as erotic is the pelike by Euphronios, due to the semi-erect, prominent penis of the boy. Scholars have debated both the nature of the relationship between the two figures and the putative identity of the boy (Kilmer, 1993, p. 105; Beaumont, 2012, p. 120). One possible interpretation is that the boy is Leagros, based on the kalos name written between both figures, denoting an erotic bond between them (Shapiro, 2000, p. 29; Venit, 2002, p. 322; Kapparis, 2018, p. 234²³). Another possibility is that the scene depicts a punishment meted out by the youth to this small boy with servile status, perhaps for the misdemeanour of masturbation (Keuls, 1993, p. 285; Stafford, 2011, p. 350). I am inclined to accept the latter interpretation, as the equivalent educational scenes mentioned above exhibit similar features to this one: both the sitting position of the master and the lack of any traditional pederastic features (Lear and Cantarella, 2010, pp. 121-123) may support this interpretation.²⁴ All in all, as mentioned, the erotic overtones of all three suggested scenes in category (a) are rather scant. The third pelike, lacking any hitting

motif, seems not to belong to the current discussion altogether (and it is unclear why Kilmer even includes it²⁵); while the other two scenes are better categorised as educational scenes, in which an adult assaults a minor and thereby expresses his control and more elevated position. Indeed, Kilmer himself concludes that the sandal is not part of homosexual sadism (Kilmer, 1993, p. 31, 107; cf. Lear and Cantarella, 2010, p. 122).

The largest category, and the most significant for our purposes, is (b) "Heterosexual: sandal wielded by male". Here, Kilmer subdivides the images according to the erotic situation: pursuit, foreplay, fellation, and copulation. He also includes prelude and epilogue, but we will omit this category from the current discussion, as it presents "a low-key sexual hint, rather than in an explicit erotic context" (Kilmer, 1993, p. 119) and is therefore less relevant. The total number of scenes enumerated by Kilmer is 12.²⁶ Ostensibly this group appears quite small; but given the relatively limited number of explicit sexual images on Athenian painted pottery (Lewis, 2002, pp. 117–118) the erotic violence type scenes are certainly noteworthy. I will now proceed to discuss a few representative examples.

The first example is an Attic kantharos signed by Nikosthenes as potter and attributed to the Nikosthenes Painter. The vase, now in Boston, dates to 520–510 BCE (Fig. 4).²⁷ In one scene, three beardless males and two women are engaged in sexual activity. To the right, a woman is about to perform fellatio on a reclining man. Behind her kneels a second man, about to insert a huge dildo into either her vagina or anus. The reclining man rests his head upon his right arm, and in his right hand holds a red sandal in close proximity to his face. Two pairs of boots and a small basin have been placed beneath the kline (a couch), while on the wall hang a birdcage, a flute-case, and a dildo.

The second example for this category is a cup attributed to the Pedieus painter dating to ca. 510 BCE (Fig. 5), today in the Louvre.²⁸ Here we see a woman lying on a stool, her stomach down, performing fellatio and being penetrated simultaneously. The penetrating bearded man raises a sandal and is about to strike her. To the right, another woman is seen crouching on a cushion, also performing fellatio on a man. Another man standing behind her has one hand placed upon her back and the second raised; but unfortunately, since the part of the vase



Fig. 4 Attic red-figure kantharos attributed to the Nikosthenes painter, 520-510 BCE. Boston (MA), Museum of Fine Arts, 95.61. This figure is not covered by the Creative Commons Attribution 4.0 International License. Reproduced with permission of MFA, Boston. Copytights © 2020, Museum of Fine Arts, Boston, all rights reserved.



Fig. 5 Attic red-figure cup attributed to the Pedieus painter, ca. 510 BCE. Paris, Musée du Louvre, G13. This file is licensed under the Creative Commons Attribution 3.0 Unported license. Reproduced with permission Marie-Lan Nguyen; copyright © Marie-Lan Nguyen, all rights reserved.

depicting this man is badly damaged, we do not know precisely what he is doing.

The third example is a cup attributed to the Antiphon painter and housed in Orvieto, dating to ca. 490 BCE (Fig. 6).²⁹ On one side of the cup, a woman stands on all fours above a cushion, her body twisted slightly to her left. One youth approaches from behind to touch her genitals, while another youth forces her into her awkward posture by pressing down upon her upper back, while he stretches his right hand, and the sandal in its grip, backwards, as if about to strike her with it. A pair of boots hang on the wall. A similar situation recurs on a cup signed by Brygos as potter and attributed to the Brygos painter. The vase, today located in Florence's archaeological museum, dates to beginning of the fifth century BCE.³⁰ On side A, we see a woman on all fours, while a bearded man who presses her head down is about to strike her with a sandal. On side B, a man in the centre threatens a pleading woman, this time with a flute, most probably her own.³¹ On the extreme right, a man is holding a lamp: perhaps he is a protestor of the aggressive action (Sutton, 1992, p. 12) or is threatening the couple copulating next to him (Parker, 2015, p. 81, note 185). This is a rare case in which the violent action is performed not with the more common sandal but with a different object. Visible in the pictorial field are also a basket, flute container, lamp stand, and walking canes, as well as cushions and items of clothing.

The final example is an Attic cup attributed to the Thalia painter and housed in Berlin, dating to ca. 500 BCE.³² At the extreme right end of one of the group sex scenes, a bearded man with a prominent erection is shown grasping the upper right arm of a naked woman who walks to the right while turning her head leftwards, towards the man. In her left hand she holds an empty cup. In the background, behind the man, stands a lamp stand with suspending ladles, and there we see what is most likely the tip of a sandal held by the man. We can presume he is threatening the woman with this object. Importantly, the scene that decorates the tondo represents the only case in category (c), namely heterosexual sex with the sandal wielded by the female (Fig. 7). It constitutes a reversal of the usual situation: in the course of sexual intercourse taking place in the symposium, a woman hits a man with a sandal. The scene depicts a man and woman lying on a kline in a complex position, with the man about to penetrate the woman. She is holding a sandal in her right hand, about to spank the man. Another woman below them, as well as a youth sitting with his left leg raised next to the kline, are masturbating. However, we cannot and should not take this as proof that the vase painters wished to make a statement about women using the sandal to hit. On the contrary, this lone case of role reversal seems

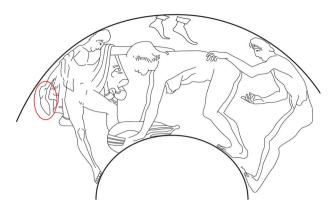


Fig. 6 Attic red-figure cup attributed to the Antiphon painter, ca. 490 BCE. Orvieto, Museo Civico, 585. Illustration: Nurit Young.



Fig. 7 Attic red-figure cup attributed to the Thalia painter, ca. 500 BCE. Berlin, Antikensammlung, 3251. This file is licensed under the Creative Commons Attribution-Share Alike 4.0 International. Reproduced with permission Zde; copyright © Zde, all rights reserved.

to be the exception that proves the rule: that the prerogative to use a sandal as a hitting implement is reserved for males only.

The usage of the sandal in the aforementioned erotic scenes has been explained either as a mean of sexual stimulation (presumably of the perpetrators) or to threaten, abuse, and intimidate the partner (Dierichs, 1993, p. 79; Kilmer, 1993, p. 104, 123), who was in most cases a woman, and most probably a common prostitute, of a status decidedly inferior to that of the male participants (Corner, 2014, p. 201, pp. 210-211).³³ The infliction of pain as a part of stimulus in Greek erotica has been discussed thoroughly by Kilmer (1993, p. 104) and it has even been argued that the beaten women also take pleasure from the aggressive action (Johns, 1982, p.127; Kilmer, 1993, p. 112, 125; Kapparis, 2018, p. 234).³⁴ It presumably plays a role in the scenes of males raising sandals at females. In the case of the one scene discussed above as belonging to category (c), that of the woman about to spank a male, we can assume stimulation to be the only goal, for it would be highly irregular for a vase painter to depict a woman as trying to control or threaten her superior, the Greek male. The second explanation, that of intimidation, coercion and domination, undoubtedly applies to some or many of the cases in which males are seen forcing prostitutes to perform sexual activity by means of the sandal. There is certainly little evidence that vase painters were interested in representing female sexual pleasure,

and in those images this object is used to abuse, humiliate, and degrade them (Sutton, 1992, p. 11; Shapiro, 1992, p. 54, 57).

The two explanations are not necessarily mutually exclusive (Kilmer, 1993, p. 109). Whether the goal is stimulation or intimidation, in the hands of these men, a mundane piece of footwear is transformed into a violent tool for their own gratification; and in this way, the sandal embodies the power and control these males have over the prostitutes.

Why the sandal?

Despite the fact that the series of images under discussion have been thoroughly dealt with in the scholarship, it seems that no one has yet raised the obvious question pertaining to this specific selection: why a sandal and (almost) no other object? The domestic environment in general, and the sympotic one in particular, is full of portable objects that could potentially be used for hitting. As seen on various vases, the symposium, where the erotic scenes take place, was furnished with many portable objects. There was sympotic equipment, such as metal ladles and ceramic vases of various sizes and shapes; musical instruments, such as flutes and also lamps, bags, and baskets (Boardman, 1990, pp. 126-127; Lynch, 2007, pp. 244-246; Lynch, 2011, pp. 75-79, 125-146; Corner, 2014, p. 200). Strengthening our question even further is the fact that on some of the depictions we see boots located under the kline or hanging on the wall. Boots appear frequently in symposium scenes in general (Toillon, 2019, pp. 93-100) and are close in nature to the sandal. That being the case, why do we never find them being wielded in the violent manner that sandals are?

I suggest that to fully understand the vase painters' selection of the sandal as a hitting tool, we need to examine it in light of the term 'affordance'. The term affordance was originally coined by the perceptual psychologist James J. Gibson in the late 1960s, and was introduced in its full-fledged form in his book *The Ecological Approach to Visual Perception*, published in 1979 (Gibson, 1979, pp. 127–137).³⁵ A preliminary definition of the term may be quoted from this book:

The affordances of the environment are what it *offers* the animal, what it *provides* or *furnishes*, either for good or ill. The verb *to afford* is found in the dictionary, but the noun *affordance* is not. I have made it up. I mean by it something that refers to both the environment and the animal in a way that no existing term does. It implies the complementarity of the animal and the environment (Gibson, 1979, p. 127).

Gibson viewed the environment not as an objective, abstract reality of physics or geometry, but as an ecological one, specified in relation to the organism it surrounds and the interactions their relationship affords. Gibson claimed that when we explore the environment, we do not perceive physical objects, with their particles and atoms; rather, we³⁶ perceive what these objects offer us, what we can do with them. On which object can we lean? Which can we grasp and how? Gibson stressed that we perceive affordances directly. Affordances, or clues in the environment that indicate possibilities for action, per Gibson, are perceived in a direct, immediate way with no sensory or cognitive processing. To see things is to perceive their affordances; we do not have to think about them, our knowledge of what we can do with such objects is instantaneous.

Over time, the term migrated to other disciplines and underwent some modifications.³⁷ In its current iteration, the term refers to the potentialities held by an object for a particular set of actions. In its essence, it lies between humans on the one hand and the features and properties of the objects surrounding them on the other; and it connects the needs and abilities of the two, respectively. Indeed, because affordance is all about the relationship between people and things, it is unsurprising that it became a key concept in material culture studies in general (Woodward, 2007, chapter 8) and in archaeology in particular (Knappett, 2004, p. 45ff; Hurcombe, 2007, p. 105; Hodder, 2012, pp. 48–50; Hurcombe, 2014, pp. 5–10). The term is now in the process of gradually entering Classical studies too (Rehm, 2002, pp. 14–17; Franco, 2014, pp. 166–171; Gaifman and Platt, 2018, p. 408, 413; Osborne, 2018, p. 240, pp. 246–247; Meineck, 2018, p. 53). Alongside the recent and growing interest in the meaning and power of objects, the theory of affordances can and should serve as a basic building block in considering the handling and usages of objects, for the tactile touch between object and body occurs at the very moment when affordances surface and come into play.

Two features constantly emphasised by the scholars who developed the concept are its relationality and its intentionality. In terms of the former, we invariably perceive the affordances of an object in relation to our physical dimensions (Heft, 1989, pp. 3–6; Gläveanu, 2012, pp. 196–199). An example is graspability: if we wish to grasp an object, its size must be scaled to fit our palm, and its weight to correspond to our physical strength.³⁸ In terms of the latter feature, intentionality, we know that the way in which we use an object is related to our goals and needs. Any given object may possess many latent affordances, but which of these will surface depends on the situation.

Contemporary scholars additionally emphasise the sociocultural dimension of affordances. The way in which we engage with objects is dictated mainly by social norms, which are dependent on the specific culture and time period. Objects are intentionally shaped and designed for a certain purpose, known as their "canonical affordance"; that is, they "already embody human intentions" (Costall and Richards, 2013, p. 87). When objects are used as intended, this is termed "normative usage"; but this term can also stretch to usages that, while perhaps not explicitly what an object is designed for, still fall within the realm of the normal (Knappett, 2005, p. 47; Costall, 2006, p. 24; Costall, 2012, p. 90ff.; Costall and Richards, 2013, pp. 87-90). For example, a chair is an object designed for sitting; thus, its formal and material properties meet the human need for sitting and this is its canonical affordance. Yet we can perceive other affordances, for instance using a chair as a ladder when we wish to pull a book from a high shelf (cf. Keane, 2014, S315-S316). This usage falls outside the canonical affordance of the chair-chairs were not designed to serve as ladders-but is still within the realm of normative usage for our society, and we would not look askance at such use. If, however, someone picks up a chair and uses it as a hat (an aberrant behaviour for the given social context) this would fall outside the realm of normative usage altogetherthough obviously what is considered normative or non-normative may change over time. These terms will feature centrally in our discussions below.

Aside from affordances of real objects in real situations, as in the above, affordances of objects may surface in images too. In dealing with ancient societies we lack direct experience and must of necessity fall back on limited sources of information, among them representations of various types. Verbal and visual representations are a primary source for the understanding of the interaction between humans and objects and of the potential actions they afford. Recently, Andrew Shapland applied the term affordance to Minoan art objects, especially in interpreting human–animal relationships (Shapland, 2010a, 2010b). Continuing this pioneering application of the concept to ancient images, I will now proceed to apply the term affordance to the usage of the sandal as a hitting object, as depicted on Athenian vases—and thereby to determine why the sandal, rather than



Fig. 8 Attic red-figure cup attributed to the Brygos painter, 490-480 BCE. London, British Museum, E68. This file is licensed under the Creative Commons Attribution-Non Commercial-Share Alike 4.0 International (CC BY-NC-SA 4.0) license. Reproduced with permission of the British museum © The Trustees of the British Museum, all rights reserved.

other objects, was the painters' choice for depiction in violent, seemingly non-normative usage in this context.

It might be supposed that availability would be the dominant factor in choosing the sandal as the hitting object. It was, indeed, a ubiquitous form of footwear; but this does not suffice as an answer, for, as mentioned above, the domestic and sympotic environments were packed with common objects made of a broad spectrum of materials and shapes, including the sandal's close cousin, the boot. Indeed, we sometimes see sandals placed casually alongside other objects in the symposium, with nothing to mark them as specialfor example, in the British Museum cup attributed to the Brygos painter, dating to 490-480 BCE (Fig. 8).39 On one side, we see two centrally positioned symposiasts reclining on klinai, one bearded and the other beardless. To the left stands a naked youth, leaning on a column. To the right, there is a clothed woman seated on a stool and playing flutes, while another clothed woman sits next to her on the right kline, touching the male who reclines on it. Placed under that kline is an elaborate footstool, with a pair of sandals leaning on it-one shown frontally and the other in profile, while a pair of boots is located under the second kline. Two baskets, a lyre, and the flutes' leather container hang on the wall above the participants' heads. The naked youth is holding a ladle and a strainer in his hand. Every one of these objects could potentially be used for hitting, and the sandals are plainly no more or less available than any of the others. This is true also of the examples discussed in detail above, in which other objects either do appear or could easily appear.

What, in that case, is predisposing these vase painters to the sandal? I would suggest that the reason lies in the affordances stemming from the shape and material features of the sandal, which intersect nicely with the goals of the aggressors. The resemblance of the shape of the sole to an hourglass with a waist —the narrowest part under the arch of the foot (Goubitz, 2007, p. 73)—made the sandal very easy and convenient to grasp. It was made of unbreakable material, dense and rather hard, in contrast to cushions or boots (the latter sometimes made of felt, or lacking a sole), which were too soft to cause any pain; and in the case of sandals made of leather, they were flexible—unlike objects, such as ceramic vases that, while sufficiently hard to do the job, might break while being smacked against something else.

Furthermore, the injuries one might cause with a sandal are clearly not deadly ones, contrary to (for example) metal objects such as the ladle. Kilmer was much concerned with the measure of pain caused by the hitting. He repeatedly notes that in the erotic representations, the goal of the aggressors is to apply a "small degree of force" (Kilmer, 1993, p. 104) and "mild pain", and elsewhere writes that "the force exhibited here is moderate rather than severe" (Kilmer, 1997, p. 126; cf. Kapparis, 2018, pp. 234–236). In contrast to Keuls' (1993, p. 180) explicit use of the word "batter" when referring to the violence conducted, Kilmer insists: "I do not see the sandal as a potentially maiming or life-threatening weapon under any but the most extraordinary circumstances" and adds, "The parallel weapon from our own time ... is the bedroom slipper" (Kilmer, 1993, p. 155)—a statement that would appear to be more applicable to the goal of stimulation than any attempt at intimidation or abuse.

In truth, we cannot identify the exact measure of the pain. In most cases, those beaten by the sandal-the minors and the prostitutes-are not shown to be injured; only two representations hint towards the kind of injuries these beatings might cause. The first is an unattributed red-figure hydria housed in Würzburg and dating to ca. 500 BCE.⁴⁰ On the shoulder we see a sympotic scene. A youth reclines on a cushion and a mattress, extending his right arm towards a kneeling naked woman. To the left, a small, naked boy, apparently a slave (Himmelmann, 1971, pp. 24-25; Fischer, 2012, p. 120) is seen with his back turned, his left hand resting on his hip. Four black marks in the shape of a sandal sole appear on his back, buttock, and thigh, clearly the result of beating; he also appears to have a stream of blood dripping from his ear. The second example is a red-figure cup housed in the Hermitage Museum attributed to Onesimos and dating to ca. 480 BCE.⁴¹ On both sides of the cup we see a fight scene involving revellers. On side A, we are greeted by the sight of a bearded man attacking a clothed woman who is holding her flutes. They are flanked by four other men, one looking frontally at the viewer, all involved in one way or another in the skirmish. On side B, we witness another violent scene taking place in an outdoor setting. In the centre, a bearded man is transfixing another bearded man with his left hand, and is about to spank him with the sandal in his raised right hand. A stream of blood drips from the nose of the beaten man and his cheek is wounded. To the right, another man comes to the aid of the aggressor by thrusting his cane into the back of the assaulted man, while on the far right, a youth holding a basket is about to throw a stone or a clod of earth towards the fighting men. To the left are two other men: one is trying perhaps to hold back the aggressor, while also looking backwards at the second, who is in the act of walking away. For our purposes, we should note that the man on the left is sporting boots of the type commonly shown in symposium scenes. This scene is quite unusual in that the two males-the aggressor and the attacked-appear to be peers; moreover, their facial features, as well as the large size of the penis of the attacked man (McNiven, 1995, p. 14), do not seem to be of the ideal type we are used to. This latter detail is usually interpreted to be a visual sign of the rough and tumble side of the civic life of the time (Sutton, 2000, p. 195) or of excessive emotional behaviour, a contention supported by the frontal face of one of the revellers on side A, which, as mentioned, is something that might be indicative of extreme emotion (Peschel, 1987, p. 156; Bundrick, 2010, p. 30). Both representations seem to prove that the injuries caused by the sandal, while painful, were surely not deadly ones. The material logic that lies at the basis of the choice to depict the sandal as a hitting implement is augmented by a symbolic component. A personal, intimate object, making frequent contact with the human skin and designed to protect the foot, becomes a social agent of control and humiliation, precisely by dint of causingalbeit temporarily-pain and inconvenience and by marking the skin of those humiliated.

In any case, the important point to note is that the Athenian vase painters under discussion have established for us another role for the sandal, beyond its expected function as footwear. Drawing on the terms introduced above, relating to the notion of affordance, we may state that Euphronios depicted on one pelike, in a scene of sandal tying, the canonical affordances and nor*mative usage* of the sandal; while on the other pelike (along with the other representations of sandal hitting) a second usage of the sandal that extends beyond its intended usage and what it was designed for, and vet seems-at least in these specific contextsquite normative too. Even if some of the onlookers witnessing the aggressive action plead or express extreme emotion, this does not take away from the general truth of this statement. Hitting with a sandal resembles how we today might use a chair as a ladder: a behaviour that would generally not cause much remark, even though the object was not specifically designed for that use.

Conclusions

The images discussed above present two different groups of people who use the sandal as a hitting tool. In the first, an adult controls a minor or subordinate for educational purposes. In the second, males force prostitutes to perform sexual intercourse for their physical gratification (with the sole scene of a female hitting a male being the exception that proves the rule). While these purposes are very different, the means to achieve them are identical: causing pain by beating with a sandal. In the case of the educational scenes, the pain is caused only to the degree necessary for teaching the requisite lesson; in the sexual ones, it is intended for gaining the collaboration of these woman in the forced erotic action and/or heightening the sexual stimulation. In both cases the aggressors, whoever are they, find the sandal a readily available and highly suitable object for meeting their goals and needs. In that respect, perhaps both groups of images are not so removed from each other.

It's important to note that these representations do not necessarily reflect reality precisely like a mirror. In fact, for several decades it has been acknowledged by scholars that the images decorating Athenian vases are creative constructs bearing a complex relationship to reality (Ferrari, 2003, pp. 37-40; Fox, 2010, pp. 110-112; McNiven, 2012, pp. 510-511; and on erotic images, see Parker, 2015, pp. 23-24, 30-31). Therefore, we should be cautious to draw a simple analogy between the images of the aggressors described above and real practices of the period. We cannot determine the veracity of the images and have no way of ascertaining how much or how little of this activity actually took place. What we can state, however, is that the very act of showing people employing sandals in such a manner reflects the painters' recognition of the latent affordances of the sandal to serve as a hitting implement, of the actual possibility to use it in such a manner; and that this was a recognition shared not only by the vases' male painters, but also by those who used and enjoyed them, i.e. the male consumers.⁴

In any event, the hierarchy in both types of situations is clear: the hitting action is (almost) always executed by the figure whose status is superior. It is an action of humiliation, performed to exhibit control, or for the hitter's own sexual gratification. Though designed as footwear and not as a hitting implement, it seems that, in the hands of these privileged figures and in these specific situations, the sandal becomes the medium through which their ability to control is granted physical embodiment. Furthermore, in those images, the sandal functions as a visual symbol of the power given to those who hold it. Thanks to the Athenian vase painters, these latent affordances of the sandal are registered, brought to the surface, and given visual form. If we map this behaviour in terms of normative/non-normative usage, it is clear that while it falls beyond the intended usage of the sandal—the function for which it was designed—in these social contexts, it seems nevertheless to have become quite normative. The action is emphasised by the fact that the simple, mundane object suddenly changes into a beating tool. It seems that in the context of ancient Athens, the gap between the ordinary usage of the sandal and its usage as (what could be) an extraordinary hitting implement was rather narrow. In this particular case, the dichotomy of ordinary/extraordinary collapses. If, to our contemporary eyes, hitting appears a non-normative, extraordinary usage of a sandal, in these scenes and in this specific cultural–social context it becomes quite normative usage and behaviour—though exclusively the preserve of those who could permit themselves to do so.

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Notes

- Rome, Mus. Naz. Etrusco di Villa Giulia, 1967.115.1. ARV 17.10; ARV² 16.2; Add 73; Add² 153; BAPD (=Beazley Archive Pottery Database. http://www.beazley.ox.ac.uk/ index.htm) 200074. From Cerveteri, Italy.
- 2 Rome, Mus. Naz. Etrusco di Villa Giulia, 121109. ARV² 15.1, 1591.5; Add 73; Add² 153; BAPD 200073. From Viterbo, Italy.
- 3 Interestingly, sandals are not the only mundane objects represented on Athenian painted pottery as tools for violence. In fact, a number of instances exist, in both visual representations and literary sources, where we learn about a range of common objects, such as pins, pestles, diverse natural objects, and more being used to stab, hit, maim, and even kill. Thus, the current discussion of the sandal as hitting implement should be seen as just one link in a broader scholarly exploration of mundane objects used in violent ways that deviate from their intended purposes. It is part of a larger research project focusing on visual representations of human/object relationships in ancient Greek art.
- 4 An exception is a pair of leather sandal soles, discovered inside a sarcophagus found in the Kerameikos and dating to the end of the fourth century BCE (see Kovasovics, 1984). For remains of a special type of sandal found in Attic funerary context, see Touloupa (1973, p. 116ff).
- 5 London, British Museum 1971,1101.1. Para 19.16bis, Add² 10, BAPD 350099. Web page: https://research.britishmuseum.org/research/collection_online/collection_object_ details.aspx?objectId=399358&partId=1
- 6 There are several ancient sources dealing with the educational merits of punishments (e.g. Plato, Laws VII, 808), though none seems to relate to the sandal as potential punishment tool (see Beaumont, 2012, p. 119; Schmitz, 2005, pp. 110–114).
- 7 Bologna, Museo Civico Archeologico, 1269. ABV 70.7; Para 28; Add² 18; BAPD 300643. From Etruria, Italy.
- 8 Adolphseck, Schloss Fasanerie, 130. Para 137; BAPD 351017 (also 31859).
- 9 Beck (1975, pp. 45–46) enlists 22 representations in the chapter about punishment; but some are Roman, and some involve other objects as the hitting implement, while still others seem not to be part of the group, as the hitting action is not explicit. Subtracting those we find in total 11 representations of sandal beating. We may add, however, one or two additional instances that Beck overlooked (for example, Vienna, Kunsthistorisches Museum, IV1870. *BAPD* 306451).
- 10 Vatican City, Museo Gregoriano Etrusco Vaticano, 16541. ARV² 451.1, 1591.5; Para 376; Add 119; Add² 242; BAPD 205372. From Vulci, Italy. There is an Etruscan imitation of the cup showing a satyr using the sandal for hitting (Paris, Musée Auguste Rodin, 980. BAPD 1007954), but the figure who is the target for the aggressive action is partly damaged, so we cannot be sure of its identity.
- 11 The subject of the frontal face has been previously addressed by a number of scholars. For satyrs, see Korshak (1987, pp. 5–11, 45–54, Nos. 1–98), Mackay (2001, pp. 25–26), and Hedreen (2016, pp. 204–209). F. Frontisi-Ducroux argues that the frontal face (of dying warriors) and the opportunity for a reciprocal look creates a subjective and reflective relation between the image and its spectator (Frontisi-Ducroux, 1986, p. 207), not unlike the frontal gaze of the Dionysian thiasos.
- 12 Munich, Antikensammlungen, 2622. ARV² 16.2; BAPD 201116. From Vulci, Italy.
- 13 Private collection. BAPD 9029558.
- 14 Russian private collection. BAPD 2725 (see Beck, 1975, Pl. 50.266).
- 15 Tübingen, Eberhard-Karls-Univ., Arch. Inst., E114. BAPD 2724.
- 16 Munich, Antikensammlungen, 2637. ARV 218.1; ARV² 322.28, 1604, 1645; Para 359; Add 107; Add² 215; BAPD 203278. From Vulci, Italy.

- 17 Berlin, lost, F3168. ARV² 428.13; Para 374; Add 116; Add² 236; BAPD 205057. From Etruria, Italy. E. Olshausen (1979, pp. 18–19) suggests identifying the object as a knife (see also Kilmer, 1993, p. 130).
- 18 In a small number of vases, Eros is depicted as using a whip for the purpose of imposing his power over young males (for example, a red-figure aryballos attributed to Douris. Athens, National Museum, 15375. *BAPD* 205321). This instrument seems to be absent from any of the educational or erotic scenes belonging to the series under discussion (Johns, 1982, p. 113). For more on Eros using a whip, see Shapiro (1992, pp. 66–68).
- 19 We learn about Eros as a cause of pain from Theocritus Idyll XIX. The Honey-Stealer.
- 20 Oxford, Ashmolean Museum, AN1974.344. BAPD 396. http://collections.ashmolean. org/collection/browse-9148/object/24433.
- 21 The sole exception is the tondo of a cup attributed to the Foundry painter and housed in Milan (Museo Archeologico, A8037. *BAPD* 275962). Here, a young man grasps a crouched, pleading, naked woman by her hair, while threatening her with a sandal held in his right hand. Due to the total absence of any object in the pictorial field that may allude to a sympotic context, Lewis (2002, p. 126) questions the classification of the image as erotic. However, the complete nudity of both figures and the usage of the sandal as a beating implement connect the image typologically to the entire group.
- 22 Berlin, Antikensammlung 4560. BAPD 202464.
- 23 Kapparis takes their relationship to be erotic without considering the kalos name.
- 24 Lear and Cantarella (2010, pp. 121-123) find the scene similar to the orgiastic ones discussed below.
- 25 Perhaps his reasoning lies in the presence of the sandal as hinting to a potential alternative use for the sandal, in much the same way as the hanging sandals in sympotic scenes imply their use for beating in the same context. But this is not a sufficient reason for classifying it as homosexual sadism.
- 26 By contrast, Lewis (2002, p. 124, with reference to Kilmer, 1993, pp. 55–59 in note 106), who considers orgy scenes, enumerates only five examples and notes that statistically they are not very significant. However, it seems that this narrow viewpoint does not do justice to the presence of violence in the general group of heterosexual erotic scenes. In any case, all of these seem to decorate sympotic vases, and those with a known provenance come from various Etruscan sites. Hence, K. Lynch (2009, p. 161), among other scholars, advances the notion that erotic scenes were made to cater to Etruscan taste. However, for a contradictory assumption see Parker, 2015, pp. 28–29, especially note 22.
- 27 Boston (MA), Museum of Fine Arts, 95.61. ARV 104; ARV² 123, 132; Para 359; Add 88; Add² 177; BAPD 201063. From Vulci, Italy. Web page: https://collections.mfa.org/ objects/153641.
- 28 Paris, Musée du Louvre, G13. ARV 76; ARV² 86.A, 1578.16; Add 84; Add² 170; BAPD 200694. From Vulci, Italy.
- 29 Orvieto, Museo Civico, 585. ARV 232.46; ARV² 339.51; Add² 218; BAPD 203485. From Orvieto, Italy.
- 30 Florence, Museo Archeologico Etrusco, 3921. ARV 284.25; ARV² 372.31, 398; Add 111; Add² 225; BAPD 203929.
- 31 Sutton, 1992. p. 12; Kilmer, 1993. p. 124. Peschel (1987, p.120) and Keuls (1993, p. 182) however identify the object as a stick, while Sánchez (2013, p. 130) identifies it as a sandal shown in profile.
- 32 Berlin, Antikensammlung, 3251. ARV 80.5; ARV² 113.7, 1592, 1626; Para 332; Add 86; Add² 173; BAPD 200964. From Vulci, Italy. https://artsandculture.google.com/asset/kylix-sympotic-reveller-and-hetaira-thalia-painter/OQGLTfHujRb-Gw?hl=en.
- 33 These women are sometimes identified as hetairai or as common prostitutes, while others may be flute girls. The distinction between these women is not always straightforward. On the subject see Davidson (1997, pp. 73–97) and Glazebrook and Henry (2011, pp. 4–5).
- 34 We should note that feet and shoes do sometimes have erotic content, as discussed by D. Levine (2005). However, Levine has not included any of the scenes discussed here.
- 35 See also Costall (1995, p. 468), Scarantino (2003, p. 949), Knappett (2004, p. 44), Costall (2006, pp. 18–26), Glăveanu (2012, pp. 193–194), Costall (2012, p. 87). For articles dealing with the history of the concept and its main tenets, see Dotov et al. (2012), Osiurak et al. (2017).
- 36 For the purposes of the discussion here I address humans, but we should recall that, in his approach, Gibson intended to address all organisms.
- 37 One of the greatest contributors to this process was the American designer, researcher, and author Donald A. Norman. In his book *The Psychology of Everyday Things* he discussed the term specifically in relation to human-made objects. For the differences between Gibson's affordances and Norman's affordances, see McGrenere and Ho (2000, pp. 179–182).
- 38 For the importance of the hands as the organ with which we interact with other entities (see Prinz, 2013, p. xi). Radman (2013, pp. 371–373) discusses the primacy of the hands for perceiving affordances.
- 39 London, British Museum, E68. ARV 247.21; ARV² 371.24, 1574, 1649; Para 365, 367, Add 111; Add² 225; BAPD 203923. From Vulci, Italy.
- 40 Würzburg, Universität, Martin von Wagner Museum, L530. *BAPD* 2723. From Vulci, Italy.
- 41 St. Petersburg, State Hermitage Museum, B2110. ARV 216.32; ARV² 325.77; Para 511; BAPD 203327. From Capua, Italy.

42 Although we can be quite sure that the vases depicting the erotic scenes were destined primarily for a male audience (a point that is less certain in the case of the earliest educational scenes), we cannot rule out the possibility that members of other social groups (women of various statuses, children, and slaves) also handled these vases, or at least had the opportunity to view the images decorating them. Perhaps the anxiety and pleading expressed by the beaten subordinates or by some of the onlookers reflect emotions familiar to those viewing them, serving as a visual reminder of the balance of power and of their place in the social hierarchy.

References

- Beaumont L (2012) Childhood in ancient Athens: iconography and social history. Routledge, London and New York
- Beck F (1975) Album of Greek education. Cheiron Press, Sydney
- Blundell S (2006) Beneath their shining feet. Shoes and sandals in Classical Greece. In: Riello G, McNeil P (eds) Shoes. A history from sandals to sneakers. Berg, Oxford and New York, pp. 30–49
- Boardman J (1976) A curious eye cup. Archäolog Anz 91:281-290
- Boardman J (1990) Symposion furniture. In: Murray O (ed) Sympotica. A symposium on the symposion. Clarendon Press, Oxford, pp. 122-131
- Bryant A (1899) Greek shoes in the Classical period. Harvard Studies in Classical Philology 10:57-102
- Bundrick SD (2010) Inside/outside: revisiting a chous in the Metropolitan museum of art. In: Oakley J, Palagia O (eds) Athenian potters and painters II. Oxbow Books, Oxford, pp. 27–35
- Bundrick SD (2019) Athens, Etruria, and the many lives of Greek figured pottery. The University of Wisconsin Press, Madison
- Cohen B (2006) The colors of clay. Special techniques in Athenian vases. J Paul Getty Museum, Los Angeles
- Corner S (2014) Sumposion. In: Hubbard TK (ed) A companion to Greek and Roman sexualities. Wiley, Hoboken
- Costall A (1995) Socializing affordances. Theory Psychol 5(4):467-481
- Costall A (2006) On being the right size: affordances and the meaning of scale. In: Lock G, Molyneaux BL (eds) Confronting scale in archaeology. Springer, New York, pp. 15–26
- Costall A (2012) Canonical affordances in context. Avant 3(2):85-93
- Costall A, Richards A (2013) Canonical affordances: the psychology of everyday things. In: Graves-Brown P, Harrison R, Piccini A (eds) The Oxford handbook of the archaeology of the contemporary world. Oxford University Press, Oxford, pp. 82–93
- Davidson J (1997) Courtesans and fishcakes. The consuming passion of Classical Athens. Fontana Press, London
- Dierichs A (1993) Erotik in der Kunst Griechenlands. Verlag Philipp von Zabern, Mainz
- Dotov D, Nie L, de Wit M (2012) Understanding affordances: history and contemporary development of Gibson's central concept. Avant 3(2):28-39
- Ferrari G (2003) Myth and genre on Athenian vases. Classical Antiquity 22 (1):37–54
- Fischer J (2012) kinderleben und kinderarbeitin klassischen Greiechenland. In: Heinen H (ed) Kindersklaven – Sklavenkinder, Schicksale zwischen Zuneigung und Ausbeutung in der Antike und im interkulturellen Vergleich, Beitrage zur Tagung des Akademievorhabens Forschungen zur antiken Sklaverei, Mainz, 14. Oktober 2008. Franz Steiner Verlag, Stuttgart, pp. 103–122
- Fox M (2010) Satyrs and hetaerae: looking for gender on Greek vases. In: Donald M, Hurcombe L (eds) Representations of gender from prehistory to the present. Macmillan Press, Hampshire, pp. 104–117
- Franco C (2014) Shameless: the canine and the feminine in ancient Greece. University of California Press, Berkley
- Frontisi-Ducroux F (1986) La mort en face. Mètis. Anthropologie des mondes grecs anciens 1(2):197–217
- Gaifman M, Platt V (2018) Introduction: from Grecian urn to embodied object. Art Hist 41(3):402–419
- Gibson JJ (1979) The ecological approach to visual perception. Houghton Mifflin, Boston
- Gläveanu VP (2012) What can be done with an egg? creativity, material objects, and the theory of affordances. J Creat Behav 46(3):192-208
- Glazebrook A, Henry MM (eds) (2011) Greek prostitutes in the ancient Mediterranean, 800 BCE–200 CE. The University of Wisconsin Press, Madison
- Golden M (2015) Children and childhood in Classical Athens. Johns Hopkins University Press, Baltimore
- Goubitz O (2007) Stepping through time: archaeological footwear from prehistoric times until 1800. Stichting Promotie Archeologie, Zwolle
- Hedreen G (2016) The image of the artist in Archaic and Classical Greece. Art, poetry, and subjectivity. Cambridge University Press, Cambridge
- Heft H (1989) Affordances and the body: an intentional analysis of Gibson's ecological approach to visual perception. J Theory Soc Behav 19(1):1-30
- Himmelmann N (1971) Archaologisches zum Problem der Sklaverei. Verl. Der Akad Der Wiss. u. der literature, Mainz

- Hodder I (2012) Entangled: an archaeology of the relationships between humans and things. Wiley-Blackwel, Malden
- Hurcombe LM (2007) Archaeological artefacts as material culture. Routledge, London and New York
- Hurcombe LM (2014) Perishable material culture in prehistory: investigating the missing majority. Routledge, London and New York
- Hurschmann R (2006a) Sandals. In: Cancik H, Schneider H, Salazar CF (eds) English edition, Brill's New Pauly, antiquity volumes, consulted online on 3 March 2020. https://doi.org/10.1163/1574-9347_bnp_e1100700
- Hurschmann R (2006b) Shoes. In: Cancik H, Schneider H, Salazar CF (eds) English edition, Brill's New Pauly, antiquity volumes. Consulted online on 3 March 2020. https://doi.org/10.1163/1574-9347_bnp_e1105030
- Johns C (1982) Sex or symbol. Erotic images in Greece and Rome. University of Texas Press, Austin
- Kapparis KA (2018) Prostitution in the ancient Greek world. Walter de Gruyter, Berlin and Boston
- Keane W (2014) Rotting bodies: the clash of stances toward materiality and its ethical affordances. Curr Anthropol 55(S10):S312–S321
- Keuls E (1993) The reign of the phallus: sexual politics in ancient Athens. University of California Press, Berkeley
- Kilmer M (1993) Greek erotica on Attic red-figure vases. Duckworth, London
- Kilmer M (1997) 'Rape' in early red-figure pottery: violence and threat in homoerotic and hetero-erotic contexts. In: Deacy S, Pierce KF (eds) Rape in antiquity. Duckworth, London, pp. 123-141
- Knappett C (2004) The affordances of things: a post-Gibsonian perspective on the relationality of mind and matter. In: DeMarrais E (ed) Rethinking materiality: the engagement of mind with the material world. McDonald Institute for Archaeological Research, Cambridge, pp. 43–51
- Knappett C (2005) Thinking through material culture: an interdisciplinary perspective. University of Pennsylvania Press, Philadelphia
- Korshak Y (1987) Frontal faces in Attic vase painting of the Archaic period. Ares Publications, Chicago
- Kovasovics WK (1984) Ein Sandalenfund aus dem Kerameikos. Mitt Dtsch Archaol Inst – Athen Abteilung 99:265–274
- Laxander H (2000) Individuum und Gemeinschaft im Fest, Untersuchungen zu attischen Darstellungen von Festgeschehen im 6. und frühen 5. Jahrhundert v. Chr. Scriptorium, Münster
- Lear A, Cantarella E (2010) Images of ancient pederasty: boys were their gods. Routledge, London and New York
- Lee MM (2015) Body, dress, and identity in ancient Greece. Cambridge University Press, Cambridge
- Levine D (2005) ERATON BAMA: the erotics of feet in ancient Greece. In: Cairns DL (ed) Body language in the Greek and Roman worlds. Classical Press of Wales, Swansea, pp. 55–72
- Lewis S (2002) The Athenian woman, an iconographic handbook. Routledge, London
- Lynch KM (2007) More thoughts on the space of the symposium, vol 15. British School at Athens Studies, pp. 243–249
- Lynch KM (2009) Erotic images on Attic vases: markets and meanings. In: Oakley J, Palagia O (eds) Athenian potters and painters II. Oxbow Books, Oxford, pp. 159–165
- Lynch KM (2011) The symposium in context: pottery from a Late Archaic house near the Athenian agora. Hesperia Supplement 46. The American School of Classical Studies in Athens, Princeton
- Mackay EA (2001) The frontal face and 'you': narrative disjunction in early Greek poetry and painting: chairperson's address. Acta Class 44:5–34
- McGrenere J, Ho W (2000) Affordances: clarifying and evolving a concept. In: Irani P, McCool M, Stürzlinger W (eds) Proceedings of graphics interface. Routledge, Natick, pp. 179–186
- McNiven TJ (1995) The unheroic penis: otherness exposed. Source: Notes Hist Art 15(1):10–16
- McNiven TJ (2012) Sex, gender and sexuality. In: Smith TJ, Plantzos D (eds) A companion to Greek art. Wiley, Chichester, pp. 510–524
- Meineck P (2018) Theatrocracy: Greek drama, cognition, and the imperative for theatre. Routledge, London and New York
- Moon W, Berge L (1979) Greek vase-painting in midwestern collections. Art Institute of Chicago, Chicago
- Neer R (2019) Ancient Greek vessels between earth, sea and clouds. In: Brittenham C (ed) Vessels: the object as container. Oxford University Press, Oxford, pp. 6–49
- Neils J, Oakley JH (eds) (2003) Coming of age in ancient Greece, images of childhood from the Classical past. Yale University Press, New Haven
- Olshausen O (1979) Eros mit dem Barbiermesser. Archäolog Anz 94:17–24 Osborne R (1998) Archaic and Classical Greek art. Oxford University Press, Oxford
- Osborne R (2018) The transformation of Athens: painted pottery and creation of Classical Greece. Princeton University Press, Princeton and Oxford

- Osiurak F, Rossetti Y, Badets A (2017) What is an affordance? 40 years later. Neurosci Biobehav Rev 77:403–417
- Parker H (2015) Vaseworld: depiction and description of sex at Athens. In: Blondell R, Ormand K (eds) Ancient sex: new essays. Ohio State University Press, Columbus, pp. 23–142
- Peschel I (1987) Die Hetare bei Symposium und Komos in der attisch rotfigurigen Malerei des 6.-4. Jhs. v.Chr. Peter Lang, Frankfurt
- Prinz JJ (2013) Foreword: hand manifesto. In: Radman Z (ed) The hand, an organ of the mind: what the manual tells the mental. The MIT Press, Cambridge, London, pp. xi-xvii
- Radman Z (2013) On displacement of agency: the mind handmade. In: Radman Z (ed) The hand, an organ of the mind: what the manual tells the mental. The MIT Press, Cambridge and London, pp 369–397
- Rehm R (2002) The play of space: spatial transformation in Greek tragedy. Princeton University Press, Princeton
- Reinsberg C (1989) Ehe, Hetärentum und Knabenliebe im antiken Griechland. Beck, Munich
- Robertson M (1992) The art of vase-painting in Classical Athens. Oxford University Press, Oxford
- Robson J (2013) Sex and sexuality in Classical Athens. Edinburgh University Press, Edinburgh

Sánchez C (2013) Kunst und Erotik in der Antike. Verlag Klaus Wagenbach, Berlin Scarantino A (2003) Affordances explained. Philos Sci 70(5):949–961

- Schmitz W (2005) Gewalt in Haus und Familie. In: Fischer G, Moraw S (eds) Die andere Seite der Klassik. Gewalt im 5. und 4. Jahrhundert v. Chr. Steiner Franz Verlag, Stuttgart, pp. 103–128
- Shapiro HA (1992) Eros in love: pederasty and pornography in Greece. In: Richlin A (ed) Pornography and representation in Greece and Rome. Oxford University Press, Oxford, pp. 53–72
- Shapiro HA (2000) Leagros and Euphronios: painting pederasty in Athens. In: Hubbard TK (ed) Greek love reconsidered. Wallace Hamilton press, New York, pp. 25–31
- Shapland A (2010a) The Minoan lion: presence and absence on bronze age Crete. World Archaeol 42(2):273–289
- Shapland A (2010b) Wild nature? Human-animal relations on Neopalatial Crete. Camb Archaeol J 20(1):109–112
- Stafford E (2011) Clutching the chickpea: private pleasures of the bad boyfriend. In: Lambert SD (ed) Sociable man: essays on ancient Greek social behaviour in honour of Nick Fisher. Classical Press of Wales, Swansea, pp. 337–363
- Sutton RF (1992) Pornography and persuasion on Attic pottery. In: Richlin A (ed) Pornography and representation in Greece and Rome. Oxford University Press, Oxford, pp. 3–35
- Sutton RF (2000) The good, the base, and the ugly: the drunken orgy in Attic vase painting and the Athenian self. In: Cohen B (ed) Not the Classical ideal: Athens and the construction of the other in Greek art. Brill, Leiden, pp. 180–202
- Toillon V (2019) At the symposium. Why take off our boot? The significance of boots placed underneath the kline on Attic red-figure vase painting. In: Pickup S, Waite S (eds) Shoes, slippers and sandals. Feet and footwear in Classical antiquity. Routledge, London and New York, pp. 90–104
- Touloupa E (1973) KATTYMATA TYPPHNIKA—KPHΠΙΔΕΣ ATTIKAI. Archaiologikon deltion 28:116-137
- Venit MS (2002) Fit to be tied: the punishment of Eros and two vases by Euphronios in the Villa Giulia. In: Clark AJ, Gaunt J (eds) Essays in honor of Dietrich von Bothmer. Allard Pierson Museum, Amsterdam, pp. 317–322
- Waite S, Gooch E (2019) Sandals on the wall: the symbolism of footwear on Athenian painted pottery. In: Pickup S, Waite S (eds) Shoes, slippers and sandals. Feet and footwear in Classical antiquity. Routledge, London and New York, pp. 17–89

Woodward I (2007) Understanding material culture. Sage, Los Angeles

- Yatromanolakis D (2009) Symposia, noses, Πρόσωπα: a kylix in the company of banqueters on the ground. In: Yatromanolakis D (ed) An archaeology of representations: ancient Greek vase-painting and contemporary methodologies. Institut du livre – A. Kardamitsa, Athens, pp. 414–464
- Young Y (2015) Binding, loosening or adjusting her sandal? on Nike from the parapet of the Athena Nike temple. Source: Notes Hist Art 34(4):2-9
- Young Y (2019) Donning footwear. The invention and diffusion of an iconographic motif in archaic Athens. In: Pickup S, Waite S (eds) Shoes, slippers and sandals. Feet and footwear in Classical antiquity. Routledge, London and New York, pp. 105–117

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Additional information

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