Ancient Loom Weights at the J. Paul Getty Museum

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Introduction

Since Elizabeth Barber’s seminal book *Prehistoric Textiles* of 1991, a growing research community has advanced the field of study of ancient textile craft and technology.¹ Spindle whorls and loom weights often come to light in abundance in archaeological excavations, yet they have been often published as small finds and documented minimally or without relevant data on their number, size, and weight. An expanding field of work now foregrounds textile tools as a way to understand ancient textile production and technology.² Although men, women, and children of antiquity were all engaged in textile production—entailing fiber procurement, fiber processing, spinning, weaving, sewing, mending, and recycling—the craft was highly gendered and connected with women and domestic work. Barber points to this gendering in her book *Women’s Work: The First 20,000 Years* to highlight women’s skills and economic contribution.³ Other works have since explored how textiles epitomize women’s pride and reflect gifts between households and families or to sanctuaries.⁴ Loom weights are traditionally described in terms of decoration, material, or shape, but in recent years scholars have focused on the functional parameters (weight, thickness) that govern their form. This approach is termed *functional analysis* because it allows us to understand how the loom weights functioned in a loom setup and how they operated with a range of warp threads and weave types. Yet loom-weights’ forms can also reveal more broadly the owner’s or weaver’s preferences, time period, and traditions.

This article presents a group of twenty-two mostly unpublished terracotta loom weights held in the collection of the J. Paul Getty Museum. Loom weights are objects that are suspended to give tension to the vertical warp threads on a warp-weighted loom. Within the Getty collection, the dating at the time of writing variously falls within the sixth to the third centuries BCE, with most assigned to the fourth. Most of the Getty loom weights are classed as coming from South Italy.⁵ The twenty-two loom weights were either acquired from the art dealer Royal Athena Galleries in the 1970s or entered the collection as donations from various patrons.
Among these loom weights are several discoid or hemispherical items that have been the subject of several interpretations and debates through the years. They have been considered as relief pendants, votive objects, objects serving to express ownership, labels for bags, instruments to stamp sacrificial cakes, weights used by merchants, signs related to taxes, or signs hung at the (entrance) doors of private houses.⁶

In the scholarly literature, the objects are sometimes described by the Latin terms oscillum (singular) or oscilla (plural), meaning objects that swing back and forth.⁷ However, recent advancements in the understanding of loom weights, as well as the seminal studies of textile tools by Francesco Meo and others, have now demonstrated that the discoid or hemispherical items, if perforated, are loom weights.⁸

The discoid and hemispherical loom weights in the Getty collection share the fact that they are decorated on one or both faces. Even if some of them are quite worn on the surface, they appear to be decorated in a relief technique through pressing in a mold. This suggests a certain standardization, and yet they display different motifs. Loom weights have, in recent years, become an important object of study; functional analyses and experimental testing have demonstrated that such objects contain information about textile production of the past. In functional analysis, researchers document loom weights’ functional parameters (weight and thickness) and use the information to estimate the yarn type (thin, medium, or thick) and the density of the weave (number of threads in warp and weft per centimeter). Experimental archaeology involves reconstructing exact copies of the archaeological loom weights and using the copies for weaving, thereby assessing the weaver’s time consumption, skill and dexterity, and bodily movements, and the fabric quality. Functional analysis and experimental archaeology can thus provide evidence of the range of fabrics that were woven. Contextual analysis of the excavation and findspots of loom weights can elucidate the domestic or commercial nature of a textile’s production. Further, the Getty loom weights, with their decorations pressed in a mold, lend insight into the symbolic, mythological, aesthetic, domestic, and gendered aspects of weaving.

Parallels for the loom weights have come to light in Herakleia and Taranto on the southern Italian Peninsula and can be found in museum collections in Australia, France, Germany, Italy, Switzerland, and the United States. Some have secure provenance but most of them do not have an archaeological context or provenience.

This article presents a functional analysis of how the Getty loom weights would have worked on the loom, identifies the iconographical themes depicted on the loom weights, and, through parallels with items from the southern Italian Peninsula, suggests a new dating. The functional analysis allows us to hypothesize what fabric types were woven with these loom weights. Finally, the comparison with finds from the Gulf of Taranto area, and especially Herakleia with its well-documented contexts, can shed light on how textile production was organized, who was involved, where it took place, and what were the symbolic and imaginary worlds of weaving and women.
Three groups of loom weights can be identified in the collections based on shape: What we are calling group I comprises four objects characterized by a pyramidal shape (fig. 1), all listed in the Getty Museum’s records with “Place Created: Metaponto (?), South Italy.” Loom weights 82.AD.116.1–3 each have one perforation toward the top and are decorated on one of their sides by an impression of a Metapontian coin featuring the image of a stalk of wheat. The Getty dates them at the time of writing to the fourth through third centuries BCE. They were given to the museum by donor Jane Cody in 1982, having been published in a Numismatic Fine Arts (Beverly Hills) sales catalog. Two of these loom weights (82.AD.116.2–3) have the same weight (56 grams), while their height and width vary from 6.2 to 7 centimeters and 2.5 to 2.9 centimeters, respectively. The third (82.AD.116.1) measures 6.2 centimeters in height, while its base is $3.3 \times 3.5$ centimeters; the weight is 64 grams. A fourth item (81.AD.187.29) belongs to the pyramidal loom-weight group but is very different: it is decorated on its nonperforated sides with...
scenes of a seated woman with a standing naked child at her side, and, on the other side, the representation of an unclothed squatting woman, perhaps giving birth. This loom weight has two perforations. It is taller than the other pyramidal loom weights (8.7 centimeters in height, 5 centimeters wide at its base, and 3 centimeters at its top), and its weight is 266 grams. The museum dates it at the time of writing to the sixth century BCE.¹¹ According to archaeologist Meo, the clay of these four loom weights seems to be of the area of Metaponto and the Ionian coast (table 1).¹²

Group II for our purposes contains two trapezoidal loom weights (table 2). The top of 83.AI.306.3 is decorated with incised parallel lines originating from the corners of the object and forming an X, while 83.AI.306.4 displays three small holes on either side of a central groove (see fig. 1). Their findspot is unknown, but they are classed as Greek in the Getty’s records. They were donated to the museum by David Swingler and were part of a group of seven objects titled in Getty curatorial records as “Set of Greek Varia” upon acquisition.¹³ There is no indication that these objects were originally from the same site or region. The trapezoidal shape of the loom weights is similar to those at Indigenous Italic sites dated to the eighth to sixth centuries BCE.¹⁴

Group III is characterized by sixteen discoid or hemispherical (also called horse-shoe-shaped) loom weights, decorated with relief scenes, characteristic of objects manufactured in molds. All are quite similar in shape: their thicknesses vary between 2 and 3 centimeters, while their height varies between 6 and 7 centimeters. Their weight variation is greater and ranges from 62 to 166 grams. All loom weights in this group have two perforations placed above their motifs (figs. 2, 3). Different clays are attested within this group, including a light pink clay with a beige slip, a darker,
almost red clay with a beige slip, a red clay with white slip, and a green clay with a beige slip (table 3). The two perforations suggest that the weaver would have attached a thread or thin ribbon on the loom weight that would serve to fasten the warp threads to the loom weight instead of inserting them directly into the holes.¹⁵ This would make the tying more convenient and allow less tear on the warp threads.

Loom weights 73.AD.10.I.1–.4, .6–.9, .11–.12, and .15 have up to now been dated in Getty records to the fourth century BCE; 73.AD.10.I.13 to the sixth through fourth centuries BCE; and 73.AD.10.I.5 and .10 to 350–200 BCE. All of these were acquired from the Royal Athena Galleries in 1973 as part of a group of more than 450 objects (73.AD.10.A.1 through 73.AD.10.P.15), primarily terracotta votive heads and figurines.¹⁶ Loom weights were common votive offerings in first-millennium-BCE Italian sanctuaries,¹⁷ but the possibility that these sixteen loom weights and the rest of the material from Royal Athena came from one (votive) site remains to be proven.¹⁸ Loom weight 81.AD.187.30 was acquired separately as part of the group of objects donated by Edwin Lipps discussed above.¹⁹ It has been up to now dated in Getty records to the sixth century BCE and classed as “Place Created: Metaponto (?), South Italy.”

<table>
<thead>
<tr>
<th>ACCESSION NUMBER</th>
<th>WEIGHT</th>
<th>THICKNESS</th>
<th>CLAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>73.AD.10.I.1</td>
<td>144 g</td>
<td>1.5–3.1 cm</td>
<td>very worn</td>
</tr>
<tr>
<td>73.AD.10.I.2</td>
<td>104 g</td>
<td>1.4–2.3 cm</td>
<td>very worn, vegetal inclusions and red nodules</td>
</tr>
<tr>
<td>73.AD.10.I.3</td>
<td>86 g</td>
<td>1.6–2.7 cm</td>
<td>pink-to-red clay, lime inclusions, small mica and red inclusions</td>
</tr>
<tr>
<td>73.AD.10.I.4</td>
<td>76 g</td>
<td>1.55–2.4 cm</td>
<td>red-orange clay, gray slip, very worn</td>
</tr>
<tr>
<td>73.AD.10.I.5</td>
<td>166 g</td>
<td>1.6–2.6 cm</td>
<td>yellowish slip and greenish clay</td>
</tr>
<tr>
<td>73.AD.10.I.6</td>
<td>88 g</td>
<td>1.9–2.7 cm</td>
<td>beige-yellowish clay, small mica inclusions, white slip</td>
</tr>
<tr>
<td>73.AD.10.I.7</td>
<td>62 g</td>
<td>1.5–1.8 cm</td>
<td>pale yellow clay, white slip</td>
</tr>
<tr>
<td>73.AD.10.I.8</td>
<td>136 g</td>
<td>2–2.45 cm</td>
<td>pale yellow clay, extremely worn</td>
</tr>
<tr>
<td>73.AD.10.I.9</td>
<td>124 g</td>
<td>1.8–2.2 cm</td>
<td>Beige clay with white-beige slip, small mica inclusions</td>
</tr>
<tr>
<td>73.AD.10.I.10</td>
<td>124 g</td>
<td>1.8–2.6 cm</td>
<td>green clay, vegetal inclusion and black inclusions (perhaps organic?)</td>
</tr>
<tr>
<td>73.AD.10.I.11</td>
<td>164 g</td>
<td>2.8–3.05 cm</td>
<td>fine and compact green-to-yellow clay, yellow slip</td>
</tr>
<tr>
<td>73.AD.10.I.12</td>
<td>106 g</td>
<td>2–2.4 cm</td>
<td>beige with small red inclusions, very worn, with traces of white slip</td>
</tr>
<tr>
<td>73.AD.10.I.13</td>
<td>100 g</td>
<td>1.9–2.5 cm</td>
<td>pink-to-red clay, lime inclusions, small mica and red inclusions, traces of white slip</td>
</tr>
<tr>
<td>73.AD.10.I.14</td>
<td>124 g</td>
<td>2.15–2.6 cm</td>
<td>beige clay with small red inclusions, very worn, white slip</td>
</tr>
<tr>
<td>73.AD.10.I.15</td>
<td>92 g</td>
<td>1.55–2.2 cm</td>
<td>yellow-beige clay, white slip</td>
</tr>
<tr>
<td>81.AD.187.30</td>
<td>182 g</td>
<td>3.5–2.65 cm</td>
<td>light beige clay with yellow inclusions</td>
</tr>
</tbody>
</table>

TABLE 3 — Weight, thickness, and clay description of discoid and hemispherical (group III) loom weights in the J. Paul Getty Museum.
Approach: Functional Analysis Based on Textile Tool Studies and Informed by Experimental Archaeology

Over the last decade, systematic analyses and experimental testing of loom weights have enabled researchers to infer what types of textiles were woven with them. Loom weights were attached to the vertical warp threads on the warp-weighted loom in order to give tension to the threads when weaving (fig. 4). The weight of an individual loom weight will determine how many warp threads and what yarn type (i.e., diameter and twist) can be attached to it; the thickness of a loom weight will determine how densely spaced or packed the warp threads would be. It is therefore possible to estimate the types of textiles that were woven using the Getty loom weights.²⁰

We measured and weighed the loom weights in the J. Paul Getty Villa storage rooms in the fall of 2014 and used the calculation methods established at the Centre for Textile Research to assess how suitable the loom weights are for each loom setup. The calculations below are solely based on a tabby weave, also known as a plain weave; the tables to follow show the setups for four kinds of warp threads, ranging from thin warp threads needing only 5 grams of tension to thicker warp threads needing 20 grams of tension. Experienced weavers state that it is not practical to weave with only a few warp threads attached to each loom weight. The optimal number of warp threads per loom weight depends on the weave, the yarn, and the size of loom weights, but would range from four to thirty. Loom weights must give adequate tension to the warp threads, so light loom weights such as those from the Getty collection cannot provide tension to very many warp threads or to thick warp threads. The thickness of loom weights defines the spacing of the warp threads. We gathered weight and thickness measurements for each Getty loom weight in a table and correlated them with warp threads requiring tensions of 5 grams, 10 grams, 20 grams, and 30 grams. This enabled us to estimate what tension and thus what type of cloth the loom weights are best suited for. The weight of a loom weight is divided by warp tension to determine the number of warp threads per loom weight. The number of warp threads per loom weight is then multiplied by the number of rows of loom weights (two in a tabby weave). This number can be used to calculate the number of warp threads per centimeter in the woven fabric when it is divided by the loom weight’s thickness (measured in centimeters). The calculated result of the number of warp threads is rounded down or up to only use whole numbers. Finally, the suitability for weaving with a certain weight and the four different warp thread tensions is assessed, taking into consideration that it is not practical to weave with too many, or too few, warp threads attached to each loom weight. It should be noted that functional analysis is a systematic way to assess optimal functionality and practicality. This means that the weaver could still have chosen to weave otherwise.

Functional Analysis of Group I
Our functional analysis demonstrates that the pyramidal loom weights are only useful with warp threads needing a low tension—that is, thin warp threads (tables 4, 5). This means that pyramidal loom weights 82.AD.116.1–3 would have been optimal, with threads requiring a tension of 5 grams or less, and would have produced open, plain-weave fabrics, probably akin to gauze, while 81.AD.187.29 would have produced a balanced plain weave of seven to twenty-one warp threads per centimeter. Such fabrics are thin and fine, probably used for clothing (fig. 5).

Functional Analysis of Group II
As above, the weight of each trapezoidal loom weight was divided by warp tension to determine the number of warp threads per loom weight, whose number was then multiplied by the number of rows (two in a tabby) and divided by the loom weight’s
FIG. 5. — Photograph of weaving experiment with light loom weights and thin wool yarns, about 7–8 threads per centimeter. Courtesy Centre for Textile Research, Copenhagen, Denmark, and E. Andersson Strand.

<table>
<thead>
<tr>
<th>Pyramidal loom weight, 82.AD.116.3</th>
<th>Weight: 56 g; thickness: 2.5 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5 g</td>
</tr>
<tr>
<td>Number of warp threads requiring a tension of</td>
<td>11</td>
</tr>
<tr>
<td>Number of warp threads per loom weight</td>
<td>22</td>
</tr>
<tr>
<td>Number of warp threads per two loom weights (one in front layer, one in back)</td>
<td>9</td>
</tr>
<tr>
<td>Warp threads per centimeter</td>
<td>Optimal</td>
</tr>
</tbody>
</table>

TABLE 4 — Functional analysis of loom weight from group I, Los Angeles, J. Paul Getty Museum, 82.A.D.116.3.

<table>
<thead>
<tr>
<th>Pyramidal loom weight, 81.AD.187.29</th>
<th>Weight: 266 g; thickness: 5 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>5 g</td>
</tr>
<tr>
<td>Number of warp threads requiring a tension of</td>
<td>53</td>
</tr>
<tr>
<td>Number of warp threads per loom-weight</td>
<td>106</td>
</tr>
<tr>
<td>Number of warp threads per two loom weights (one in front layer, one in back)</td>
<td>21</td>
</tr>
<tr>
<td>Warp threads per centimeter</td>
<td>Possible</td>
</tr>
</tbody>
</table>

A trapezoidal loom weight would have been used on looms producing lightweight to medium-weight fabrics with thread counts of seven to thirty threads per centimeter (83.AI.306.4) and five to ten threads per centimeter for the finer and lighter fabric woven using loom weights 83.AI.306.5 (tables 6, 7).

**Table 6 — Functional analysis of loom weight from group II, Los Angeles, J. Paul Getty Museum, 83.AI.306.4.**

<table>
<thead>
<tr>
<th>Trapezoidal loom weight, 83.AI.306.4</th>
<th>Weight: 288 g; thickness: 3.85 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warp threads requiring a tension of</td>
<td>5 g</td>
</tr>
<tr>
<td>Number of warp threads per loom weight</td>
<td>58</td>
</tr>
<tr>
<td>Number of warp threads per two loom weights (one in front layer, one in back)</td>
<td>115</td>
</tr>
<tr>
<td>Warp threads per centimeter</td>
<td>30</td>
</tr>
<tr>
<td>Suitability for weaving with this loom weight</td>
<td>Possible</td>
</tr>
</tbody>
</table>

**Table 7 — Functional analysis of loom weight from group II, Los Angeles, J. Paul Getty Museum, 83.AI.306.5.**

<table>
<thead>
<tr>
<th>Trapezoidal loom weight, 83.AI.306.5</th>
<th>Weight: 92 g; thickness: 3.6 cm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warp threads requiring a tension of</td>
<td>5 g</td>
</tr>
<tr>
<td>Number of warp threads per loom weight</td>
<td>18</td>
</tr>
<tr>
<td>Number of warp threads per two loom weights (one in front layer, one in back)</td>
<td>37</td>
</tr>
<tr>
<td>Warp threads per centimeter</td>
<td>10</td>
</tr>
<tr>
<td>Suitability for weaving with this loom weight</td>
<td>Optimal</td>
</tr>
</tbody>
</table>

Functional Analysis of Group III

Applying the same calculation, the weight of each discoid or hemispherical loom weight was divided by warp tension to determine the number of warp threads per loom weight, whose number was then multiplied by the number of rows (two in a tabby) and divided by the loom weight’s thickness (in centimeters). The functional analysis shows that the discoid and hemispherical loom weights from the Getty Museum collection are only useful with warp threads needing a low tension, meaning thin warp threads. With such thin warp threads, the weaver could produce different balanced plain weaves of five to fourteen threads per centimeter (73.AD.10.I.7; table 8), six to sixteen threads per centimeter (73.AD.10.I.13; table 9), or seven to twenty-one threads per centimeter (81.AD.187.30; table 10). Such fabrics are thin and fine, probably used for clothing (see fig. 5). These loom weights are unusable for weaving coarser fabrics, because their weights are far too low to provide sufficient tension for thick warp yarn.
### Discoid loom weight, 72.AD.10.1.7
**Weight:** 62 g; **thickness:** 1.8 cm

<table>
<thead>
<tr>
<th> </th>
<th>5 g</th>
<th>10 g</th>
<th>15 g</th>
<th>20 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of warp threads per loom weight</td>
<td>12</td>
<td>6</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Number of warp threads per two loom weights (one in front layer, one in back)</td>
<td>25</td>
<td>7</td>
<td>8</td>
<td>6</td>
</tr>
<tr>
<td>Warp threads per centimeter</td>
<td>14</td>
<td>8</td>
<td>5</td>
<td>3</td>
</tr>
<tr>
<td>Suitability for weaving with this loom weight</td>
<td>Optimal</td>
<td>Optimal</td>
<td>Possible</td>
<td>Less likely</td>
</tr>
</tbody>
</table>

**TABLE 8 — Functional analysis of loom weight from group III, Los Angeles, J. Paul Getty Museum, 72.AD.10.1.7.**

### Hemispherical loom weight, 73.AD.10.1.13
**Weight:** 100 g; **thickness:** 2.5 cm

<table>
<thead>
<tr>
<th> </th>
<th>5 g</th>
<th>10 g</th>
<th>15 g</th>
<th>20 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of warp threads per loom weight</td>
<td>20</td>
<td>10</td>
<td>8</td>
<td>5</td>
</tr>
<tr>
<td>Number of warp threads per two loom weights (one in front layer, one in back)</td>
<td>40</td>
<td>20</td>
<td>16</td>
<td>10</td>
</tr>
<tr>
<td>Warp threads per centimeter</td>
<td>16</td>
<td>8</td>
<td>6</td>
<td>4</td>
</tr>
<tr>
<td>Suitability for weaving with this loom weight</td>
<td>Optimal</td>
<td>Optimal</td>
<td>Possible</td>
<td>Less likely</td>
</tr>
</tbody>
</table>

**TABLE 9 — Functional analysis of loom weight from group III, Los Angeles, J. Paul Getty Museum, 72.AD.10.1.13.**

### Hemispherical loom weight, 81.AD.187.30
**Weight:** 182 g; **thickness:** 3.5 cm

<table>
<thead>
<tr>
<th> </th>
<th>5 g</th>
<th>10 g</th>
<th>15 g</th>
<th>20 g</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of warp threads per loom weight</td>
<td>36</td>
<td>18</td>
<td>12</td>
<td>9</td>
</tr>
<tr>
<td>Number of warp threads per two loom weights (one in front layer, one in back)</td>
<td>72</td>
<td>36</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>Warp threads per centimeter</td>
<td>21</td>
<td>10</td>
<td>7</td>
<td>5</td>
</tr>
<tr>
<td>Suitability for weaving with this loom weight</td>
<td>Optimal</td>
<td>Optimal</td>
<td>Possible</td>
<td>Less likely</td>
</tr>
</tbody>
</table>

**TABLE 10 — Functional analysis of loom weight from group III, Los Angeles, J. Paul Getty Museum, 81.AD.187.30.**
Iconography

Several motifs are attested in groups I and III, including mythological scenes and representations of everyday life. Most, if not all, of these depictions relate to women’s lives.

Stalk of Wheat

The three pyramidal loom weights with an impression of a coin decorated with a stalk of wheat (82.AD.116.1–3) might come from the Greek colony of Metaponto, where such coins were minted from the second half of the sixth century BCE until 470 BCE.²² The beard protecting the kernels and the letters META usually found on Metapontian coins is absent.²³ It is difficult to establish if this wheat motif was an official symbol of the city of Metaponto and its crops or if it was meant to represent a broader symbol of wealth.²⁴ Alternatively, it is possible that this impression corresponds to the custom of personalizing loom weights with the imprints of items such as finger rings, fibulae, earrings, tweezers, personal seals, and metal objects. This habit started to develop in the sixth century BCE and peaked in the mid-fifth and fourth centuries BCE in the Greek world and in the Greek settlements of Lucania; it was subsequently also adopted by Indigenous Italic women starting in the fifth century BCE and peaking between 350 and 280 BCE.²⁵ Archaeologists Alessandro Quercia and Lin Foxhall suggest that these impressions transformed the loom weights into personal possessions.²⁶ However, they also note that two identical impressions in terms of motif rarely appear in the Metapontine repertoire of loom weights, a notable exception coming from room 3 of house D at Oppido Lucano, where a stylized eagle was impressed on seven of the fifty-eight loom weights.²⁷ Impressions from identical stamps appear on different sets of matching loom weights in Greek settlements in Sicily.²⁸ As the three pyramidal Getty Villa loom weights are very similar to one another, with a corresponding impression, they might be part of the same set.

Woman and Child

Pyramidal loom weight 81.AD.187.29 is decorated on one side by the frontal image of a seated woman, dressed in a long garment whose drapery is arranged in a U-shaped pattern. The woman is located centrally on the loom weight, and she wears a veil on her head. In her right arm she holds a small unclothed child, supporting his or her weight against her knee in a contrapposto gesture. The child is represented in a nearly frontal view, with his or her right hand on the corresponding hip, while the other elbow and forearm are supported by the woman’s leg. The child’s left leg is crossed in front of its straight right leg. This motif has no known parallel in loom-weight iconography, but it has parallels in terracotta figurines representing Aphrodite and Eros.

Childbirth

The other side of pyramidal loom weight 81.AD.187.29 is decorated with a frontal representation of an unclothed figure with pendent breasts, a large, rounded belly
with an apparent navel, and an open vulva. She is squatting on a low and narrow base with a flat surface and an irregular underside, knees and feet pointing to each side. Her arms are propped on her legs and knees. She has a bald head, a large face featuring an open-mouthed expression, like a grimace, with protruding ears and a large nose, reminiscent of a grotesque figure. Her stance is similar to images of Baubo, a goddess of birth found on figurines and amulets from Egypt.²⁸ The representation of Baubo is found in terracotta items from the Egyptian Fayum area during the Ptolemaic to Roman periods.³⁰ Three types of representations of Baubo have been identified, and 81.AD.187.29 seems close to Cecilia Beer’s definition of the third type as an “obese, nude woman wearing a low, turban-like headdress, sitting on the ground and stretching her legs widely to the sides and holding up the left one with her left hand while the right hand is placed on the swollen belly.”³¹ Although the figure depicted on 81.AD.187.29 is not wearing any headdress or turban and seems to have both hands resting on her legs and/or knees, the parallels with the Egyptian representations of Baubo as squatting female figure are the closest we could find. Smaller glass pendants representing Baubo were known in the Mediterranean world, especially at Phoenician sites, and date to the beginning of the fourth to the end of the first centuries BCE.³² They show Baubo squatting and giving birth, unclothed but wearing a pointed hat on her head, without particular facial features.³³

On loom weight 81.AD.187.29, the facial expression could refer to the Egyptian demon or god Bes and his female counterpart Beset, also worshipped outside Egypt in places such as Ibiza. Bes and Beset were not worshipped in temples, but they were ubiquitous, especially in domestic contexts and among women and children.³⁴ Bes and Beset have round faces, protruding ears, and large, flat noses. Beset has a compact body and is depicted short or squatting, with visible breasts, belly, and genitalia. However, Beset is generally depicted with a feather crown like that of Bes and with hair covering her ears.³⁵

We can conclude that this extraordinary creature of 81.AD.187.29 has the typical protruding ears and bold head and face of Bes, the body of Beset and Baubo, and the physical stance of Baubo. Given the image of a mother and child on the other side of the same loom weight, it seems plausible that the loom weight functioned as an apotropaic token for pregnancy and safe childbirth.

Both the woman-and-child motif and the Beset or Baubo figures are images mainly known from late Classical, Hellenistic, and Roman iconography; this, therefore, suggests that the loom weight is unlikely to be sixth century BCE, as recorded at the time of writing.

**Spinning Owl**

There are three Getty loom weights (73.AD.10.I.4 and 73.AD.10.I.13–14) with the motif of a spinning owl.³⁶ The owls are represented with their bodies in a three-quarter view and with frontal heads. They have wings and feet as well as arms allowing them to hold a distaff and to spin wool from a conical basket represented below the spindle.³⁷
Although the surfaces of the three loom weights are damaged, we can infer the motif from the many other loom weights with a similar spinning-owl motif attested at Herakleia, the Museo Archeologico Nazionale di Taranto, the Antikenmuseum in Basel, the Martin von Wagner Museum der Universität Würzburg, the Staatliche Antikensammlung Munich, the Universalmuseum Joanneum in Graz, the Penn Museum in Philadelphia, the Musée du Louvre in Paris, the collections of Bryn Mawr College in Pennsylvania, and other places. This particular motif is only attested on discoid or hemispherical loom weights, and most of them are perforated. According to archaeologist Elisabeth Trinkl, there are thirty-four known examples of spinning owls on loom weights, all from the southern Italian Peninsula. Trinkl observed that although they all represent the same motif, they are quite different and probably do not come from the same workshop, yet they all have the same iconographic model. To Trinkl’s survey, we can now add the three examples from the Getty Museum.

Spinning owls have been associated with the figure of the goddess Athena Ergane, the patroness of women’s handiwork, and are believed to symbolize her role as patron goddess of textile crafts. Athena Ergane is named after ἔργα (érga), works of skillful handicraft. Already in the works of Homer and Hesiod, Athena is associated with the craft of weaving; she is depicted as weaver and spinner in Greek iconography; and weaving plays a major role in the Panathenaic festival of Athens, in which Athena is worshipped and honored by the dedication of a newly woven peplos. Nine months prior to the Panathenaic festival, the Chalkeia festival celebrated the beginning of weaving. The goddess Athena is associated with the owl on the widely used Athenian tetradrachm, which is stamped with the head of Athena on the obverse and the image of the owl on the reverse. Owls as an unaccompanied motif also appear on Tarantine coinage in the third century BCE. (e goddess Athena is associated with the owl on the widely used Athenian tetradrachm, which is stamped with the head of Athena on the obverse and the image of the owl on the reverse. Owls as an unaccompanied motif also appear on Tarantine coinage in the third century BCE. Red-figured owl skyphoi were produced in fifth-century-BCE Athens in large quantities.

A Corinthian aryballos painting dated circa 580–560 BCE shows the weaving contest between Athena and Arachne, which suggests that the myth of the weaving Athena existed in the Archaic period in Greece; however, images of Athena spinning are so far absent on the Greek mainland. Instead, most iconographical evidence of Athena as a spinner comes from western Anatolia, with minted coins at Ilion from circa 300 BCE showing Athena with a distaff and a sword. Sitting spinning figurines, perhaps of Athena, are attested in Lindos on the island of Rhodes. Ancient Greek writers Apollodorus and Pausanias describe cult statues of Athena with spinning tools in Ilion and Ionian Erythrai. There is also evidence for a patron goddess of spinning and weaving in Mesopotamia and Egypt. Perhaps the West Semitic goddess Asherah from the late Bronze Age can be perceived as an early goddess of spinning.

When and how did Athena and her textile craft play a role on the southern Italian Peninsula? It seems that already in the eighth century BCE, local communities in Timpone della Motta in Calabria celebrated a goddess with ritual weaving. The rituals and material culture testify to active and direct cultural exchange between local inhabitants and migrating Greeks, with material traces from Corinthian ware and links to
Euboea. This took place more than half a century before the foundation of Sybaris in 720 BCE and may not necessarily be linked with the so-called colonization. Terra-cotta figurines of seated spinning goddesses are known from Sicily.

It is worth noting that loom weights with a spinning owl have so far only come to light on the southern Italian Peninsula and seem to be a regional characteristic. Hence, the owl is associated with Athens but the spinning creature seems unknown in Athens. We would therefore describe the Getty loom weights with an owl as bearing the representation of the spinning owl of the southern Italian Peninsula.

Gorgon

The Gorgon appears on three (or maybe four; see the discussion of 73.AD.10.I.3 below) loom weights from the Getty Museum and is also commonly attested on loom weights found on the southern Italian Peninsula. Therefore, here too the Getty loom weights reflect well the range of motifs attested on the southern Italian Peninsula. The Gorgon’s face is always frontal, framed by locks of hair, and she has intertwined snakes above her head and possibly along her neck.

Gorgon Face

Hemispherical loom weight 73.AD.10.I.11 bears the representation of a rounded frontal face framed by orderly hair topped by a U-shaped form that can be identified as snakes. The figure has clearly marked eyes, with the eyelids represented, a closed mouth, and a broad nose, even though it is broken off. The worn motif has no trace of snakes hanging from her hair on either side of her head. No exact parallel for this figure is known in loom weights.

The Gorgon face on hemispherical loom weight 81.AD.18730 has a rounded shape and a large neck, with closed lips and deeply outlined eyes. Wavy locks of hair are framing her face, while two almost-straight snakes extend out from either side of her head. An inverted U-shape is depicted below her chin and could represent bound snakes. No exact parallel for this motif is known to us.

Winged Gorgon Face?

The worn hemispherical loom weight 73.AD.10.I.6 is very damaged on the surface. The motif is not similar to any other known motifs on loom weights. In Getty records, the motif is described as a bird. We believe that it might be the image of a frontal face, possibly topped by a tuft of hair or by snakes. It is possible that this loom weight bears a depiction of a frontal Gorgon framed by wings, as seen on Apulian pottery decorated with reliefs from the fourth to third centuries BCE held by the Metropolitan Museum of Art in New York and on the Medusa Rondanini, a Roman copy after an original by Phidias, preserved at the Munich Glyptothek.
**Frontal Facial Representation of Aphrodite or Gorgon?**

The discoid loom weight 73.AD.10.I.3 bears the representation of a frontal face (possibly that of a Gorgon) with a large neck. The object is used and abraded, depriving us of the details of the face, but the hairstyle is well preserved. The figure has several long and curled locks of hair hanging along her neck. From her temples up, several spiky locks radiate from her scalp, while her head is topped by a tuft of hair that is possibly secured by a bow (visible just above the perforations). A close parallel was found in Herakleia, although the tuft of hair on this example seems to be fastened in a different manner. Meo identified the motif from Herakleia as a frontal representation of the goddess Aphrodite.

The representation of a frontal Gorgon head from a late third-century-BCE antefix (213 centimeters tall) found in Taranto offers another good iconographic parallel for this figure. Indeed, the Gorgon on the well-preserved antefix has several locks of hair radiating from her skull. Her large neck, below her ears, is framed by wavy snakes, reminiscent of the long curls of hair hanging along the neck visible on the discoid loom weight. Although the bow on the Getty loom weight is not paralleled on the antefix, it is reminiscent of the intertwined snakes often represented on the top of the Gorgon’s head (see 73.AD.10.I.11 above). We therefore believe that this motif would better fit the iconographical parallels provided by images of the Gorgon, and thus propose to modify Meo’s identification.

**Aphrodite**

**Aphrodite and the Swan**

The discoid loom weight 73.AD.10.I.5 is described in Getty documentation as decorated with a representation of Aphrodite riding a swan. A frontal female figure, possibly with bare chest, seems to be seated on a swan or standing behind a swan. Her arms are extended and slightly raised on the side of her body and are partially hidden by the swan. The bird is depicted in a three-quarter view, with both of its wings raised and almost fully spread out. The feathers are detailed, and the bird’s right wing is represented in an almost frontal manner, which does not correspond to the overall three-quarter view of the rest of its body. According to Meo, this motif corresponds to Aphrodite on a swan and is one of the most commonly attested motifs on loom weights in Herakleia. The example from the Getty Museum is close in style to Meo’s type two of Aphrodite on a swan (see figs. 2, 3). Similar images of Aphrodite and the swan come from Taranto.

**Aphrodite on a Dove-Driven Chariot**

The discoid loom weight 73.AD.10.I.12 bears a representation of Aphrodite riding a light two-wheeled chariot driven by doves attached to the pole. In the box of the chariot, suggested by the front rail and a four-spoked wheel, the goddess is driving alone. Her right arm is extended forward, holding the reins of her chariot. Her left
hand might be holding on to the chariot box or railing. A similar image of Aphrodite on a dove-driven chariot is known from Taranto.⁶⁶

**Aphrodite and Erotes**

The discoid loom weight 73.AD.10.I.10 bears a central frontal representation of Aphrodite’s face framed by two unclothed children. Despite the wear on the high relief, one can still distinguish the hairstyle of the goddess, with an unobstructed forehead and strands of hair arranged above, eventually topped by a tuft of hair or maybe a coiffed updo. This scene has a similar, although not identical, parallel at Herakleia in which the goddess is depicted with a headband.⁶⁷ Similar images of Aphrodite and eros, or cherubs, come from Taranto.⁶₈

**Eros**

The well-worn discoid loom weight 73.AD.10.I.2 is impressed with a full-body representation of Eros, who is likely carrying his bow. Although the object is too worn to enable us to distinguish a bow, parallels from Herakleia and Taranto bear similar and better-preserved motifs.⁶⁹ On this loom weight, Eros is represented in profile, facing left, with his right leg forward and his wings spread from his back above his shoulders. His right arm, which should be holding the bow, would have been represented extended in front of him.

**Infant Heracles**

Hemispherical loom weight 73.AD.10.I.1 is decorated on both sides, with a couple in an embracing pose (on what we are calling face A), and a kneeling figure of a naked child holding something in his left hand (face B). The child’s torso is frontal and he leans on his bent right leg. His right arm rests on his right leg, while his left knee rests on the base of the loom weight, calf and foot extended behind him. He has short, possibly curly hair, and his head is turned to the left. He seems to be looking at his extended left arm in which he holds an animal by its tail.⁷⁰ He might be holding a piece of fabric (perhaps a cloak) with his right arm, and it is possible that the drapery extends behind the child and under his raised arm, unless the curved shape under his arm belongs to the animal. It is possible that it is a representation of Heracles as a child. The animal that the child holds is not clearly depicted and has been identified in other examples of this motif as a lion or a fox.⁷¹ An almost exactly parallel loom weight is preserved in the Antikenmuseum in Basel, with the same two scenes on both sides.⁷² There are similar images of infant Heracles on loom weights from Taranto.⁷³

Hemispherical loom weight 73.AD.10.I.15 has a similar motif, but it seems that the scene has been flipped. A naked child kneels in the center of the loom weight. His left hand is down and might be holding a cloak or another item. His right hand is raised above his right leg. He does not seem to be holding an animal. Faint shapes appear in the background, behind his shoulders, and they could reflect wings, in which case the figure should be identified as Eros. However, given the similarity in the pose between
this child and the one on 73.AD.10.I.1, it is also possible that this scene, too, is a representation of infant Heracles.

**Facing Couple**

Four hemispherical loom weights (73.AD.10.I.1 face A and 73.AD.10.I.7–9) are decorated with representations of two heads facing each other, perhaps kissing. The pairs of figures are always represented in profile. Some have bare necks while others have drapery around and below their necks as an evocation of their clothing. Female figures have their hair tied up in a hairstyle above their head.

**Facing Couple with Drapery**

The images of the confronted figures on two hemispherical loom weights are very similar in the draperies around the necks and hairstyle of their couples. They were probably pressed in two similar molds of different sizes, because loom weight 73.AD.10.I.7 is 6.1 centimeters tall and 73.AD.10.I.9 is 7.7 centimeters tall. An almost exact iconographic parallel to hemispherical loom weight 73.AD.10.I.9 is preserved in the Antikenmuseum in Basel, and because of their almost identical heights, it is possible that they were pressed from the same mold or by the same workshop.

**Facing Couple with Hand**

Hemispherical loom weight 73.AD.10.I.1, decorated on its face B with infant Heracles (see above), features on its face A a detailed depiction of a couple facing each other. The eyes and noses of the figures are well defined. Both have a lot of hair; the figure on the left has a type of bun near the base of the scalp, while the figure on the right seems to have a large lock of hair, perhaps even a bun, on the top of the forehead. It is also possible that the figure on the right has another bun at the base of the scalp. The figure on the left is holding the other figure at the neck, giving even more emphasis to their embracing and tender pose. It is difficult to identify a person’s gender based on the evocation of a hairstyle, but Meo proposes that the figure on the left could be a woman. Her gesture, with her hand on the neck of the other figure, emphasizes a central role in the scene, and suggests that this is the representation of a mother kissing a child, maybe her son or daughter. An almost exact parallel on a hemispherical loom weight comes from Herakleia. This Getty loom weight also resembles two hemispherical loom weights decorated on both sides with an embracing couple and infant Heracles holding an animal, now in the Antikenmuseum in Basel. All three have almost identical dimensions and could come from the same mold, or at least the same workshop.
Facing Couple

Hemispherical loom weight 73.A.D.101.8 is very worn, and it is only possible to identify two facing heads in profile.

Group III and Women

It can be argued that all the motifs displayed on the loom weights from group III relate to the worlds of women. Even the representation of Heracles can be linked to feminine themes, as the hero is a child and is well known for his links to the mythological women Hera, Athena, Megara, Omphale, Deianira, and Hebe.

Gorgons are popular motifs on loom weights from the southern Italian Peninsula at Taranto and Herakleia. The representations of Gorgons do not come from the same mold but represent many variations of the same motif. The numerous representations of the Gorgon can be understood within her function as guardian and averter of evil. The Getty loom weights add three or four new variants of the six types that have already been identified at Herakleia. The Gorgon theme was also popular in Gela in Sicily, where this mythical creature is depicted several times on other categories of objects, but in a different style.⁸¹

The representations of Aphrodite—goddess of love, beauty, and sexuality—and the representations of Eros, as well as those of an embracing couple, symbolize love and family, and would have been appropriate in a women’s domestic setting. The representation of a mother kissing her child, or holding a naked child against her leg, would further this theme with the depiction of motherhood and childcare.

Finally, the spinning owl would have been a reference to Athena Ergane. The almost exclusively feminine task of spinning would have been represented by the goddess as the patroness of craft and artisans, in this context the women textile makers.

Putting the Getty Loom Weights into Context in Lucanian Textile Production

Textile production on the southern Italian Peninsula was a time-consuming, primarily women’s activity. It developed as a specialized task carried out at home, and surplus was produced for exchange, trade, or supplementary income.⁸² Recent studies on the textile industry in Lucania, a region of southern Italy on the Gulf of Taranto now called Basilicata, have shown its omnipresence and resilience in antiquity.⁸³ Numerous loom weights have come to light in the area, yet in a limited number of shapes,⁸⁴ and they correspond well to the shapes in the loom-weight group in the Getty collection.

Overall, there are common shapes and iconography among the Getty loom weights and those from Taranto, the latter mostly scattered today throughout collections worldwide and without much documented archaeological context. The loom weights from Taranto were thus for a long time the closest parallels to those at the Getty. Yet recent studies of loom weights from Herakleia and vicinities with clear stratigraphy, secure dating, and modern excavation methods shed new light on the Getty loom weights.
Herakleia was a second-generation Greek colony located on the Ionian coastline west of Metaponto, founded by the first-generation colonies Taranto and Turi in 433 BCE. The western part of the hill of Herakleia was excavated in 1973 and 1974 by archaeologist Liliana Giardino. She convincingly dated the houses there from the beginning of the third century BCE. Meo has studied the textile tools from Herakleia and also the textile tools from the nearby sites of Bosco di Andriace, San Biagio alla Venella, and Masseria Durante. Most of the loom weights in Herakleia are disc-shaped, and 99.4 percent of the disc-shaped loom weights are pierced by two holes. According to Meo and Giardino, sheep husbandry in the surrounding territory (chora) and wool textile production in Herakleia’s urban areas were among the most important economic activities in the second century BCE.

Meo proposes that the high number of loom weights of a specific weight used for weaving fabrics with a warp tension of 12.5 to 15 grams suggests a great degree of standardization of large-scale textile production.

In contrast, according to archaeologist Jean-Paul Morel, Taranto was famous for its substantial production of renowned wool and for the presence of purple-dye workshops rather than for a large-scale textile industry. The excavations of numerous loom weights, however, contradict this view. Literary sources mention the transparency of Tarantine clothes, which corresponds well to the type of production attested by the Getty loom weights. Epigrams by Leonidas of Taranto demonstrate that women’s production of textiles took place in a domestic context and that some women would produce fabrics for third parties to make a small income.

Group I: Pyramidal Loom Weights

The pyramidal loom weights 82.AD.116.1–3 are likely to come from Metaponto because their clay and their decoration with an impressed coin from the city seem to match this region. They are, at the time of writing, dated to the fourth to third centuries BCE, yet they resemble archaic loom weights from Apulia and Sicily that have similar small sizes and low weights.

With such small tools, it is only possible to weave with very thin warp threads needing little tension. A weaver would use these lightweight loom weights for open tabbies (with few threads per centimeter in both warp and weft) or weft-faced fabrics (with few warp threads but more numerous weft threads giving a denser, less transparent surface), but both of very fine quality. Alternatively, it could be that the weights are tools for twill or tablet weaving, in which little tension is used for few threads. Finally, they could be miniature votive items, but use marks around their perforation holes indicate that even if they were not used on a loom, they were suspended. In any case, we would assume that heavier loom weights or other weaving techniques were used for weaving coarser textiles.
Pyramidal loom weights are quite rare at Herakleia and fall into two categories: those in group A (204 items) are 5–7 centimeters tall, 2.5–4 centimeters thick, and weigh between 50 and 100 grams, and these may be associated with the archaic layers of the site. Those in group B (95 items) are 8–11 centimeters tall, 4–6 centimeters thick, and weigh 200–350 grams. Pyramidal loom weights at Herakleia are mostly undecorated.

In terms of sizes and weights, the Herakleia and Getty pyramidal loom weights are comparable: Meo’s group A corresponds closely to the Getty loom weights 82.AD.116.1 and 82.AD.116.2 of 6.2 centimeters and 82.AD.116.3 of 7 centimeters, the first weighing 64 grams while the latter two each weigh 56 grams. Meo’s group B corresponds closely to the Getty loom weight 81.AD.187.29 of 8.7 centimeters in height and a weight of 266 grams.

Both Greek and Lucanian sites have yielded surface finds of numerous pyramidal loom weights from the Archaic Age, in the seventh to sixth centuries BCE. Undecorated pyramidal loom weights were found from the early phase of the Greek colony of Metaponto toward the end of the seventh century BCE. Pyramid loom weights in large concentration from the Pastas house of the Greek town Selinous (sixth century BCE) also show similarities to the Getty pyramidal loom weights 82.AD.116.2–3, with heights of about 6 centimeters, most thicknesses between 3 and 4 centimeters, and most weights between 40 and 80 grams. Similar small and light loom weights were found in very large numbers in the Lucanian site of Torre di Satriano in an early fifth century BCE context, all truncated pyramidal; most from this site (80 percent) weighed between 90 and 120 grams, and others weighed between 70 and 80 grams (room 2). The Satriano truncated pyramidal loom weights are generally shorter, thicker, and heavier than the Getty pyramidal loom weights.

The unique Getty loom weight 81.AD.187.29 is decorated on both sides with scenes of women’s life and childbirth. These motif reliefs are molded and perhaps unique. The motifs on 81.AD.187.29 relate to motherhood, and this mirrors the loom weights from Herakleia as well as Taranto, with decorations related to women and the mythological world. The double perforation on top of 81.AD.187.29 is also rare within the corpus of the pyramidal loom weights from southern Italy but could point to a similarity with the hemispherical or discoid loom weights containing two perforations. Other pyramidal loom weights with two perforations were found near Metaponto (two examples) and in Herakleia (eleven examples).

According to Quercia and Foxhall, most of the decorated pyramidal loom weights in Lucania come to light in indigenous household contexts between 350 and 280 BCE, a time in which the local women would have taken up the habit of personalizing their loom weights, something that had been developing since the fifth century BCE. The two scholars hypothesize that Indigenous Lucanian women did not use hemispherical or disc-shaped loom weights, but after their introduction in the second half of the fourth century BCE, Lucanian women may have begun to use their local pyramidal loom weights with stamped impressions. If Quercia and Foxhall are correct in
interpreting the shape of the loom weights (pyramidal versus hemispherical or disc-shaped) as an ethnic and cultural marker, then loom weight 81.AD.187.29 could have belonged to a Lucanian woman, located either within or near the territory of a Greek city. Archaeologist Gabriella Longhitano, however, argues that in Sicily, textile tool shapes cannot be used as ethnicity markers.¹⁰³ The origin of this singular pyramidal loom weight with molded motifs remains enigmatic. Getty records suggest it was made in “Metaponto (?),” and the depicted themes of motherhood and childbirth also fit the themes seen at Herakleia or Taranto, but it could also come from wider Magna Graecia.

**Group II: Trapezoidal Loom Weights**

The second group of Getty loom weights (83.AI.306.4–5) are all trapezoidal with one hole apiece. There are a few Lucanian parallels. Flat trapezoidal loom weights in Herakleia represent only 2.2 percent of the loom weights found there, of which most (sixty-nine items, 97.2 percent) have two suspension holes. Only two specimens have one hole.¹⁰⁴

The origins and dates of the trapezoidal loom weights from the Getty Museum are difficult to attribute. Loom weight 83.AI.306.5 has incised diagonal lines on the top and is similar in decoration, height, and weight to Meo’s type CD68 from Herakleia.¹⁰⁵ Loom weight 83.AI.306.4, however, with rows of small holes on either side of a central groove, is taller and heavier than the Herakleia examples, with its height of 8.5 centimeters and weight of 288 grams. These two loom weights both have fine and well-sorted clay, but their finish is different: the small 83.AI.306.5 has mica inclusions and a red slip, while the larger 83.AI.306.4 has many inclusions of white mica and also tiny red and black inclusions of 1 millimeter (see table 2). This might point to different manufacturing areas or traditions. Loom weights decorated with diagonal crosses composed of dots or lines are attested in the sanctuary of Hera next to Paestum.¹⁰⁶

**Group III: Hemispherical or Discoid Loom Weights**

Hemispherical or discoid loom weights from the Getty Museum exhibit similar motifs to those found at Herakleia and Taranto. From Taranto come numerous hemispherical and discoid loom weights that have been studied throughout the twentieth century.¹⁰⁷ More than 1,300 loom weights were studied by archaeologist Monica L’Erario, who observed a high degree of standardization in their production: two suspension holes, white slip, use of molds for the motifs, and a shared repertoire of iconographic topics.¹⁰⁸ In contrast to other southern Italian sites, Taranto seems to have more loom weights with stamps and incisions, but this is probably due to the convention in the early twentieth century to discard undecorated items and keep the decorated ones.¹⁰⁹ Most of the motifs on the Getty loom weights can also be found in the repertoire at Taranto: the spinning owl, the Gorgon, facing couple with drapery, infant Heracles, Aphrodite on a dove-driven chariot, Aphrodite and swan, and Aphrodite and erotes.¹¹⁰
Discoid and hemispherical loom weights form the majority of the Herakleia corpus. Most of these 2,794 loom weights are of a fairly standard size: between 7 and 9 centimeters in diameter, 1.7 to 2.3 centimeters in thickness, and weighing between 100 and 250 grams.¹¹¹ The Herakleia discoid loom weights are often decorated (38 percent of them)¹¹² and about one quarter of these have motifs in relief, like all the Getty loom weights. There are only seventy-one hemispherical loom weights from Herakleia (2.2 percent), and they have the following dimensions: between 6 and 8 centimeters in height and width, 2 to 3 centimeters in thickness, and weighing between 100 and 200 grams.¹¹³ It is significant that in Herakleia, hemispherical loom weights are very rare in comparison with the great abundance of disc-shaped ones. Meo also observes that the hemispherical loom weights are more frequently (91.5 percent) decorated in mold technique than the discoid examples.¹¹⁴ Some motifs from Herakleia even could have been pressed from a similar or even the same mold as those from the Getty.¹¹⁵ For instance, Aphrodite and swan on a discoid loom weight (73.AD.10.1.5) parallels the hemispherical loom weight CD11 at Herakleia, and 73.AD.10.1.1 (face B) is an exact parallel to Herakleia CD8 (infant Heracles).

Terracotta molds have come to light in Herakleia and other southern Italian towns, and Meo accordingly assumes that the decorations depended on the personal choices of the owners and weavers.¹¹⁶ Images such as the Gorgon head, one of the best attested motifs in Herakleia, were made in molds;¹¹⁷ such practice points to a standardized production of loom weights by specialized pottery workshops, which is a further argument for the greater standardization of textile production.

According to Meo, several similar motifs can be found at both Herakleia and Taranto. These include Aphrodite and the swan (CD10–11), the “embracing couple/B” (CD8), Eros with his bow (CD16), Aphrodite with erotes (CD19), and the spinning owl (CD20).¹¹⁸ However, Meo also shows that the specific motifs “Gorgoneia/A-E” (CD1–5), infant Heracles with a lion (CD12), and the ketos (sea creature) (CD13) attested at Herakleia are so far unattested at Taranto.¹¹⁹ These motifs, however, do occur in the Getty material and represent a common point between them and Herakleia. The Gorgon motif is generally widely attested at Magna Graecia sites but is different in style and made with molds other than those at the Getty Museum and from Herakleia.

Meo demonstrated that at Herakleia, many decorated loom weights were found within the same few private households. Some houses contained large numbers of decorated loom weights, and each house could contain a range of motifs. It is therefore possible that all or most of the hemispherical and discoid Getty loom weights were found in one or in a few houses. At least one house at Herakleia yielded loom weights exhibiting similar motifs in comparable numbers to the Getty loom weights: house II/1 contained twenty-three decorated loom weights, including fourteen Gorgons, two frontal heads, one Aphrodite and swan, three Heracles, one ketos, and three Athenas, a striking similarity.¹²⁰

Concerning dating, the hemispherical loom weight 81.AD.18730 came to the Getty Museum as a gift, together with the singular 81.AD.187.29, and both have been dated...
to the sixth century BCE on the Getty website. However, the numerous similarities between 81.AD.187.30 and the many hemispherical and discoid loom weights in the Getty’s collection and from Taranto and Herakleia suggest that they belong to the same period of the third and second centuries BCE.

**Discussion and Conclusions**

The Getty Museum assemblage of pyramidal, hemispherical, and discoid loom weights (groups I and III) contains historical and scholarly implications regarding the cultural diversity of southern Italy.

Our functional analysis suggests that thin and fine fabrics with thin threads were woven with the loom weights; our iconographical analysis illustrates images related to women and motherhood; and our contextual analyses, especially at Herakleia, point toward domestic textile production. It is, however, possible that the loom weights come from a secondary context in which they had been gathered and donated as votives.¹²¹ Such a secondary context could possibly explain their diversity and their association with other terracotta items such as figurines and heads in the acquisition from Royal Athena Galleries. Donating one’s loom weights to sanctuaries is well attested in southern Italian sanctuaries.¹²²

The pyramidal loom weights, stamped with Metapontian coins in use in the late sixth century BCE, may be dated to the Archaic or Classical period but could have been around for longer.¹²³ Pyramidal loom weights of the Archaic and Classical periods display regional or local variations, yet they do not seem to consistently mirror the ethnic or cultural choices distinguishing the Indigenous populations from Greek settlers in these periods, according to Hedvig Landenius Enegren.¹²⁴ But pyramidal loom weights continued to be in use, and were in Hellenistic times largely replaced by the discoid loom weights so widely attested at numerous sites. In the Hellenistic loom-weight material, Quercia and Foxhall assume that the pyramidal shapes were mainly used by the Indigenous populations while the discoid loom weights indicate the Greek settlers’ weaving tools.¹²⁵ Hence, the Getty assemblage of pyramidal, hemispherical, and discoid loom weights may reflect both chronological and cultural differences in weaving technology.

Meo’s research in Herakleia and its chora (Masseria di Bosco Andriace, San Biagio alla Venella, and Masseria Durante) has brought to light many loom weights similar to those in the Getty Museum, with further significant comparative material from Taranto. The attribution to the southern Italian Peninsula is therefore certain, although we need to mention that discoid loom weights also became widespread in Hellenistic times in Greece, albeit without the southern Italian relief decoration.¹²⁶ The very close resemblance in shape, decoration, and size between the Getty loom weights (group III) and the Taranto and Herakleia material suggests that they may have come from this area. However, the Getty collection also has some unique motifs that add images to the southern Italian repertoire, such as Aphrodite on her dove-driven chariot and a winged Gorgon face. The Getty loom weights thus add significant
new information to the well-researched repertoire of loom weights in the coastal area of the Ionic arc.

The Herakleia excavations demonstrate that such loom weights were mainly used in private houses and not in workshops. It is thus plausible that the hemispherical and discoid loom weights are from such a domestic area and came from one or maybe more houses. Perhaps they were found in a domestic context, or as votives in a sacred context. The generic dating of the discoid and hemispherical loom weights ranges from the fourth to third centuries BCE, but with the help of Meo’s studies, this date can be adjusted to the third to second centuries BCE, since Meo concluded that, in Herakleia, there is no evidence of material of this kind in the fourth century BCE.¹²⁷ Therefore, based on the numerous parallels that we have highlighted with the Herakleia material, we suggest that a similar third-to-second-century BCE date should be assigned to the hemispherical and discoid Getty loom weights. A new date is also proposed for 81 AD.18730, previously dated to the sixth century BCE, and here dated to the third to second centuries BCE. The discoid and hemispherical loom weights that became so numerous in the third and second centuries appear to be an iconic southern Italian textile-tool type.

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Finally, we thank the two anonymous reviewers at Loyola Marymount University, Los Angeles. She was working as a Rains Research Assistant assemblage of house II/1 at Herakleia while researching the motif for explaining southern Italian coins to us. We are thankful. Sauvage’s research in the fall of 2014 was funded by a Marie Curie fellowship of the European Commission (ITEM-E-ConText, grant number 623240). We warmly thank Francesco Meo and Hedvig Landenius Enegren for generously sharing their knowledge on the southern Italian loom weights with us, and Helle Horsnaes for explaining southern Italian coins to us. We thank Shannon Hayes, who researched the motif assemblage of house II/1 at Herakleia while she was working as a Rains Research Assistant at Loyola Marymount University, Los Angeles. Finally, we thank the two anonymous reviewers and Lauren Gendler of the Getty Research Journal for their valuable corrections and suggestions.

Notes
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3. Elizabeth Barber, Women’s Work: The First 20,000 Years; Women, Cloth and Society in Early Times (New York: W. W. Norton, 1996).


5. The two not classed as coming from southern Italy at the time of writing are loom weights 83.AI.306.4 and 83.AI.306.5. Following the publication of this article, the Getty online collection records for all loom weights will be updated.


Loom weights, terracotta, J. Paul Getty Museum, 82.AD.116.1–3; and pyramidal loom weight, terracotta, 81.AD.187.30. For these and subsequently discussed Getty loom weights, full details are available by accession number at getty.edu/art/collection/search.

9. Loom weights, terracotta, J. Paul Getty Museum, 82.AD.116.1–3; and pyramidal loom weight, terracotta, 81.AD.187.29. For these and subsequently discussed Getty loom weights, full details are available by accession number at getty.edu/art/collection/search.

10. Numismatic Fine Arts, Beverly Hills, sales cat., 15 January 1982, lot no. 521. In Getty Museum documentation, these loom weights are listed as "bought at Parke Bernet NY in 1969," but this has not been verified.

11. Donated by Edwin Lipps. This and a second loom weight (81.AD.187.30, subsequently discussed in this article) were donated as part of a large set of terracotta figurines and vase fragments (81.AD.187 and 81.AE.188). Following a collaborative research project, eighty items from these two groups were identified as coming from Francavilla Marittima and deaccessioned in 1996; see further, Frederike van der Wielen-van Ommeren and Lucilla de Lachenal, eds., La dea di Sibari e il santuario ritrovato: Studi sui rinvenimenti del Timpone Motta di Francavilla Marittima, vols. 1.1 and 1.2 (Rome: Istituto poligrafico e Zecca dello Stato, Libreria dello Stato, 2007–8). The items that were not associated with the site—including the twoloom weights—remain in the collection.

12. Information from Francesco Meo, personal letter, October 2016, suggesting the origin of the clay to be Tarantine, from the northern part of the Gulf of Taranto.

13. Museum documentation records that these objects were "purchased over a number of years at the Paris and Geneva flea markets," but this has not been verified. The group (83.AI.306.1–7) is itself part of a larger donation of primarily Etruscan and Roman material, 83.AI.290 through 83.AC.310.


15. Gleba, Textile Production in Pre-Roman Italy, 128; and Meo, L’attività tessile a Herakleia, 318.


18. Museum documentation refers to the entire group as all coming from one site, but the...
source for this information is unknown, and it has not been verified. Further, there are indications that some items may have been circulating on the market for a period prior to their acquisition in 1973. Two of the female heads (73.AD.10.A.76 and 73.AD.10.A.209) feature in Alex G. Malloy, Ancient Art and Antiquities: Catalogue (New York: Alex Malloy, 1971), 20, lots 114 a–r, with a purported origin “from the fabled site of Sybaris.” In addition, non-Getty numbering sequences occur on many of the 73-AD.10 objects. The loom weights, for example, have “Dz” through to “D6” written in black ink (73-AD.10.I.13 and 73-AD.10.I.14 also have a penciled “17” and “16,” respectively). When these were written and by whom is still unknown.

Finally, another set of over ninety terracottas has been associated with the 73-AD.10 group. These were donated by Fred and Virginia Bromberg in 1973 and are numbered 75-AD.40:A.1 through 75-AD.40:0.7. At present, two items in this set have also been identified in the 1971 Malloy catalog, and some also have the inked non-Getty numbers. Precisely how this material relates to the 73-AD.10 group is still to be determined. We thank curatorial assistant Judith Barr for researching this information.

19. See this article, 3, 291n1.


23. Helle Horsnaes, email communication with the authors, 31 October 2016. See Noe, The Coinage of Metapontum, class III, which includes coins with stalks of wheat; according to Noe, coins of class III are dated to the second half of the sixth century. Neville Keith Rutter ed., Historia Nummorum—Italy, 3rd ed. (London: British Museum Press, 2002), 332–33, dates Noe’s classes I–VII to 540–510 BCE.


33. Beer, “Baubo Amulets,” 339–49. On the many aspects of Baubo, including as talkative old women and as caregivers or those who were considered ugly and obscene, see Maurice


35. See an example of Bes and Beset on terracotta figure AEIN 1688 from the Ny Carlsberg Glyptotek in Bagh and Manniche, Bes, 80.


38. For Herakleia, see Meo, L'attività tessile a Herakleia, 132, CD 20. For the Museum Archeologico Nazionale di Taranto, see Wullemier, Tarente, 439; and L'Eario, "I cosiddetti oscilla," 551. For the Antikenmuseum in Basel, see Herdejürgen, Die tarentinischen Terrakotten, 73–74, pl. 24, no. 84, dating the loom weights to the end of the fourth century BCE. For the Martin von Wagner Museum der Universität Würzburg, see inv. no. H3874; and Pinney and Ridgway, Aspects of Ancient Greece, 291n2. For the Staatliche Antikenmuseen in Munich, see cat. no. NI 5805, published in Florian Knaus, ed., Die Unsterblichen—Götter Griechenlands: Begleitbuch zur Ausstellung (Lindenberg im Allgäu: Kunstverlag Fink, 2012), 262, fig. 17.21, cat. no. 321. It measures 6.1 centimeters in height and comes from Taranto. We thank Jörg Gebauer, Staatliche Antikenmuseen und Glyptothek, for this information, received via email correspondence with the authors, 22 July 2021. For the Universalmuseum Joanneum Graz, see Elisabeth Trinkl, "Zwischen Würzburg und Graz—Auf den Spuren der Athena Ergane," in "Ich bin dann mal weg": Festschrift für Thuenn Lorenz zum 85. Geburtstag, ed. Gabriele Koiner and Ute Lohner-Urban (Vienna: Phoibos, 2016), 238–39. For the Penn Museum, see CG2006-6-1 (other number: 1239), CG2006-6-2, CG2006-6-3, and CG2006-6-4, all terracotta; iconography: owl with human arms, Athena, textile, spinning wool from a basket. For Paris, Louvre CA 1744, see Trinkl, "Auf den Spuren der Athena Ergane," 238n11, 14, 16; and Lexicon iconographicum mythologiae classicoe t. 2, vol. 1 (1984), 955–1044, s.v. "Athena" (P. Demargne), esp. 1009. For the example in the collection of Bryn Mawr College, see Pinney and Ridgway, Aspects of Ancient Greece, 291. The Bryn Mawr spinning-owl loom weight T.182, dated late fourth to early third centuries BCE (height: 5.6 cm, thickness 2.5–2.6 cm), is a gift from C. C. Vermeule in 1962 to the Ellen Riegel Memorial Museum, Bryn Mawr College. See Wullemier, "Les disques de Tarente," 47, for further examples in museum collections and private collections.


41. Trinkl, "Auf den Spuren der Athena Ergane," 238–39. From the thirty-four examples, Trinkl identifies two groups: (1) clear motif with many details; the owl has a slightly bowed or slanting head; no frame from the mold; and (2) fewier details; the owl's head is facing straight ahead; frame formed from the mold. The three Getty examples all seem to belong to the first group. Most of the comparative examples seem to be hemispherical, just like 73.AD.10.I.13–14, while 73.AD.10.I.14 is discoid and therefore falls into a group not outlined by Trinkl in terms of shape.

107, in which the loom weight with spinning owl is dated to 300 BCE. See also Barber, Women’s Work, 244, fig. 10.3; and Susan Ackerman, “Asherah, the West Semitic Goddess of Spinning and Weaving?,” Journal of Near Eastern Studies 67 (2008): 4–7.


52. Ackerman, “Asherah, the West Semitic Goddess of Spinning and Weaving?,” 1–29.


54. On a late fifth-century-BCE terracotta figurine from Scornavacche, see Di Vita, “Atena Ergane,” 141–54; for another from Samaria dated from the late fifth to early fourth centuries BCE, see Consoli, “Elmo, fusò e conoscchia,” 20–21; and on possibly a third from Himera, see Nunzio Allegro, “Tipi della coroplastica imerese,” Quaderno Imerese, Roma (Studi e materiali dell’Istituto di Archeologia dell’Università di Palermo) 1 (1972): 27–51, pl. XIV, no 2. We thank the anonymous reviewer for pointing this out to us. Moreover, Samaria yielded numerous stamped loom weights. See Longhitanu, “Gli strumenti.”

55. Meo, “From Archaeological Finds to High Quality Textile Fabrics,” 80. Five Gorgon-face types have been identified on Herakleia loom weights: Meo, L’attività tessile a Herakleia, 113–18, “Gorgoneion/A–F.” See also Wuilleumier, “Les disques de Tarente,” 44; Gorgoneion, with examples from Taranto, in collections in Taranto, Trieste, Naples, and in antiquity commerce.

56. However, the snakes above her head are reminiscent of Meo’s type CD2. Meo, L’attività tessile a Herakleia, 114, “Gorgoneion/B.”

57. As represented, for instance, in Meo’s type CD2: Meo, L’attività tessile a Herakleia, 114.

58. See, for instance, Metropolitan Museum, MET 06.2021.245a, b, and Munich Glyptothek, inv. no. 252.

59. See Meo, L’attività tessile a Herakleia, 130, CD18.

60. See the parallel example in Meo, L’attività tessile a Herakleia, 130, CD18, “Afrodite.”

61. Museo Archaeologico Nazionale di Taranto, inv. 17610; see picture in Rita Paris, Elisabetta Setari, and Nunzio Giustozzi, Mostri:
Creature fantastiche della paura e del mito (Milan: Mondadori Electa, 2014), 170, fig. 13.


63. Meo, “From Archaeological Finds to High Quality Textile Fabrics,” 80; and Meo, L’attività tessile a Herakleia, 122–23. The corresponding motif in Herakleia, CD10 and CD11, are called by Meo “Afrodite su cigno/1” and “Afrodite su cigno/2.”

64. Meo, L’attività tessile a Herakleia, 123, CD11, “Afrodite su cigno/2.”


67. See Meo, L’attività tessile a Herakleia, 131, CD19, “Afrodite tra eroti.”


69. See Meo, L’attività tessile a Herakleia, 128, CD16, “erote arciere.”

70. This reading of the animal held by the tail is based on parallels with better-preserved examples, such as loom weight 86.007 from the RD Milns Antiquities Museum at the University of Queensland.

71. Meo, L’attività tessile a Herakleia, 124, CD12, “Ercole con leone”; and RD Milns Antiquities Museum, inv. no. 86.007.


73. L’Erario, “I cosiddetti oscillìa,” 552, fig. 3. Museo Archeologico Nazionale di Taranto, inv. 110992; and Wuilleumier, “Les disques de Tarente,” 46: “Enfant accroupi tenant un chien de la main droite et un objet rond de la gauche auprès, d’un serpent,” with examples in collections in Museo Archeologico Nazionale di Taranto, British Museum, Antikensammlung Heidelberg, Museo Archeologico Nazionale di Napoli, Ashmolean Museum, Antikensammlung Berlin, the Metropolitan Museum, and in dealers’ and private collections. See RD Milns Antiquities Museum, no. 86.007, probably from Taranto and dated to the fourth through third centuries BCE.

74. For instance, see Meo, L’attività tessile a Herakleia, 119–21, C7-9, “Teste affrontate/A-C.”

75. Basel, Antikenmuseum, inv. 1921.566, h: 7.8 cm. The Basel loom weight was published in Herdejürgen, Die tarentinischen Terrakotten, 73–74, cat. no. 83, depicted in plate 24.


77. Meo, L’attività tessile a Herakleia, 120, CD8.

78. Meo, L’attività tessile a Herakleia, 120, CD8.

79. Basel, Antikenmuseum, inv. Nb Zü237 and Nb. 1921.567. See Herdejürgen, Die tarentinischen Terrakotten, 74, cat. nos. 81 and 82, depicted on plates 23 and 24. The Basel loom weights are cat. nos. 81, 82, 83, and 84. Two of them, 82 and 83, were given to the Historisches Museum in 1921 by Sammlung Bachofen and transferred to the Antikenmuseum in 1965; the others, 81 and 84, were given to the Antikenmuseum by Comendatore Dr. G. Züst in 1960. Herdejürgen, Die tarentinischen Terrakotten, 35.

80. 73.AD.10.1.1 is 7.2 centimeters tall; Nb Zü237 is 7.5 centimeters; and Nb. 1921.567 is 7 centimeters.


82. Gleba, Textile Production in Pre-Roman Italy; and Quercia, “Textile Production and Technological Changes,” 243–58. See also Meo, Lattività tessile a Herakleia, 339.


84. Quercia and Foxhall, “Material Culture as an Indicator of Adoption and Resistance,” 566.

85. Meo, L’attività tessile a Herakleia, 47.

86. Meo, “New Archaeological Data.”

87. Meo demonstrated, based on 3,279 loom weights, that Herakleia loom weights are mostly disc-shaped (85.3 percent), and very few have other shapes: variations of convex, discoid, circular (around 0.6 percent), and hemispherical (around 2.5 percent), truncated pyramidal (around 9.1 percent), or flat trapezoidal (around 2.2 percent) loom weights. Meo, “New Archaeological Data,” 237; and Meo, L’attività tessile a...
Nosch and Sauvage  /  Loom Weights at the J. Paul Getty Museum  33

88. On the importance of sheep husbandry, wool, and textiles in Herakleia, see Liliana Giardino, “Herakleia e Metaponto: Dalla polis italiota all’abitato proto imperiale,” in Tramonto della Magna Grecia (Taranto: Istituto per la Storia e l’Archeologia della Magna Grecia, 2005), 387–432; and Meo, “L’attività tessile a Herakleia.”


90. In Greek texts, adjectives derived from Taranto such as tarantindia are used to designate fine and transparent cloth; see Lucien, Rhetor. Præc. 15 (ἔργον τῆς Ταραντίνης ἐργασίας) in Lucian, Works: With an English Translation by A. M. Harmon (Cambridge, MA: Harvard University Press, 1925); and Morel, “La laine de Tarente,” 102–3.


92. Landenius Enegren, “Loom Weights in Archaic South Italy and Sicily,” 123–55. Landenius Enegren surveyed more than one thousand loom weights dated between the seventh and the fifth centuries BCE from Cavallino and San Vito dei Normanni in Apulia, and Segesta, Monte Iato, and Mozia in western Sicily.


95. Meo, L’attività tessile a Herakleia, 66–68.

96. See, for instance, Gleba, Textile Production in Pre-Roman Italy, 132–33; and Quercia and Foxhall, “Material Culture as an Indicator of Adoption and Resistance,” 566.


98. Quercia, “Weaving during the Archaic Period,” 8, 152–53, and fig. 7.


101. Quercia and Foxhall, “Material Culture as an Indicator of Adoption and Resistance,” 566.


103. Longhitanio, Textile Activity and Cultural Identity in Sicily, 46.

104. Meo, L’attività tessile a Herakleia, 68–69.

105. JPGM 83.AI.306.5: 7 × 3.6 × 3.4 cm, weight: 92 g. Herakleia CD 68: 7.2–7.7 × 3.5 × 3.4 cm, weight range: 96–103 g. See Meo, L’attività tessile a Herakleia, 159.


109. We thank Francesco Meo for this observation.


111. Meo, L’attività tessile a Herakleia, 62.

112. Meo, L’attività tessile a Herakleia, 63.

113. Meo, L’attività tessile a Herakleia, 65.

114. Meo, L’attività tessile a Herakleia, 65.

115. See for instance, 73.AD.10.1.13 compared to Meo’s CD20; likewise 73.AD.10.1.10 and CD19; 73.AD.10.1.3 and CD18; 73.AD.10.1.11, 81.AD.187.30, and CD2; 73.AD.10.1.2 and CD16; and 73.AD.10.1.1 and CD8.

116. Meo, L’attività tessile a Herakleia, 110.


118. Meo, L’attività tessile a Herakleia.

119. Meo, L’attività tessile a Herakleia, 111.

120. Information compiled from the catalog of decorated loom weights in Meo, L’attività tessile a Herakleia, CD1–21.

121. We thank Claire Lyons for suggesting this to us.


123. Francesco Meo, in personal email communication with authors, 16 October 2016, suggested that they are Archaic in date.


127. Meo, L’attività tessile a Herakleia, 251.