



Textile tools from Akrotiri, Thera, Greece

Tzachili, Iris; Spantidaki, Stella; Andersson Strand, Eva; Nosch, Marie Louise Bech; Cutler, Joanne

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*We dedicate this book to Betschen Barber,
the pioneer of the study of Aegean Bronze Age textiles.*

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Front cover: clockwise: MM II Quartier Mu, Malia, Crete, map (after Poursat 1996, pl. 81), spindle whorls from Phaistos, Crete (courtesy of P. Militello), Khania, Crete, Late Bronze Age ribbon, reconstructed loom weights in TTTC experiments.

Back cover: Splicing (drawing: Annika Jeppsson)

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CHAPTER 6.6

Textile tools from Akrotiri, Thera, Greece

*Iris Tzachili, Stella Spantidaki, Eva Andersson Strand,
Marie-Louise Nosch and Joanne Cutler*

The Late Bronze Age settlement of Akrotiri, on the island of Thera in the Cyclades, was destroyed in Late Cycladic I (contemporary with LM IA on Crete) by a volcanic eruption. In the excavated area of the town, approximately 35 houses have been located to date; of these, 11 have been either completely or partially excavated (Tzachili 2007, 191). Loom weights have only been recovered from four of the houses, however. Textiles were manufactured not only to meet the inhabitants' own needs, but also for trade and exchange. This interpretation is supported by finds of large numbers of loom weights, as well as a Linear A inscription relating to the distribution of textiles (Del Frio *et al.* 2010), and artistic representations of the finished products on wall-paintings found in the excavated houses. The majority of the loom weights, which are extremely uniform in shape, weight and dimensions, appear to have fallen from the upper storeys of the buildings (Tzachili 2007, 190–191, with further references).

Loom weights and weaving

Complex B

Only 38 loom weights from one of the buildings, Complex B, are included in the TTTC

database. These loom weights obviously cannot be taken as representative of the total loom weight assemblage and thereby the textile production at Akrotiri, but it will be possible to integrate the results with future analyses. Furthermore, the study of these loom weights has made it possible to gather a considerable amount of information about what types of textiles could be produced with these specific weights.

All the objects have the same date (LC I). Twenty loom weights were found together in the middle of Room B2, among a large amount of ceramic material. The remaining loom weights were found in other contexts within Complex B. The majority of the loom weights are considered to have been made in a medium production quality.

All the loom weights are made of fired clay and are discoid in shape (Fig. 6.6.1). The clay of four of the weights from Room B2 is non-local. At the macroscopic level, the fabric of three of the weights is considered to possibly originate from Miletos on the southwest coast of Anatolia, while the fourth visually resembles clay from the Cycladic island of Naxos. Twenty-five of the loom weights are complete or only have small fragments missing. There is no difference between the

Fig. 6.6.1a, b and c. LC
I discoid loom weights
(photos: courtesy of
I. Tzachili).



weight/thickness range of the loom weights found in the middle of Room B2 and the loom weights from other contexts in Complex B (Fig. 6.2).

Room B2

The 18 complete or nearly complete loom weights found in the middle of Room B2 have a weight range of 130–270 g and a thickness range of 1.8–3.2 cm. They could all have functioned with different types of thread. All of the loom weights could be used with thread requiring *c.* 10 g tension, but the resulting thread count range, in a tabby weave, of *c.* 11–20 warp threads per centimetre must be considered too large a variation (Fig. 6.3). In a twill weave, the thread count range would be approximately double. Sixteen of the loom weights would work well with thread needing *c.* 15 g tension, giving a narrower thread count range of *c.* 8–13 warp threads per centimetre in a tabby fabric. If threads needing *c.* 12.5–15 g tension were used, however, the range would be more limited; *c.* 10–14 warp threads per centimetre, which would be more likely. This demonstrates that these loom weights could have functioned in the same setup.

In a tabby weave (with nine loom weights in the front row and nine loom weights in the back row), these 18 loom weights could be used to produce a fabric *c.* 22 cm wide; if the thickness of the two partially preserved weights is included, the width would be *c.* 25 cm. Even if there was some space between the weights (see chapter 4.1), the width of the fabric would have been quite narrow. However, it is important to note that this group of loom weights was found among a large amount of pottery, and it is not known whether the weights represent a specific loom setup; it is possible that they could have been used together with other loom weights found elsewhere in Complex B to produce a wider fabric, or that they were used in various combinations with the loom weights found elsewhere in the building to produce different types of fabric.

Summary

The analyses of the loom weights found in Room B2 demonstrate that they could all have been used with thin thread needing *c.* 10–15 g tension. However, some of the individual loom weights from Room B2 and elsewhere



Fig. 6.6.2. LC I, Complex B, discoid loom weights: context and weight/thickness. Please note that some markers represent more than one loom weight.

Warp thr/cm	5 g, N=5	7.5 g, N=14	10 g, N=18	12.5 g, N=18	15 g, N=16	20 g, N=8	25 g, N=3
6 thr							
7 thr						1	2
8 thr					2		1
9 thr				1	4	3	
10 thr				5	1	4	
11 thr			1	2	2		
12 thr			1	1	4		
13 thr			5	1	3		
14 thr			1	5			
15 thr		1	1				
16 thr		1		3			
17 thr		3	2				
18 thr		2	4				
19 thr		1	2				
20 thr		1	1				
21 thr							
22 thr		1					
23 thr		3					
24 thr	1	1					
25 thr							
26 thr	2						
27 thr							
28 thr	1						
29 thr							
30 thr							
31 thr							
32 thr							
33 thr	1						

Fig. 6.6.3. LC I, Complex B, Room B2, discoid loom weights: weight tension/number of threads per cm in a tabby. The total number of analysed loom weights is 18.

in Complex B could also have been used with thicker warp threads, needing more tension. Thus it would be possible to produce a range of different fabrics. Further investigation of the rest of the loom weight material from Akrotiri is necessary in order to give any detailed suggestions of the range of textiles that could have been made at the site.

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