TEXTILE TOOLS FROM BERBATI

A total number of 76 objects was recorded in the database (figure 1). The majority of the objects are dated to LH.

Object date	Spindle whorl	Loom weight	Other textile tool	In all
-		1	8	9
LH	66		1	66
In all	66	1	9	76

Figure 1. All objects recorded in the database.

As can be seen in figure 2, 1 object recorded as a spindle whorl in the dB has been excluded as a spindle whorl (BER-0027), 6 objects recorded as 'other textile tools' have been reclassified as spindle whorls, and 2 objects have been excluded as textile tools (see comments in database). This leaves 1 'other textile tool', 1 loom weight, and 71 spindle whorls. The majority of the spindle whorls dated to LH is found in tombs, but a small number are from workshops contexts (figure 2).

Object date			Spindle whorl
-	settlement	workshop	6
LH	settlement	household	1
		workshop	8
		other	1
		-	2
	necropolis	tomb	53
		In all	71

Figure 2. Chronological and contextual distribution of the tools used in our analyses.

SPINNING AND SPINDLE WHORLS

71 objects are recorded as spindle whorls. The majority of the spindle whorls are made of stone and have a conical shape (figure 3).

		clay	stone
-	biconical	1	
	concave conical		
	conical	5	
	convex		
	discoid		1
LH	biconical	1	4
	concave conical	1	5
	conical	2	50
	convex	1	1
	discoid		
In all		11	61

Figure 3. Chronological distribution of the spindle whorls according to type and material.

Spindle whorls – estimated and complete weight

A comparison between the complete spindle whorls (19 objects) and the spindle whorls with estimated weight (51 objects) demonstrates that they all fall within the same weight range. We have estimated that the margin of error in the calculation of weight of whorls

with small fragments missing is less than 10% (1g for a spindle whorl weighing ≤10g, 2g for a spindle whorl weighing ≤20g etc.). This variation of 10% would not have affected the finished product of the spindle whorls and we have therefore decided to include the spindle whorls with small fragments missing in this study (figure 4).

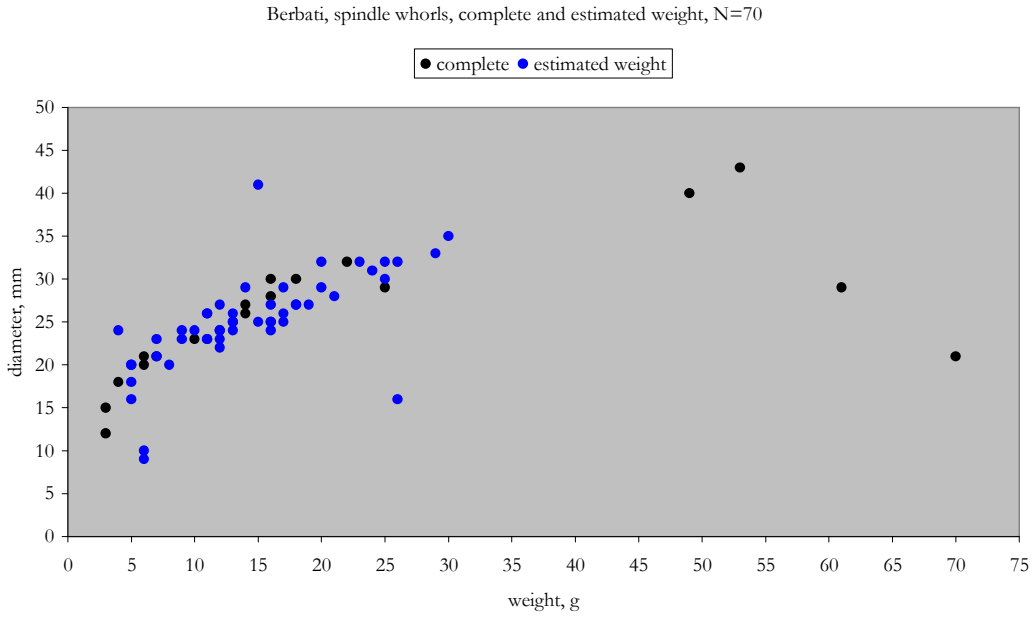

Figure 4. Complete spindle whorls and spindle whorls with an estimated weight. Note that fragmentary spindle whorls are not included.

As can be seen in figures 5 and 6, there is no clear relation between material and weight/diameter or type and weight/diameter. Spindle whorls made of stone and with a conical shape vary in weight from 3g to 70g and in diameter from 12 mm to 41 mm.

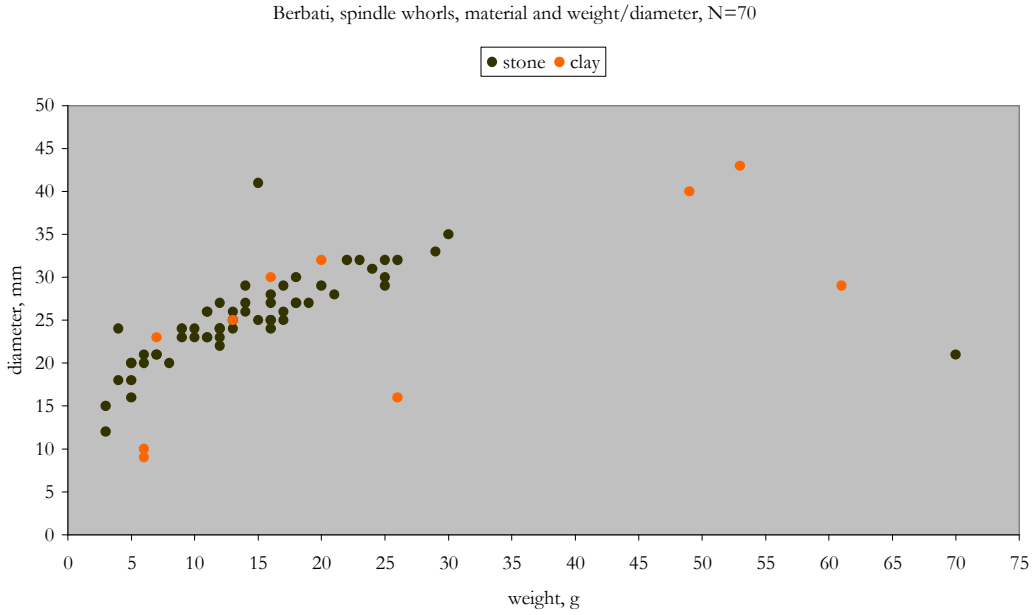

Figure 5. The relationship between material and weight/diameter.

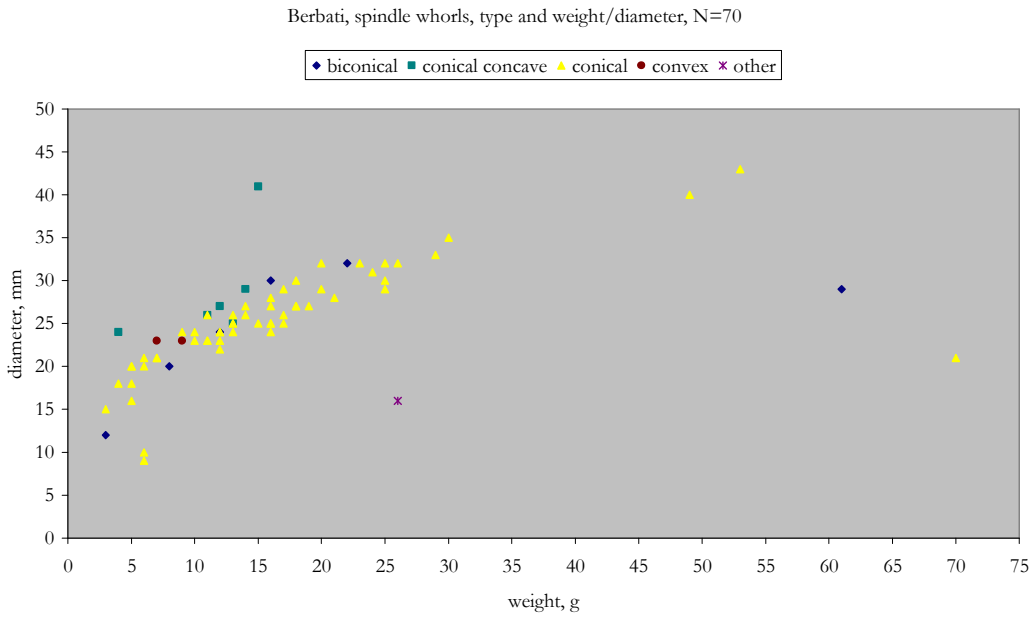

Figure 6. The relationship between type and weight/diameter.

Weight and diameter

As can be seen in figure 7, the spindle whorls from LH vary in weight from 3g to 70g and in diameter from 10 mm to 41 mm indicating a production of several types of yarn from very thin to thick.

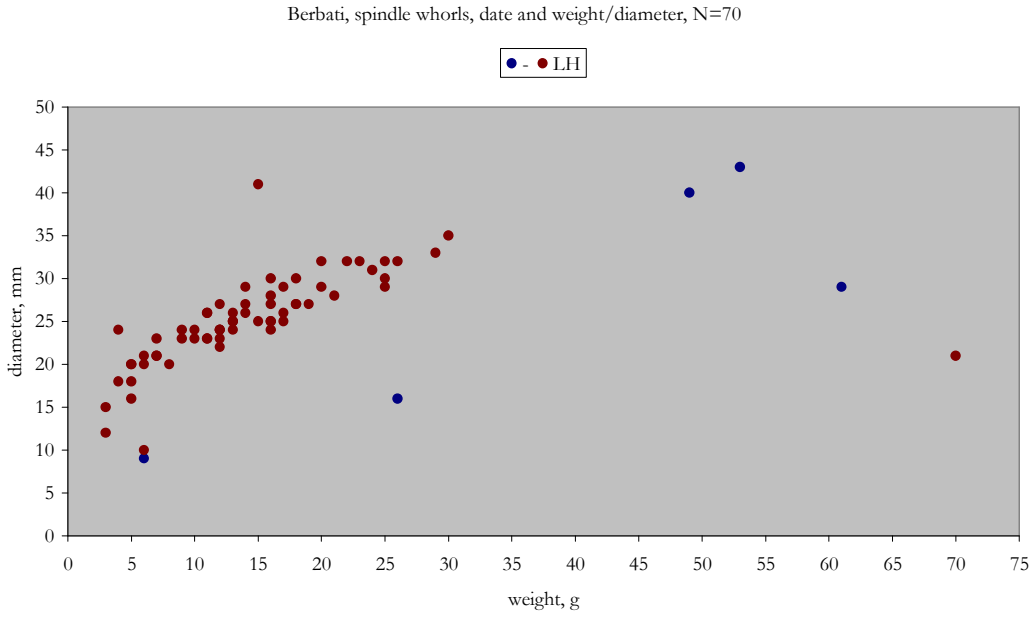

Figure 7. Spindle whorls, date and weight/diameter.

Contexts

The majority of the spindle whorls is from tombs (53 objects) while 18 spindle whorls are from the settlement area, mostly from workshops. Furthermore, 5 spindle whorls that are not dated with an object date are from workshop contexts. Since these whorls are from LH contexts we have decided to include them in the analysis. There is,

however, a clear difference between the spindle whorls object dated to LH and the spindle whorls that are not object dated. With 3 of the latter spindle whorls it would be possible to spin very thick and hard spun yarn, suitable for coarser textile.

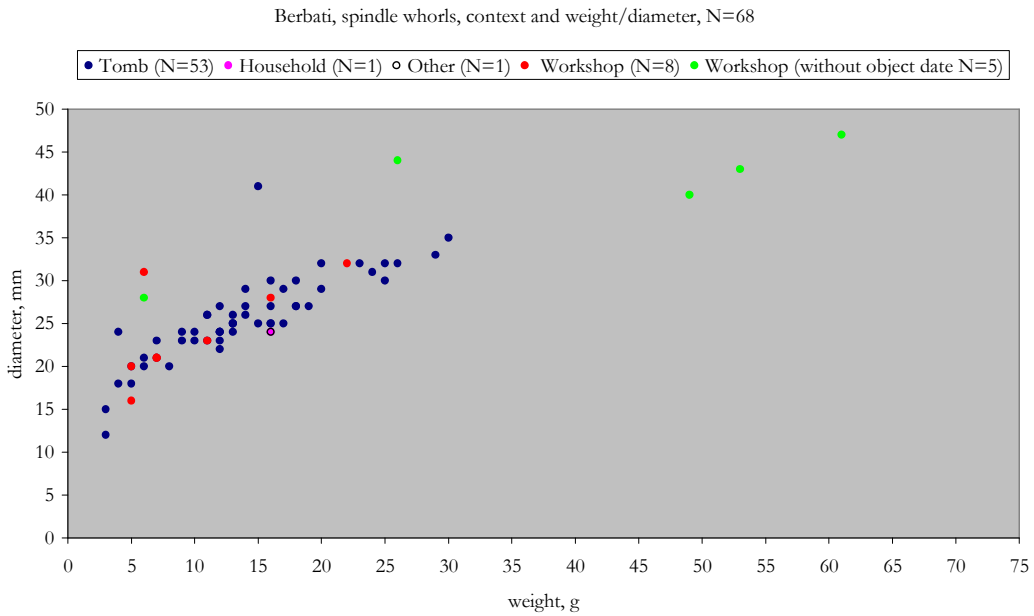

Figure 8. The relation between context and weight/diameter.

As can be seen in figure 8, no great differences between LH workshops and the LH tombs are discernable. It is important to note that the spindle whorls from household contexts and tomb contexts fall within the same range in weight and diameter.

TEXTILE PRODUCTION IN BERBATI

The interpretation of tools from burials is always complex and complicated. It is difficult - at times impossible - to ascertain the purpose of placing a tool in a burial, and meanings on social, religious, and artisanal levels are influential to varying degrees. In the case of Berbati there is no clear variation in weight/diameter between the whorls from the tombs and the whorls from the settlement area.

The analysis of all tools (from tombs and settlement) indicates a varied production of different yarns from very fine to thicker. Only one loom weight (that could also have a function as a net sinker) is recorded and therefore is it almost impossible to suggest which types of fabrics that were produced. This production seems to be invisible and was probably performed with other types of looms than the warp weighted loom, if not at another location. The analysis of the spindle whorls suggests however a varied production of different types of fabrics woven with very thin threads to coarser fabrics with thick threads. To spin and weave with the finest threads would have been time consuming and demanded specialist knowledge.

Finally, the majority of the spindle whorls, both from the tombs and the settlement area (60 objects) are considered to been made in a good production quality. However again the six spindle whorls that do not have an object date differs since only one whorl is considered to have been made in a good quality. 3 of these whorls are made in a poor

production quality and 2 in a medium quality. These whorls without an object date are all from a workshop context and differ in weight/diameter from the other whorls. It is not possible in this report to discuss why these whorls differs from the rest of spindle whorls but a re-examination of the context and a comparison with the context of the dated spindle whorls seem promising.