



## Textile tools from Midea, mainland Greece

Demakopoulou, Katie; Fappas, Ioannis; Schallin, Ann-Louise; Andersson Strand, Eva; Nosch, Marie Louise Bech; Cutler, Joanne

*Published in:*

Tools, Textiles and Contexts: Investigating Textile Production in the Aegean and Eastern Mediterranean Bronze Age

*Publication date:*

2015

*Document version*

Publisher's PDF, also known as Version of record

*Citation for published version (APA):*

Demakopoulou, K., Fappas, I., Schallin, A-L., Andersson Strand, E., Nosch, M. L. B., & Cutler, J. (2015). Textile tools from Midea, mainland Greece. In E. Andersson Strand, & M-L. Nosch (Eds.), *Tools, Textiles and Contexts: Investigating Textile Production in the Aegean and Eastern Mediterranean Bronze Age* (pp. 247-252). Oxbow Books. ancient textiles series Vol. 21

This pdf of *Tools, Textiles and Contexts* belongs to the publishers Oxbow Books and it is their copyright.

As author you are licenced to make up to 50 offprints from it, but beyond that you may not publish it on the World Wide Web until three years from publication (October 2018), unless the site is a limited access intranet (password protected). If you have queries about this please contact the editorial department at Oxbow Books (editorial@oxbowbooks.com).

# TOOLS, TEXTILES AND CONTEXTS

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

*AN OFFPRINT FROM*  
ANCIENT TEXTILES SERIES VOL. 21

# TOOLS, TEXTILES AND CONTEXTS

Investigating Textile Production in the Aegean  
and Eastern Mediterranean Bronze Age

Hardcover Edition: ISBN 978-1-84217-472-2  
Digital Edition: ISBN 978-1-78297-051-4

edited by

*Eva Andersson Strand and Marie-Louise Nosch*  
*with the editorial and analytical assistance of Joanne Cutler*



© Oxbow Books 2015  
Oxford & Philadelphia  
[www.oxbowbooks.com](http://www.oxbowbooks.com)

Published in the United Kingdom in 2015 by  
OXBOW BOOKS  
10 Hythe Bridge Street, Oxford OX1 2EW

and in the United States by  
OXBOW BOOKS  
908 Darby Road, Havertown, PA 19083

© Oxbow Books and the individual authors 2015

Hardcover Edition: ISBN 978-1-84217-472-2  
Digital Edition: ISBN 978-1-78297-051-4

A CIP record for this book is available from the British Library

#### Library of Congress Cataloging-in-Publication Data

Tools, textiles and contexts : textile production in the Aegean and Eastern Mediterranean Bronze Age / edited by Eva Andersson Strand and Marie-Louise Nosch.

pages cm. -- (Ancient textiles series; vol. 21)

Includes bibliographical references.

ISBN 978-1-84217-472-2 (hardback)

1. Bronze age--Middle East. 2. Textile fabrics, Prehistoric--Middle East. 3. Neolithic period--Middle East. 4. Bronze age--Aegean Islands (Greece and Turkey) 5. Neolithic period--Aegean Islands (Greece and Turkey) 6. Middle East--Antiquities. 7. Aegean Islands (Greece and Turkey)--Antiquities. I. Strand, Eva B. Andersson, editor. II. Nosch, Marie-Louise, editor.

GN778.32.N4T66 2015

939.4--dc23

2015027222

All rights reserved. No part of this book may be reproduced or transmitted in any form or by any means, electronic or mechanical including photocopying, recording or by any information storage and retrieval system, without permission from the publisher in writing.

Printed in Malta by Melita Press Ltd

For a complete list of Oxbow titles, please contact:

#### UNITED KINGDOM

Oxbow Books

Telephone (01865) 241249, Fax (01865) 794449

Email: [oxbow@oxbowbooks.com](mailto:oxbow@oxbowbooks.com)

[www.oxbowbooks.com](http://www.oxbowbooks.com)

#### UNITED STATES OF AMERICA

Oxbow Books

Telephone (800) 791-9354, Fax (610) 853-9146

Email: [queries@casemateacademic.com](mailto:queries@casemateacademic.com)

[www.casemateacademic.com/oxbow](http://www.casemateacademic.com/oxbow)

Oxbow Books is part of the Casemate Group

*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)*

# CONTENTS

|  |     |
|--|-----|
| Introduction.....  | vii |
| <b>Chapter 1</b> Research history  |     |
| 1.1 An introduction to the investigation of archaeological textile tools.....                                  | 1   |
| <i>Lorenz Rahmstorf</i>  |     |
| 1.2 An introduction to experimental archaeology and textile research.....                                      | 25  |
| <i>Linda Olofsson</i>  |     |
| <b>Chapter 2</b> The basics of textile tools and textile technology – from fibre to fabric.....                | 39  |
| <i>Eva Andersson Strand</i>  |     |
| <b>Chapter 3</b> Survey of archaeological textile remains from the Aegean and Eastern Mediterranean area ..... | 61  |
| <i>Irene Skals, Susan Möller-Wiering and Marie-Louise Nosch</i>  |     |
| <b>Chapter 4</b> The TTTC experiments  |     |
| 4.1 Experimental testing of Bronze Age textile tools .....   | 75  |
| <i>Linda Olofsson, Eva Andersson Strand and Marie-Louise Nosch</i>   |     |
| 4.2 External examination of spinning and weaving samples.....  | 101 |
| <i>Susan Möller-Wiering</i>  |     |
| 4.3 Test of loom weights and 2/2 twill weaving .....   | 119 |
| <i>Linda Olofsson and Marie-Louise Nosch</i>   |     |
| 4.4 Weaving with crescent shaped loom weights. An investigation of a special kind of loom weight .....         | 127 |
| <i>Agnete Wisti Lassen</i>   |     |
| 4.5 From tools to textiles, concluding remarks.....  | 139 |
| <i>Eva Andersson Strand</i>  |     |
| <b>Chapter 5</b> The TTTC database   |     |
| 5.1 Introduction to the CTR database.....  | 145 |
| <i>Eva Andersson Strand and Marie-Louise Nosch</i>   |     |
| 5.2 Mathematical analysis of the spindle whorl and loom weight data in the CTR database.....                   | 153 |
| <i>Richard Firth</i>   |     |

**Chapter 6** Textile tools in contexts

|      |   |     |
|------|---|-----|
| 6.1  | Textile tools and textile production – studies of selected Bronze Age sites: introduction.....  | 191 |
|      | <i>Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i>   |     |
| 6.2  | Textile tools from Khania, Crete, Greece.....   | 197 |
|      | <i>Maria Bruun-Lundgren†, Eva Andersson Strand and Birgitta P. Hallager</i>   |     |
| 6.3  | Textile tools from Ayia Triada, Crete, Greece.....  | 207 |
|      | <i>Pietro Militello, Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i>   |     |
| 6.4  | Textile tools from Phaistos, Crete, Greece.....   | 215 |
|      | <i>Pietro Militello, Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i>   |     |
| 6.5  | Textile tools from Quartier Mu, Malia, Crete, Greece.....   | 229 |
|      | <i>Jean-Claude Poursat, Françoise Rougemont, Joanne Cutler, Eva Andersson Strand and Marie-Louise Nosch</i>   |     |
| 6.6  | Textile tools from Akrotiri, Thera, Greece.....   | 243 |
|      | <i>Iris Tzachili, Stella Spantidaki, Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i>   |     |
| 6.7  | Textile tools from Midea, mainland Greece.....  | 247 |
|      | <i>Katie Demakopoulou, Ioannis Fappas, Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i>   |     |
| 6.8  | Textile production at Mycenae, mainland Greece.....   | 253 |
|      | <i>Iphiyenia Tournaitou, Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i>   |     |
| 6.9  | Textile tools from Tiryns, mainland Greece.....   | 267 |
|      | <i>Lorenz Rahmstorf, Małgorzata Siennicka, Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i>   |     |
| 6.10 | Textile tools from Thebes, mainland Greece.....   | 279 |
|      | <i>Maria Emanuela Alberti, Vassilis Aravantinos, Ioannis Fappas, Athina Papadaki, Françoise Rougemont, Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i> |     |
| 6.11 | Textile tools from Archontiko, northern Greece.....   | 293 |
|      | <i>Evi Papadopoulou, Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i>   |     |
| 6.12 | Textile tools from Sitagroi, northern Greece.....   | 299 |
|      | <i>Ernestine S. Elster, Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i>  |     |
| 6.13 | Textile tools from Troia, western Anatolia.....   | 309 |
|      | <i>Marta Guzowska, Ralf Becks, Eva Andersson Strand, Joanne Cutler and Marie-Louise Nosch</i>   |     |
| 6.14 | Textile tools from Apliki, Cyprus.....  | 329 |
|      | <i>Joanna S. Smith, Joanne Cutler, Eva Andersson Strand and Marie-Louise Nosch</i>  |     |
| 6.15 | Textile tools from Kition, Cyprus.....  | 337 |
|      | <i>Joanna S. Smith, Joanne Cutler, Eva Andersson Strand and Marie-Louise Nosch</i>  |     |
| 6.16 | Textile tools from Tel Kabri, Israel.....   | 347 |
|      | <i>Assaf Yasur-Landau, Nurith Gosben, Eva Andersson Strand, Marie-Louise Nosch and Joanne Cutler</i>  |     |

|                  |  |     |
|------------------|--|-----|
| <b>Chapter 7</b> | Summary of results and conclusions.....            | 351 |
|                  | <i>Eva Andersson Strand and Marie-Louise Nosch</i> |     |

**Appendices**

|  |  |     |
|--|--|-----|
|  | Appendix A: Textile remains in the Eastern Mediterranean area: Neolithic and Chalcolithic..... | 385 |
|  | Appendix B: Textile remains in the Eastern Mediterranean area: Bronze Age.....                 | 392 |
|  | Acknowledgements.....  | 402 |

## CHAPTER 6.7

# Textile tools from Midea, mainland Greece

*Katie Demakopoulou, Ioannis Fappas, Eva Andersson Strand,  
Marie-Louise Nosch and Joanne Cutler*

---

The citadel of Midea is an impressive fortified acropolis built on the top of a rocky hill, overlooking the east edge of the Argolid plain. The acropolis, which is surrounded by a huge cyclopean wall, was destroyed by a severe earthquake followed by a great conflagration that happened around the end of the 13th century BC (c. 1200 BC). Greek-Swedish excavations at the site have uncovered a number of buildings within the citadel. A significant building complex, consisting of many small rectangular rooms in the West Gate Area, attached to the inner side of the fortification wall, has been excavated by a Greek team of archaeologists, under the direction of Dr K. Demakopoulou, in the area of the West Gate. These rooms may have served as store rooms and workshops, which is indicated by the many pithoi, storage jars, tools and raw materials that have been recovered from them. It is notable that the 14 rooms of the complex have all yielded numerous textile tools, indicating that

textile manufacture was most probably one of the activities conducted there. Rooms VIa–VIb, VII, and VIIIa–VIIIb of the building complex are situated next to each other and form a ‘closed context’; they therefore constitute an ideal situation for the study of Midea’s textile production.

A total of 191 textile tools from the Greek-Swedish excavations at Midea are recorded in the TTTC database: 49 of these were recovered from the Greek excavations of the building complex at the West Gate, while 142 are from the Swedish excavations at the site (Fig. 6.7.1). The 49 tools from the West Gate complex were recovered from LH IIIB2 Late contexts (Demakopoulou and Divari-Valakou 1997–1998; Demakopoulou and Fappas 2007, unpublished). The majority of the textile tools from the Swedish excavations are from contexts that are more broadly dated to the LH III period and in general they are from trenches that have not been identified

|                      | Spindle whorl | Loom weight | Needle   | Pin beater | Spindle  | Wool comb tooth | Total      |
|----------------------|---------------|-------------|----------|------------|----------|-----------------|------------|
| <b>LH III</b>        | 115           |             | 2        | 4          | 7        | 1               | <b>129</b> |
| <b>LH IIIB2 Late</b> | 48            |             | 1        |            |          |                 | <b>49</b>  |
| <b>Unknown</b>       | 3             | 1           |          | 9          |          |                 | <b>13</b>  |
| <b>Total</b>         | <b>166</b>    | <b>1</b>    | <b>3</b> | <b>13</b>  | <b>7</b> | <b>1</b>        | <b>191</b> |

*Fig. 6.7.1. Textile tools  
by date and type.*



|                        | Clay      |               | Stone     |               |
|------------------------|-----------|---------------|-----------|---------------|
|                        | LH III    | LH IIIB2 Late | LH III    | LH IIIB2 Late |
| <b>Biconical</b>       | 7         |               | 3         | 1             |
| <b>Concave conical</b> | 1         |               | 25        | 5             |
| <b>Conical</b>         | 6         | 4             | 67        | 38            |
| <b>Convex</b>          | 2         |               |           |               |
| <b>Spherical</b>       | 3         |               | 1         |               |
| <b>Total</b>           | <b>19</b> | <b>4</b>      | <b>96</b> | <b>44</b>     |

Fig. 6.7.2. (top) Stone spindle whorls (photo: courtesy of the Greek-Swedish excavation project).

Fig. 6.7.3. Spindle whorls: date, type and material.

as belonging to a specific room or building (Walberg 1998; Demakopoulou and Fappas 2007, unpublished).

### Spindle whorls and spinning

One hundred and sixty-six spindle whorls are recorded in the database. The majority of the spindle whorls from both general LH III and LH IIIB2 Late contexts are made of stone (steatite) and are conical in shape (Figs. 6.7.2 and 6.7.3).

The conical and biconical spindle whorls have a large weight/diameter range and no clear pattern of distribution is discernible (Fig. 6.7.4). The whorls with a concave conical shape, however, tend to be very light, weighing less than 10 g.

There is no difference in the weight/diameter range of the spindle whorls from contexts that are broadly dated to the LH III period and the whorls from LH IIIB2 Late contexts (Fig. 6.7.5). In general, the whorls display a wide variation: the weight varies from 1 g to 86 g and the diameter varies from 1.4 cm to 5.2 cm. This distribution pattern indicates a production of many types of yarn from very thin to very thick. However, the majority of

the spindle whorls have a weight below 15 g, suggesting an emphasis on the production of thin and very thin spun yarn.

Forty-eight spindle whorls were recovered from LH IIIB2 Late contexts in the West Gate complex. Twenty-five of these are from Room VI; 15 whorls were found in Room VII and the remaining eight whorls are from Room VIII (VIIIb). All except one of the whorls had a recordable weight and diameter (Fig. 6.7.6).

### Rooms VIa and VIb

Two large walls abutting the fortification wall and a shorter wall, parallel to the fortification wall, form a large space (6 × 4 m) which is divided by a short cross wall into two rooms: Room VIa, which is larger, and Room VIb, which is smaller and built against the fortification wall. The two rooms communicate through a large opening that is 1.20 m wide. Rooms VIa and VIb were basement rooms and were evidently store rooms and workshops, demonstrated by the large number of storage vessels and tools found in them. Both rooms were destroyed by the earthquake that struck Midea c. 1200 BC and the great conflagration that was caused by it. Most of the vessels found in both rooms were for storage; these include pithoi, large amphorae, hydriae, pithoid jars, and coarse stirrup jars, some of Cretan origin. Among them is a storage stirrup jar with a painted Linear B inscription that reads *wi-na-jo*. The same inscription also appears on two storage stirrup jars from Crete, one found at Knossos and the other at Armenoi. It seems that all three stirrup jars come from the same workshop and that the Midea stirrup jar was sent to the Argolid from Crete. Another important find from Room VIb is a complete prismatic perforated clay nodule bearing the GRA ideogram (=WHEAT). A large quantity of LH IIIB2 painted pottery was found in Rooms VIa and VIb, along with abundant unpainted domestic pottery. Many coarse ware pots were also found, including household vessels. In addition, Rooms VIa and VIb contained a few stone and lead vessels, which, like the clay vases, were found *in situ*. Among the numerous tools and other small objects of stone, bronze, bone, glass and clay recovered from both rooms were millstones, pounders, pestles, a hammer-axe, whetstones, obsidian and flint blades, two bronze chisels, a mirror, pins and needles also of bronze, a large wheelmade terracotta female statuette, as well

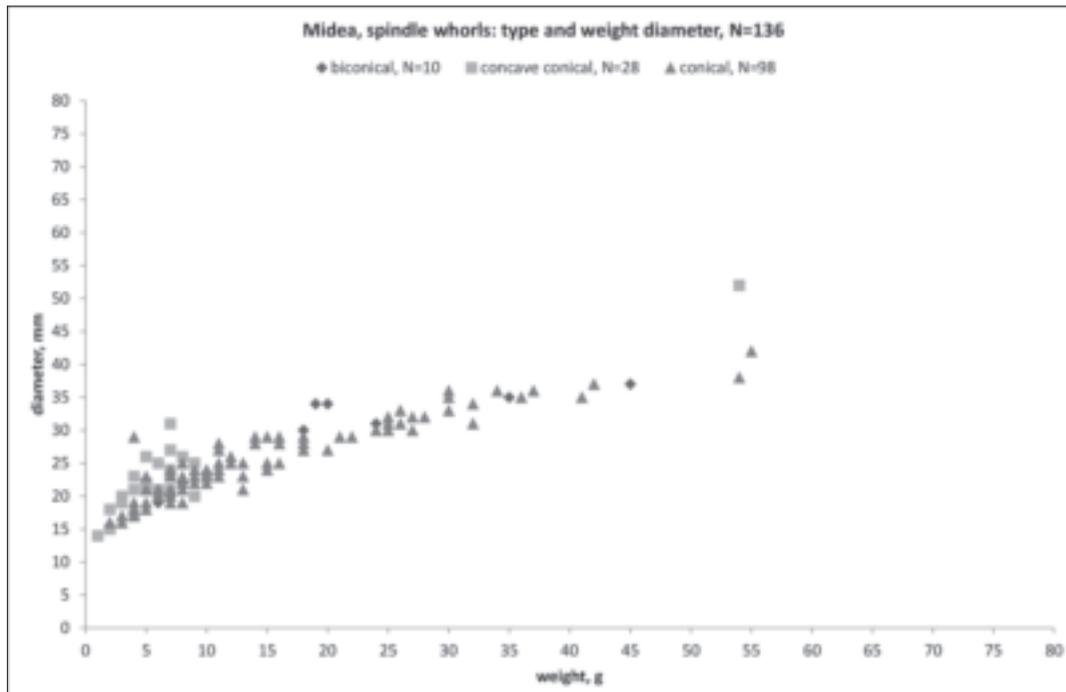


Fig. 6.7.4. Spindle whorls: type and weight/diameter (excluding the whorl, conical in shape, weighing 86 g). Please note that types represented by two or less whorls are not included in the graph. Please also note that some markers represent more than one spindle whorl.

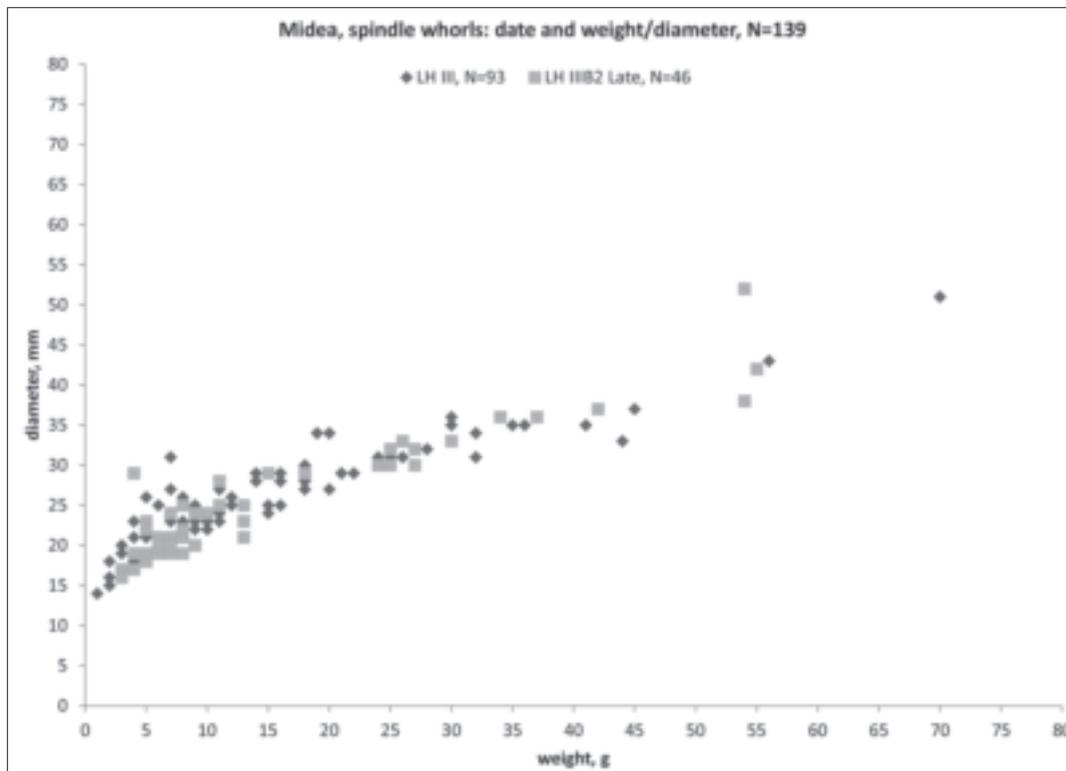


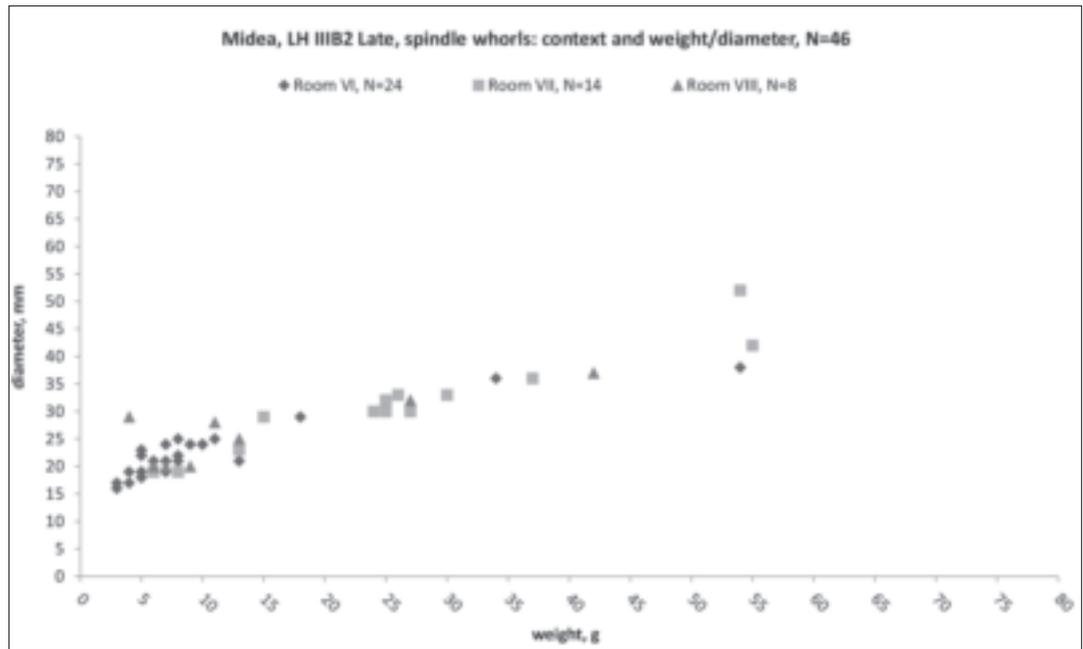
Fig. 6.7.5. Spindle whorls: date and weight/diameter (excluding the LH IIIB2 Late whorl weighing 86 g). Please note that some markers represent more than one spindle whorl.

as the spindle whorls. Twelve of the spindle whorls, including conical and papyrus-shaped whorls, were found in a tall rounded alabastron in Room VIb (Demakopoulou and Divari-Valakou 1994–1995; Demakopoulou and

Divari Valakou 1997–1998; Demakopoulou 1998, 1999).

Seven whorls were recovered from Room VIa, while 13 were found in Room VIb; a further five whorls are from general Room VI

Fig. 6.7.6. Spindle whorls, LH IIIB2 Late: context and weight/diameter (excluding the whorl from Room VI weighing 86 g). Please note that some markers represent more than one spindle whorl.



contexts. The whorls display a wide weight/diameter variation, indicating a production of many types of yarn from very thin to very thick (Fig. 6.7.7). However, the majority of the whorls weigh less than 13 g, indicating a larger production of very fine spun yarn. The spindle whorls found in the same pot in Room VIIb are all light, weighing less than 12 g. It should be noted that the light whorls also display a weight/diameter variation, and the CTR experiments have demonstrated that there is a visible difference between a thread spun with a 4 g spindle whorl and a thread spun with an 8 g spindle whorl (see chapter 4.1).

### Room VII

Room VII was also a basement room built against the fortification wall, lying next to Rooms VIa and VIb to the west. It constitutes a narrow rectangular space, with an opening in its east wall giving access to Rooms VIa and VIb via two stone steps. The floor of the room was made of trodden earth and covered in places with stone slabs. Room VII was also destroyed by the earthquake and the great conflagration that followed it. Its interior contained numerous finds. Many vessels and tools were found on its floor and large pithoi were placed in its southwest corner. Large coarse stirrup jars as well as abundant LH IIIB2 painted and plain domestic pottery,

including a large number of household vessels, were also present. An almost intact stone spouted tripod mortar was additionally found *in situ* on the floor of the room. Numerous stone tools, including pounders and pestles, were also recovered, as well as a large elliptical millstone. In addition to the spindle whorls found in the room, some clay loom weights were also recovered (Demakopoulou and Divari-Valakou 1997–1998; Demakopoulou 1998).<sup>1</sup>

The 14 spindle whorls from Room VII with a recordable weight and diameter similarly display a wide weight/diameter variation, indicating a production of many types of yarn from very thin to thick (Fig. 6.7.6). However, the majority of the whorls weigh over 20 g, which suggests an emphasis on the production of relatively thick yarn.

### Rooms VIIIa and VIIIb

Rooms VIIIa and VIIIb, also basement rooms, lie next to Room VII to the west and were similarly built against the fortification wall. As in the case of Rooms VIa and VIb, a large space, formed by two walls abutting the fortification wall and by one wall parallel to it, is divided into two rooms by a short cross wall. Room VIIIa, which is long and narrow, lies to the north, and the more spacious Room VIIIb lies to the south, adjacent to the fortification

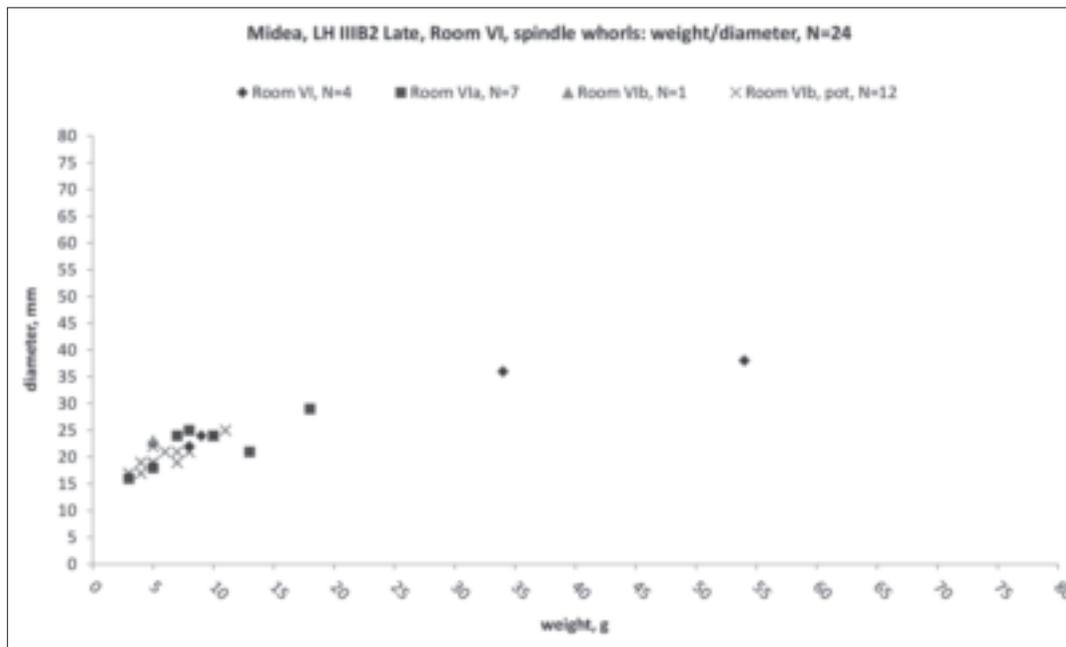


Fig. 6.7.7. Spindle whorls, LH III B2 Late, Room VI: weight/diameter (excluding the whorl from a general Room VI context weighing 86 g). Please note that some markers represent more than one spindle whorl.

wall. The rooms communicate through a large opening. A large amount of LH III B2 painted pottery, along with abundant domestic plain and coarse ware pottery, was recovered from both rooms. In addition to the ceramic vessels, three stone tripod mortars, one together with its pounder, and one lead vessel were found on the floor of Room VIIIb. The very fragmentary status of the pottery found in Room VIIIa indicates that it may have fallen from an upper storey. Numerous tools, such as pounders and whetstones, were also recovered from Rooms VIIIa and VIIIb, as well as a large number of other objects of stone, bronze, ivory, bone, glass and clay that include millstones, bronze arrowheads and an ivory model of a figure-of-eight shield. In addition to the spindle whorls, an intact bronze needle or pin was also recovered (Demakopoulou 1998; Demakopoulou and Divari-Valakou 2000–2001).

The eight spindle whorls were all recovered from Room VIIIb. Like the whorls from Rooms VI and VII, these whorls also display a wide weight/diameter variation (Fig. 6.7.6). However, in contrast to the whorls from Room VII, the majority of the whorls from Room VIII weigh less than 14 g, indicating a focus on the production of thin to very thin thread.

### Other textile tools

Only one loom weight, from a general LH III period context, is recorded in the database. Among the LH III/LH III B2 Late textile tools are four objects that could have functioned as ‘pin beaters’. A pin beater is a multifunctional weaving tool that is thrust up between the warp threads at regular intervals in order to drive the weft home, and it can also be used for pushing up the weft after changing the shed (Hoffmann 1964, 135).

Seven other objects may have functioned as spindles. These objects are all made of bone and are rounded in section. They are all fragmentary or partly preserved. However, when complete they would probably have been *c.* 10–12 cm long, which is a perfect length for a spindle if spinning with a small and light spindle whorl. The maximum diameter varies from 3–6 mm and the minimum diameter varies from 1–5 mm. Since the hole diameter of the spindle whorls varies from 2–9 mm (Fig. 6.7.8) they would function well with these spindles. These objects may also have functioned as pin beaters.

Three needles were also found in LH III/LH III B2 Late contexts at Midea. Two of these are dated to general LH III contexts and are made of bone; they have a maximum diameter of 5 mm. Neither of these needles

is completely preserved, but it is estimated that they were at least 10 cm in length. These two needles could have functioned well as sewing needles for a range of fabrics. The third needle, made of bronze, is from Room VIII (VIIIa) and is dated to LH IIIB2 Late. It is 19 cm in length and has a maximum diameter of 2 mm. The object is too long to function optimally as a sewing needle, but it may have been used for sewing a specific type of fabric, or when producing a special type of textile. Some fragments of bronze needles were also recovered from the West Gate complex (Demakopoulou and Divari-Valakou 2000–2001).

### Summary

The analysis of the spindle whorls demonstrates a varied production of many different types of yarn. No difference can be seen between the spindle whorls from general LH III contexts and the spindle whorls from contexts that are dated more precisely to LH IIIB2 Late. The majority of the spindle whorls are small and light, indicating an emphasis on the production of very thin or thin spun yarn. The general lack of loom weights indicates that loom types other than the vertical warp-weighted loom also may have been in use at Midea, although the possibility that weaving took place at another location cannot, of course, be excluded. The presence of pin beaters, however, does suggest that people

were weaving at the site. The results gained on the basis of the spindle whorls indicate a production of fabrics in many different qualities, from fine fabrics woven with thin threads to very coarse fabrics woven with thick threads. The analyses of the spindle whorls deriving from the LH IIIB2 Late West Gate building complex suggest that slightly different types of yarn may have been produced in the different rooms.

### Note

- 1 These loom weights are not recorded in the tool database.

### Bibliography

- Demakopoulou, K. (1998) Stone vases from Midea, in Cline, E. H. and Harris-Cline, D. (eds), *The Aegean and the Orient in the Second Millennium*, 221–227. Liège. Université de Liège.
- Demakopoulou, K. (1999) A Mycenaean terracotta figure from Midea in the Argolid, in Betancourt, P., Karageorghis, V., Laffineur, R. and Niemeier, W.-D. (eds), *Meletemata: Studies in Aegean Archaeology Presented to Malcolm H. Wiener as he Enters his 65th Year*, 197–207. Liège. Université de Liège.
- Demakopoulou, K. and Divari-Valakou, N. (1994–1995) New finds with Linear B inscriptions from Midea (MI Z 2, Wv 3, Z 4), *Minos*, 29–30, 323–328.
- Demakopoulou, K. and Divari-Valakou, N. (1997–1998) Excavations in Midea 1995–1996. A. Excavation in the area of the West Gate, *Opuscula Atheniensia*, 22–23, 57–72.
- Demakopoulou, K. and Divari-Valakou, N. (2000–2001) Work in Midea 1997–1999. Excavation, conservation, restoration, *Opuscula Atheniensia*, 25–26, 35–45.
- Demakopoulou, K. and Fappas, I. (2007, unpublished) ‘Midea (Mainland Greece). Lists of contexts, which provided artifacts for the database’, (Provided for use in the CTR TTTC database).
- Hoffmann, M. (1964) *The Warp-Weighted Loom: Studies in the History and Technology of an Ancient Implement*. Oslo. Universitetsforlaget.
- Walberg, G. (1998) *Excavations on the Acropolis of Midea. I. The Excavations on the Lower Terraces, 1985–1991*. Stockholm. Swedish Institute at Athens.

Fig. 6.7.8. Complete spindle whorls: weight and maximum hole diameter.

| Number of Spindle whorls | Weight  | Max. hole diameter |
|--------------------------|---------|--------------------|
| 16                       | 1–5 g   | 2–4 mm             |
| 38                       | 6–19 g  | 5 mm               |
| 11                       | 24–37 g | 6 mm               |
| 3                        | 44–55 g | 7 mm               |
| 1                        | 86 g    | 9 mm               |
| <b>Total: 69</b>         |         |                    |