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Textile Workers

Skills, Labour and Status of Textile Craftspeople Between the Prehistoric Aegean and the Ancient Near East

Proceedings of the Workshop held at 10th ICAANE in Vienna, April 2016

SONDERDRUCK

Louise Quillien
Kalliope Sarri (Eds.)

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Louise Quillien – Kalliope Sarri (Eds.)
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Picture on the opposite page:
Peruvian weaver working on her back-strap loom with coloured warp (photo: K. Sarri)

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Agencies of Textile Production in Western Anatolian and Aegean Prehistory

Christopher Britsch[1] – *Barbara Horejs*[2]

Abstract: While recent studies reveal more information about prehistoric textile technologies, most of them focus on the tools used in production. We tried to analyse the human (f)actor of the craft, the textile worker. Several methods were used to study both the individual person as well as the communal connections within the craft. We analysed both settlements and burial sites from Early Bronze Age (EBA) 1 western Anatolia and the Aegean. Information about the individuality of the prehistoric textile worker was difficult to obtain. However, studying the social and cultural aspects on a broader, more communal scale was more successful. The results gave an insight into the functioning of craft organisation and labour distribution. We found clear indications of craft organisation within EBA societies. Spatial analyses revealed that textile production was performed by specialised craftspeople in certain designated areas. The social and cultural role of the textile worker could not be completely illustrated. We could, however, discern that textile workers had a distinct social and cultural role within society. Moreover, the analyses helped us to find a promising focus for future studies in this area: the analysis of textile technologies and workers in comparison with other crafts as a social and cultural phenomenon embedded in broader historical developments in prehistory.

Keywords: textile workers; craft specialisation; Early Bronze Age; technology; human agent; burial analysis; spatial analysis; social analysis

Introduction

Throughout human history, an ever-increasing number of crafts have been introduced and adapted in society. Moreover, most trades became increasingly complex forcing their human actors to become more specialised. In prehistoric times the consequence of such specialisation was that members of society were gradually stepping out of the routine of simple tool making and food procurement creating a state of mutual dependency.[3] Inevitably a social and cultural role was embedded in these changes. This led to multiple studies on the role of different craftspeople in prehistory, often focussing on potters or metallurgists.[4]

In light of social attribution, textile production is especially worth examining. In modern times the crafting of textiles is strongly afflicted with sexual, age-related and sometimes even social labelling. Looking at historical and ethnographical records, we can find such labelling there as well; however it differs strongly from society to society.[5] The social standing of textile workers seems to vary from magical attribution to slave work, from sexual equality to glorifying and/or exploiting one sex and from a respected craft to underrated housework. The sociocultural role of textile producers might be strongly related to the economic conditions as well as to the value of textiles in their contexts. What information we can gather about prehistoric societies is therefore as interesting as it is difficult: who were the textile workers, what was their social standing, where did they work and how was their craft organised?

This paper aims to give insight on the human (f)actor in prehistoric textile production. To achieve this, both individual attributes (sex, age, wealth, and so on) as well as communal features (craft organisation and specialisation) are analysed. The study contains statistical, spatial and social analyses to gain a thorough insight through a multi-methodological approach. Geographi-

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2 Institute for Oriental and European Archaeology, Austrian Academy of Sciences, Vienna, Austria; barbara.horejs@oeaw.ac.at.

3 See Bernbeck 1997; Renfrew – Bahn 2012.

4 See for examples: Hauptmann et al. 1999; Costin 2000; Amzallag 2009; Kienlin 2014; Crown 2014.

5 See Malinowsky 1922; Lee 1979; Mackenzie 1991; also Sillitoe 1988; Barber 1994.

Fig. 1 Sites mentioned in the text (● = Settlement; ■ = Burial Site) (graphics: Ch. Britsch/OREA)

cally, the study is placed in western Anatolia and the Aegean. Chronologically, it focusses mainly on the EBA 1, which means c. 3000–2600 BC. The aim is to establish an objective and valid characterisation of prehistoric textile workers in their EBA social and economic context.

Materials and Methods

We decided to focus on three basic questions: who, where and how? 'Who' addresses mainly the individual level, which means the attributes and social status of the textile workers. 'Where' aims to identify the individual's workshop and/or living space as well as the general spatial organisation of textile production within a settlement. 'How' focusses on the general organisation, changes, developments and continuities in the EBA textile craft.

Who?

The individual is an artificial model hard to track in the archaeological record. Certain researchers go so far as to postulate that looking for an individual always ends in a top-down analysis and that the majority of society members will not be identified.[6] This is especially true for prehistoric archaeology since we are missing written or graphic sources. Additionally, the general assumption is that prehistoric societies were made up of social groups larger than the family. Therefore, artefact assemblages (even when deriving from one layer in one room) cannot securely be assigned to

[6] Dornan 2002, 311.

a certain person. One of the very few cases where we can find enclosed individuals in prehistory is burial sites. Burials however entail their own difficulties: the questions of missing external validity and construct validity need to be accounted for.[7] To put it more precisely, we cannot know if the information from burials represents the whole population and if grave goods really symbolise the former activity of an individual. It is therefore highly problematic to project the picture we get from a cemetery directly onto past communities. A burial site might contain only part of society. Moreover, an inevitable ethnocentric view leading to an overvaluation of certain features can easily lead to misinterpretations.[8] Often we focus strongly, for example, on grave goods. Tainter, however, has shown that they mostly carry little symbolic meaning.[9] Nonetheless since burial analysis remains are our only available source of individual's records in the region in focus, it is still important to take the data into account.

Choosing burial sites for the analysis was a straightforward decision since known prehistoric burial sites in western Anatolia are rare. Those which have been published in a way that allows secondary analysis are even rarer.[10] Only two sites could be used for this study: Demircihüyük-Sarıket and Ilıpınar (Fig. 1).[11] For both sites the data is directly drawn from the publication. This means that we utilise the age and sex determinations as well as the designation of tools, grave types and burial orientations given in the publications.

The statistical data analyses were performed with the software SPSS. As a statistical method, association measures for nominal variables are used. Cramér's V (φ_c) or phi coefficient (φ) is calculated to estimate the extent of the relationship between two nominal variables.[12] All calculations are one-sided and the significance level is set to < 0.05. Four different cross tables are executed, each with another dependent variable: sex, age, grave type and burial orientation. The independent variable is grave goods. For more practical interpretations, the grave goods are arranged into two classes through artificial dichotomisation into dummy variables: spindle whorls and other grave goods. Spindle whorls are the only tools connectable with textile production found in the burials. No loom-weights were found and no use-wear analysis is given for needles and awls. Therefore, spindle whorls represent the symbolising tool in these calculations.

Where?

When searching for the localisation of craftspeople and their craft, an archaeologist's view first follows the distribution of the particular tool(s) involved. For textile production, this approach seems problematic. Historical and ethnographical records tell us that spinning was done nearly everywhere in the settlements.[13] This would mean that spindle whorls in prehistoric settlements should be distributed all over the settlement. A localisation of this task would thus be impossible. A different problem occurs when taking loom-weights into account. Although a loom set-up requires quite a high number of such weights they are often found individually during excavations. To fix the location of the craft based on the tool distribution can therefore be difficult. Nonetheless, there are actually many settlements where a few accumulations of spindle whorls and/or loom-weights can be found. For this analysis we focussed on the tool distribution with special regard to such accumulations. We studied the EBA 1 layers of three sites: Demircihüyük, Poli-

7 See, for example, Bernbeck 1997, 251–270; Eggert 2008, 55–71 or Renfrew – Bahn 2012, 421–461.

8 See Bernbeck 1997, 254–255.

9 Tainter 1978: Tainter ethnographically and statistically analysed several societies. Of these only 5% used grave goods as symbols of social state. Grave construction on the other hand bore higher value.

10 The inclusion in this study required the publications to provide age and sex determinations as well as clear information on the assignation of grave types, burial orientation and grave goods to individual burials.

11 Seeher 2000; Roodenberg – Alpaslan Roodenberg 2008; Massa 2014.

12 Bortz 2005.

13 For a variety of examples, see Barber 1991.

ochni azzurro and Çukuriçi Höyük (Fig. 1).[14] All three sites offer good documentation and usable information on their artefact distributions. Likewise, every one of them contains accumulations of textile tools. However, one important limitation of the find conditions should be kept in mind for Demircihüyük and Poliochni. Old excavation data rarely allow a differentiation of primary using horizons and filling layers. We tried to demonstrate the impact of the lack of detailed stratigraphical data by plotting textile tools from using horizons as well as from filling layers for EBA 1 Çukuriçi Höyük.

How?

The final approach of our study created a general technological characterisation of textile production in the early 3rd millennium BC. This includes the social and cultural setting it was embedded in as well as the developments of crafts over time. Agency Theory tells us that each human actor in a system is influenced by his/her (social, cultural and natural) environment.[15] This means that to understand the mind of an individual, one has to first know his/her background. To obtain the first insights about this, we took two settlements as examples: Çukuriçi Höyük and Poliochni azzurro. The sites were chosen because at both settlements functional analyses had been conducted. This allowed us to view textile production in light of other developments. We discuss a few interesting examples from these settlements to highlight the social structuring and the organisation of labour. Finally, we consider the changes in and development of textile tools in the context of these systems.

Results

The social role of textile workers within ethnographically as well as historically analysed societies differs greatly.[16] To investigate the role of such craftspeople in Anatolian and Aegean prehistory, we analyse both the individual and the technological, social and cultural level of textile production.

Who?

To find traces of individual connections with the textile craft, the data of two burial sites are statistically analysed. The results shown in the charts (Figs. 2–5) represent the number of grave goods (more precisely, spindle whorls and other grave goods). The first association calculated is between grave goods and sex. The comparison shows a slight overrepresentation of spindle whorls found with females compared to other grave goods (Fig. 2). However, φ shows only a small association, which is nonetheless significant ($\varphi = -0.155$, $p < 0.05$). For the variable age, no significant association with grave goods is found ($\varphi_c = 0.131$, $p = 0.228$; Fig. 3). The calculation for the variable grave type, on the contrary, shows a significant association with the variable grave goods ($\varphi_c = 0.136$, $p < 0.05$; Fig. 4). The rather low occurrence of spindle whorls in comparison with other grave goods in pithos burials is noticeable. The strongest association with the variable grave goods is found for the variable burial orientation ($\varphi_c = 0.266$, $p < 0.01$; Fig. 5). The association is even highly significant in this case. The vast majority of grave goods other than spindle whorls is found in burials orientated NW to SE (Fig. 5). Such a clear peak is not visible for the spindle whorls.

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14 Bernabò Brea 1964; Obladen-Kauder 1996; Kouka 2002; Horejs et al. 2010; Horejs et al. 2011; Mehofer 2014; Horejs – Galik 2016.

15 Bourdieu 1977; Giddens 1979; Dobres – Robb 2000; Pauketat 2001; Dornan 2002; Gosden 2005.

16 See Malinowsky 1922; Lee 1979; Sillitoe 1988; Mackenzie 1991; Barber 1994.

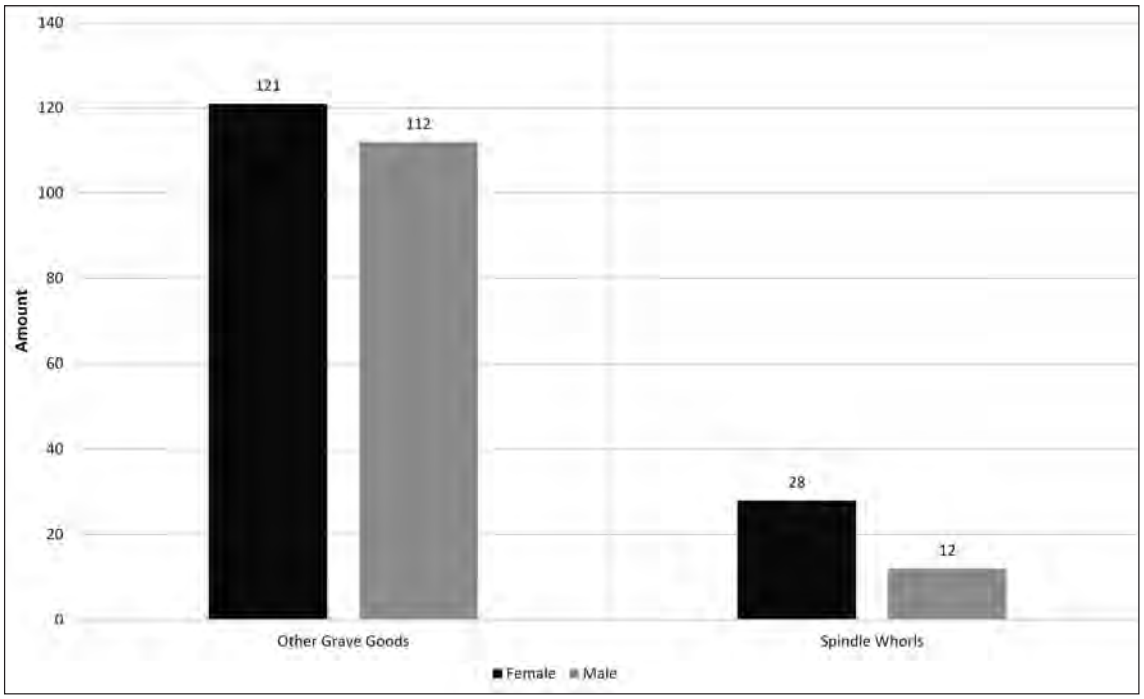

Fig. 2 Diagram of Cramér's V and phi coefficient calculations for 'sex' × 'grave goods'. The grave goods were the independent variable. Results show the amount of objects found in burials (n = 273) (graphics: Ch. Britsch)

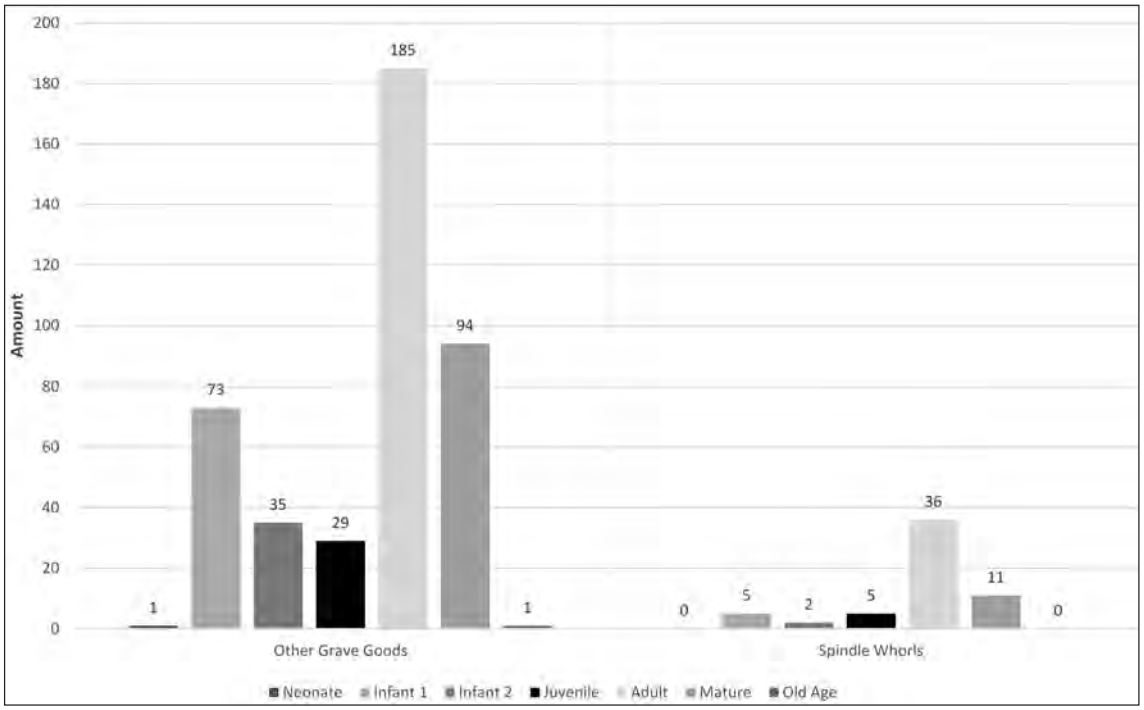

Fig. 3 Diagram of Cramér's V and phi coefficient calculations for 'age' × 'grave goods'. The grave goods were the independent variable. Results show the amount of objects found in burials (n = 477) (graphics: Ch. Britsch)

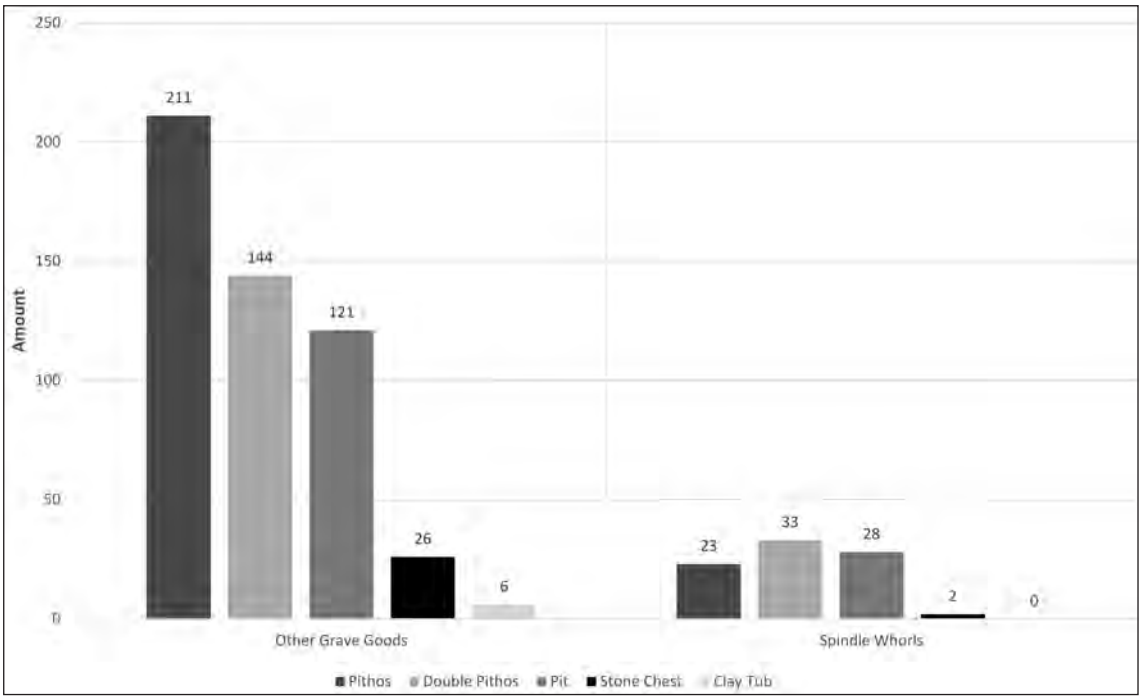

Fig. 4 Diagram of Cramér's V and phi coefficient calculations for 'grave type' × 'grave goods'. The grave goods were the independent variable. Results show the amount of objects found in burials (n = 594) (graphics: Ch. Britsch)

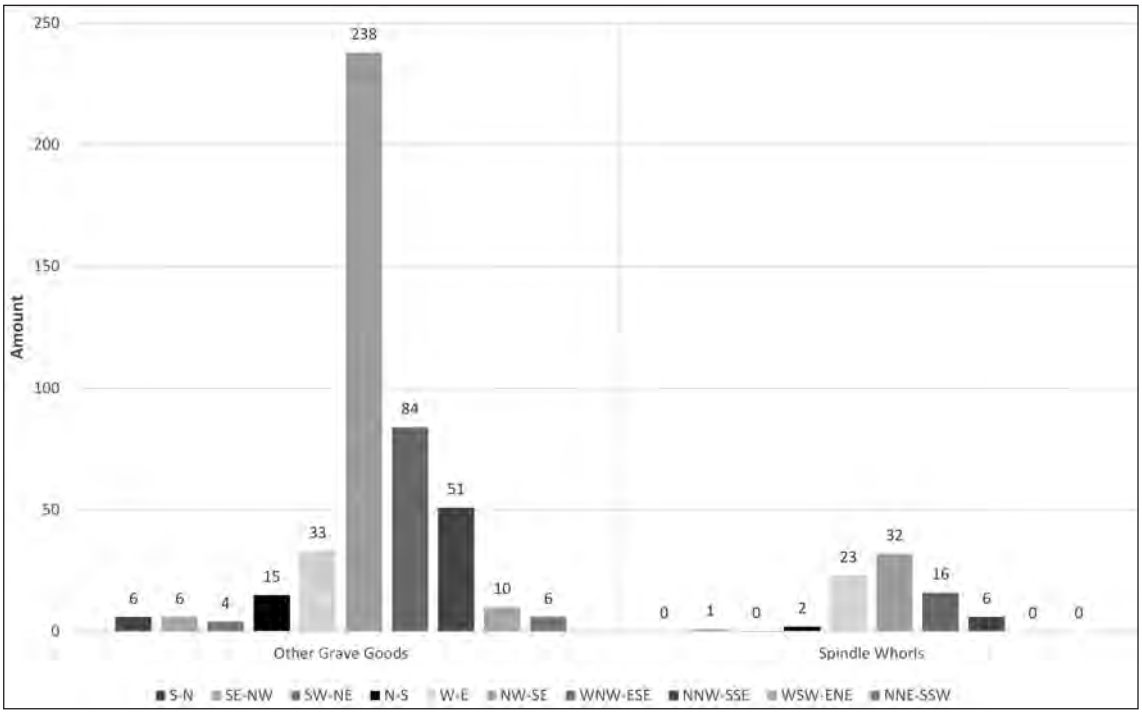

Fig. 5 Diagram of Cramér's V and phi coefficient calculations for 'burial orientation' × 'grave goods'. The grave goods were the independent variable. Results show the amount of objects found in burials (n = 433) (graphics: Ch. Britsch)

Where?

In the next step we investigate the spatial component through an intra-site perspective. The textile tool distribution of three EBA 1 settlements is analysed. At Demircihüyük a total of five EBA 1 phases (G–C) can be analysed. Clear accumulations of spindle whorls are especially shown in phases G and F (Fig. 6). It is noteworthy that the spindle whorl accumulations from these two phases as well as the famous loom-weight accumulation from phase E1 were found around the same area. Also, textile tools from phases E2–3 and C were found in this area; the number, however, is very small. Nonetheless clear accumulations (overarching several phases) can be found that were located in an enclosed area. At Poliochni accumulations of spindle whorls were found both in early Poliochni azzurro (Insulae I and II, area close to Street 12 and Building 28; Fig. 7) and in the later settlement (Building 832, Complex 1168–1171 and Room 1150; Fig. 8). In the EBA 1 layers of Çukuriçi Höyük, the majority of textile tools was found in trench M1 at the modern northern border of the tell (Fig. 9). Likewise, a cluster could be detected within the trench. Most tools were found in the northern rooms, the vast majority in two connecting rooms.

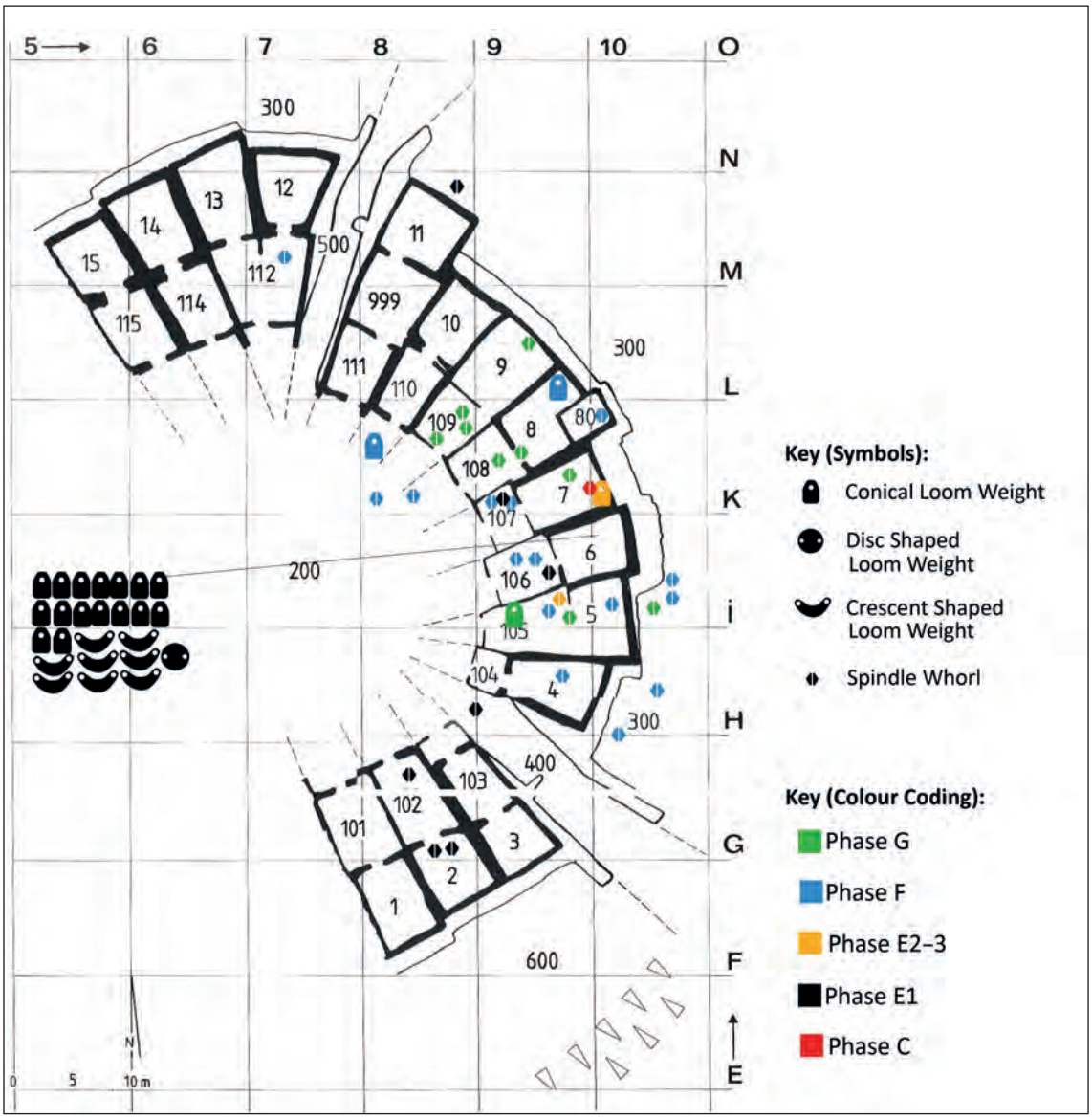

Fig. 6 Plotted EBA 1 textile tools of Demircihüyük
(map: Obladen-Kauder 1996, Abb. 1, p. 1)

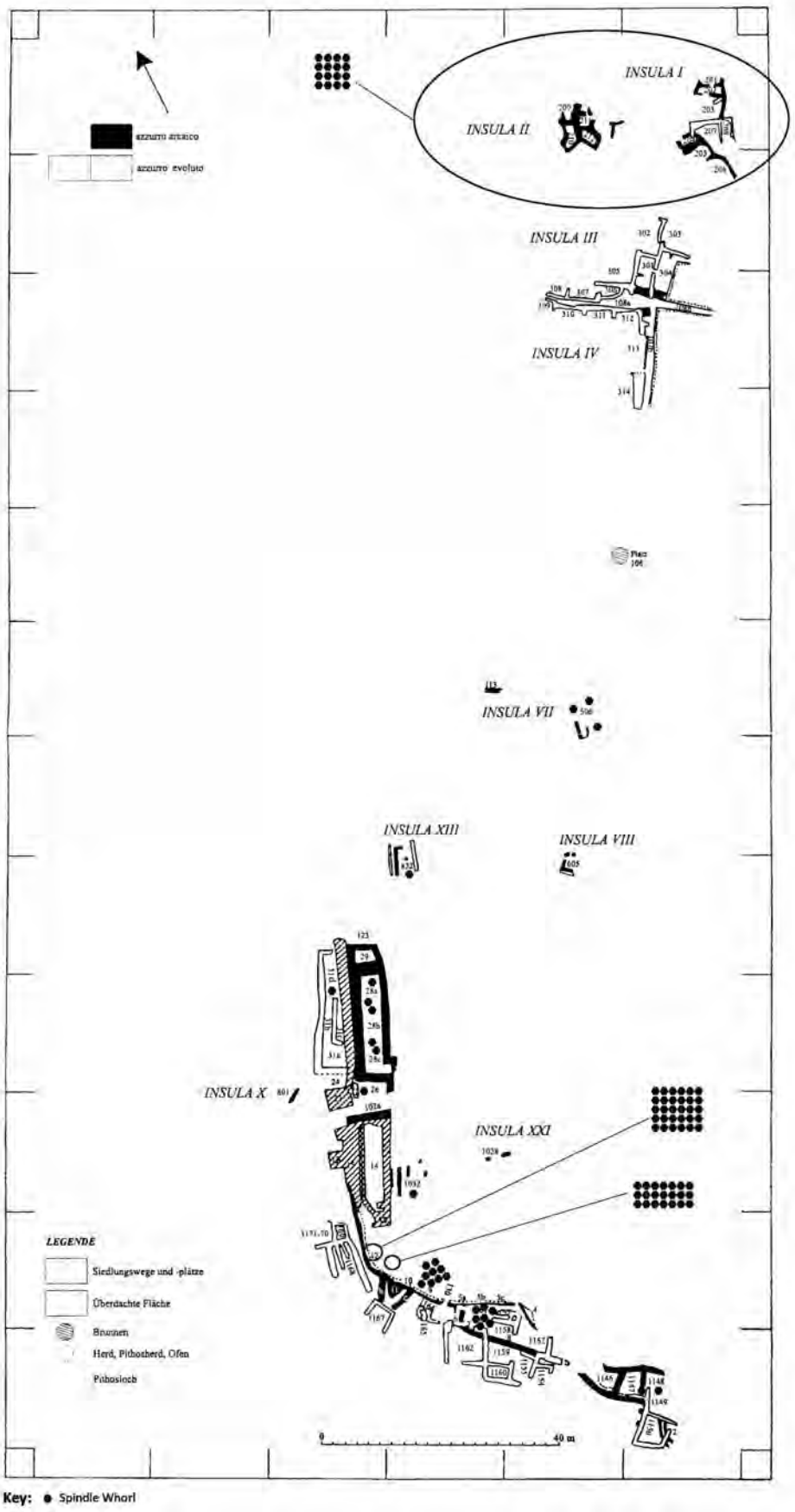

Fig. 7 Plotted EBA 1 textile tools of Poliochni azzurro (early) (map: Kouka 2002, Plan 3)

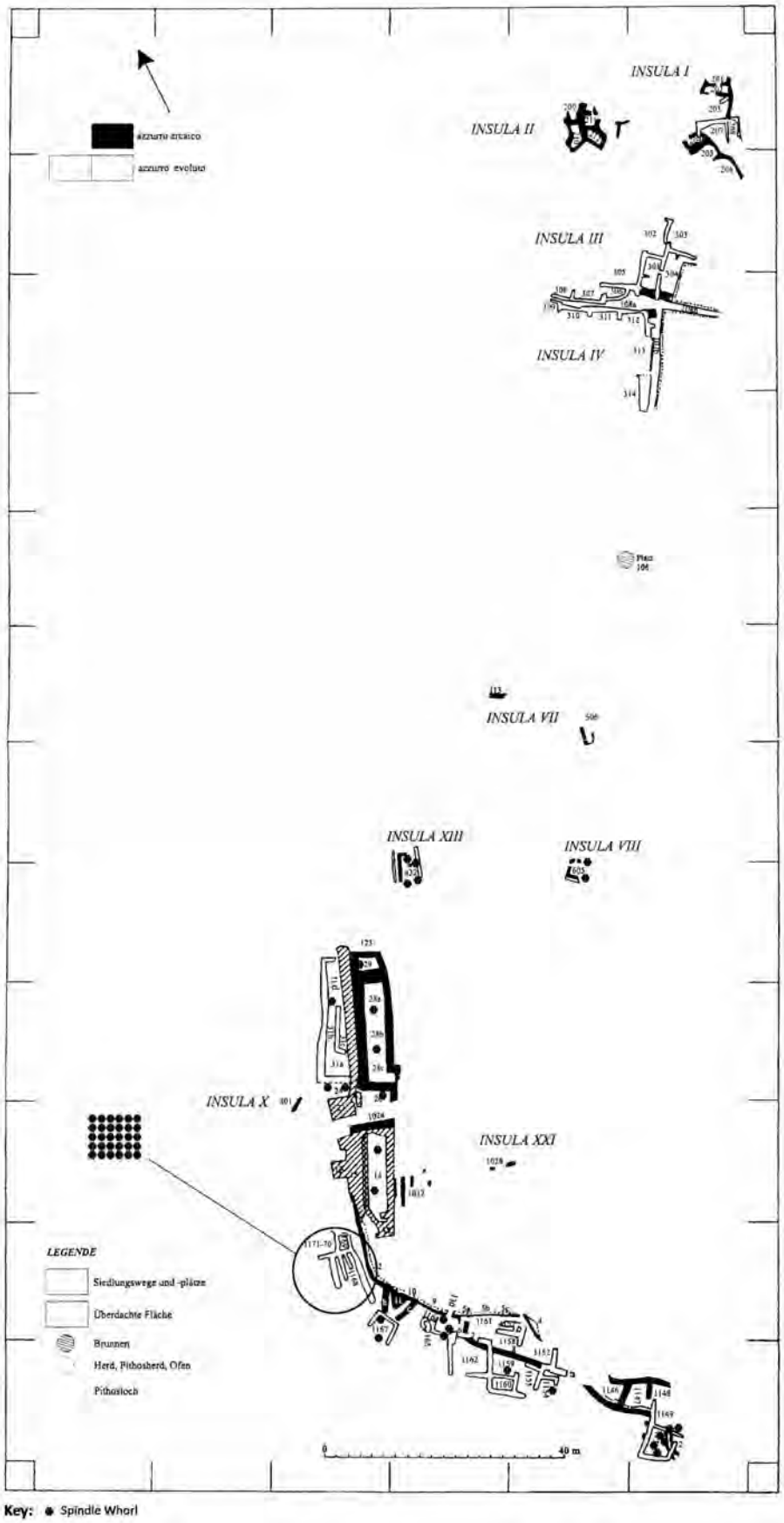

Fig. 8 Plotted EBA 1 textile tools of Poliochni azzurro (late) (map: Kouka 2002, Plan 3)

Fig. 9 Plotted EBA 1 textile tools of Çukuriçi Höyük. Plot was separated into loom-weights and spindle whorls from using horizons and textile tools from filling layers (graphics: M. Börner, Ch. Britsch/OREA)

How?

Finally, we look at textile production from a more comprehensive view, aiming at the general social and economic setting in which the craft is embedded.

At EBA 1 Çukuriçi Höyük IV–III, several indicators of the organisation of labour are identified. The strongest reflection of this can be seen in the metallurgy of the site. The intensity of metal production was higher than at any other contemporary settlement.[17] Nearly every building contained ovens for smelting and/or metallurgical workshops, distributed throughout the entire settlement. Other signs of spatial organisation can be seen in the localisation of animal husbandry outside the settlement[18] as well as in the organisation of the settlement into household communities.[19] These potential household communities appear to be homogenously organised as discussed recently.[20] A contrast can be detected at Poliochni. Ourania Kouka demonstrated that certain areas were designated for specific tasks such as metallurgy, stone tool manufacturing, food preparation, textile production and more.[21] Additionally, areas with accumulations of prestige goods were traced, indicating segregation within society. The most interesting feature, however, is probably the communal building identified in the settlement of Poliochni azzurro. The desire and willingness to construct a communal building clearly demonstrates an organisation and collaboration within the community.

17 Horejs 2009; Horejs et al. 2010; Horejs et al. 2011; Mehofer 2014; Mehofer 2016.
18 See Horejs et al. 2011; Horejs 2016; Horejs – Galik 2016.
19 Maria Röcklinger, personal communication, 10 June 2016.
20 Horejs 2016.
21 Kouka 2002.

With these results providing the context in which to see textile production, we take a look at the spindle whorl assemblages from several sites (Aphrodisias, Karataş, Ilıpınar, Demircihüyük, Aşağı Pınar, Çukuriçi Höyük and Emporio on Chios). We can find a clear evolution of spindle whorl and loom-weight shapes. From the Neolithic to the Early Bronze Age in western Anatolia and the Aegean, spindle whorl shapes became less diverse. Biconical whorls increasingly came to be the most represented shape. In the Early Bronze Age such shapes typically made up around 50–60% of the assemblages.[22] Simultaneously certain loom-weight shapes were spreading out into different regions. At the end of the fourth and beginning of the third millennium BC we trace several common types of loom-weights, which were, in most cases, each restricted to distinct regions.[23] We can also find connections between different sites with regard to the weight of their spindle whorls.[24] Several such related sites are located in the same areas or regions or are connected by naturally occurring concourses (e.g. rivers). These spatially-related sites show statistically observable metrical connections within their spindle whorl assemblages. Likewise, such connected sites show the same significant differences as certain other sites, allowing the compilation of groups. These groups are interpreted as indications of common textile technologies.

Discussion

Several recent studies have shed light on prehistoric textile technologies, mainly focussing on the tools and the information these tools can yield.[25] However the human (f)actor within the process is still an enigma for prehistoric archaeology. Even though we cannot illustrate all aspects of the prehistoric textile worker, we can elucidate certain important attributes.

Who?

It is rather difficult to gain information at the individual level. Our main method of acquiring knowledge about the individual textile worker is the statistical evaluation of burial sites. However, few clear signs of significant distinction can be traced. We find only a slight overrepresentation of females buried with spindle whorls (Fig. 2). Assuming that a spindle whorl found in a grave signifies that a certain person was a textile worker, this could indicate a slight overproportion of female textile workers. However, the limitations of validity should be kept in mind. The lack of a significant association between age and grave goods could mean that the age distribution of textile workers does not differ from the rest. However, we find associations between the grave type and the grave goods as well as between the burial orientation and the grave goods. The association of the burial orientation with the grave goods is stronger and highly significant. Both results are difficult to interpret. They could, however, indicate that potential textile workers (specifically, individuals buried with spindle whorls) were treated in a different way to the majority of society. However, the social and cultural connotation remains dubious. We would first need to investigate if there is a generally detectable implication within the choice of grave type and burial orientation. Ultimately, it must be stated that the calculations show only very small associations. If, in addition, we examine the limitations of burial data[26] and non-parametrical calculations, the validity of a statement about the individual actor becomes dubious.

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22 See, for example, Lloyd – Mellaart 1962; Hood et al. 1982; Sharp Joukowsky 1986; Warner 1994; Roodenberg 1995; Obladen-Kauder 1996; Özdoğan – Parzinger 2012.

23 For comparison, see, for example, Mårtensson et al. 2009; Schoop 2014.

24 Britsch – Horejs 2017.

25 For a small selection, see Mårtensson et al. 2009; Andersson et al. 2010; Andersson Strand et al. 2010; Britsch – Horejs 2014.

26 See, for example, Bernbeck 1997, 251–270; Eggert 2008, 55–71; Renfrew – Bahn 2012, 421–461.

Where?

Another approach of this study is to retrieve information about the individual life of a textile worker from the spatial intra-site analysis. The hypothesis is that if we can locate the textile workers within the settlement, we may be able to reconstruct the 'persona' from his/her surroundings. In all three investigated sites we can find spindle whorl and/or loom-weight accumulations. At Poliochni – thanks to the functional analyses by Ou. Kouka, which determined the functionality of different settlement areas – we can reflect the tool accumulations upon the function of their surroundings.[27] Following Kouka's interpretation, textile production was connected to other specialised crafts (in Insulae I and II, area close to Street 12), to metallurgy (Building 832) and to the communal Building 28. However, the most interesting connection is the connection with prestige goods. At Insulae I and II, in Complex 1168–1171 as well as in Room 1150 several prestige goods were found. This would connect the textile craft not only with confined areas but also with wealth (Figs. 7–8).[28] Of course the spatial distribution of finds has its own limitations, particularly regarding old excavation data. The most problematic limitation is, typically, missing information about the exact origin of the tools. If we disregard objects from fillings, the number of interpretable tools, of course, strongly decreases. It is therefore even more interesting that, for example, at Çukuriçi Höyük we still find accumulations within the securely stratified tools (Fig. 9). This clearly points out that textile production was performed in a designated area and probably even in specialised workshops. However, directly reflecting the results of a study of the surroundings of such confined areas or rooms on the textile worker is critical. Household archaeology tells us that a person's working area does not necessarily include his/her living area.[29] Thus it does not illustrate the whole life of the person. Therefore, the assignability of extracted features on an individual scale is guesswork at best. Nonetheless it demonstrates the possibilities that lie within such analysis, for example the assignability of certain crafts and tasks to rooms, buildings and areas. However, further studies are needed that focus on the question of general prehistoric household organisation.[30] As shown in this study, the information accessible on a more communal scale seems very promising.

How?

Looking at the results from the spatial analysis with a wider focus tells us a lot about craft organisation within EBA 1 societies in western Anatolia and the Aegean. Textile production was clearly not carried out throughout the whole settlement but was confined to certain areas or even rooms that we are interpreting as potential workshops. Likewise, the supply of raw materials (wool, flax or other plant fibres) indicates a specialised division of labour.[31] Furthermore, the technical aspects of textile production itself became more complex and specialised over time. Tools were made more carefully, standardised and became a 'better fit' for the intended tasks. All these aspects show that the work was most probably carried out by (at least partially) specialised craftspeople in designated areas. Our final approach strongly confirms this hypothesis. Focussing on a broader scheme, we demonstrate that the textile craft was embedded in highly specialised societies and that it was becoming more and more specialised over the millennia. At both Poliochni azzurro and the EBA 1 settlement of Çukuriçi Höyük, textile production formed part of societies which had highly specialised craftspeople, workshops and labour divisions. The high degree of specialisation of metallurgists at EBA 1 Çukuriçi Höyük is especially noteworthy in this case.

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27 Kouka 2002.

28 See Kouka 2002 for functional interpretations.

29 See Hendon 1996; Allison 1999; Parker – Foster 2012.

30 In the case of Çukuriçi Höyük, a new dissertation has recently been started. The dissertation is part of a DOC-Team project of the Austrian Academy of Sciences consisting of four researchers (Maria Röcklinger, Sabina Cveček, Stephanie Emra and Constanze Moser).

31 See Horejs 2016.

Such a strong dedication to one craft clearly indicates the presence of full-time specialists. Moreover, such a high number of specialists points to the presence of craft and labour organisation. Sustaining such work requires administration. Recent results demonstrate that this administration followed heterarchic structures. These structures were not only embedded within metallurgy, but also within pottery, fishery, agriculture, animal husbandry and textile production.[32]

Observing the development of tools used in textile production supports this statement. We can trace clear changes in spindle whorls and loom-weights from the Neolithic to the Early Bronze Age. More importantly, these are changes that clearly point to an increasing degree of specialisation.[33] The exact dynamics and procedures of these developments, however, will have to be analysed in future studies. Also, the transition from a general perception to an individual level would be problematic, since individual, minor differences and decisions will not be perceptible.

Nonetheless we can trace enlightening aspects. The craft was most likely performed by people who were at least partially specialised. Likewise, these craftspeople were, from the Early Bronze Age onwards at the latest, part of a society with a systematic division of labour and organisation of professional collaboration. Moreover, this state is the result of development we can already trace in the Late Chalcolithic period.[34]

In conclusion, it can be stated that the true picture of the individual textile worker in prehistory is still enigmatic. However, on a more general and communal level new insights and understanding have been gained. We are definitely looking at a picture of specialised and skilled craftspeople with a distinct purpose within their societies. This study demonstrates that, for the 3rd millennium at least in western Anatolia and the Aegean, the further definition of the role of textile workers (both social and cultural) cannot be solved by searching for the individual actor. Further analyses for the region in our study will therefore have to focus on the textile workers as a group of craftspeople acting in social and cultural settings with other such groups. Treating the emergence and development of textile workers as a general social and cultural process, in comparison with other crafts and its actors, will thus lead to a greater understanding of the momenta and actions influencing the textile craft and thus also of the potential impact of actions and decisions by agents of textile production.

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32 Horejs 2016.
33 See, for example, Costin 1991; Aunger 2010; Dobres 2010; Dosi – Grazzi 2010.
34 See Britsch – Horejs 2017.

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This volume aims at opening up new perspectives in archaeological textile research, focussing on a comparative analysis of textile workers in the Aegean and Near-Eastern world from the Stone Age to Late Antiquity. While archaeological remains such as textile tools, fibres and fabrics have been widely analysed for the technological information they contain, they have not been adequately studied for their potential to provide valuable data about the workers involved in textile production. What can archaeological remains, combined with the iconographical and textual data, tell us about the prehistoric and early historic textile craftsmen and craftswomen? Using all available sources, the contributions of the volume set various questions about those involved in textile production. What was their gender and social status? What type of labour did they perform: domestic or professional? What was their specific working space – a house or a workshop area? How were they organised: working alone or in teams? What was the position of their body and what were their movements while working? Could they choose freely between different patterns, colours, materials or techniques? What specialised skills and intellectual knowledge did they apply during their work? Thanks to this collective work, we will be able to explore whether in all the fields and circumstances mentioned above we can detect exact parallels, similar patterns and mutual influences or, instead, major differences between Near-Eastern and Aegean worlds.