

Distaffs and 'temples' in Early Bronze Age Iran

François Desset, Massimo Vidale, Nasir Eskandari, Kim Caulfield

▶ To cite this version:

François Desset, Massimo Vidale, Nasir Eskandari, Kim Caulfield. Distaffs and 'temples' in Early Bronze Age Iran. East and West, 2020. hal-03471254

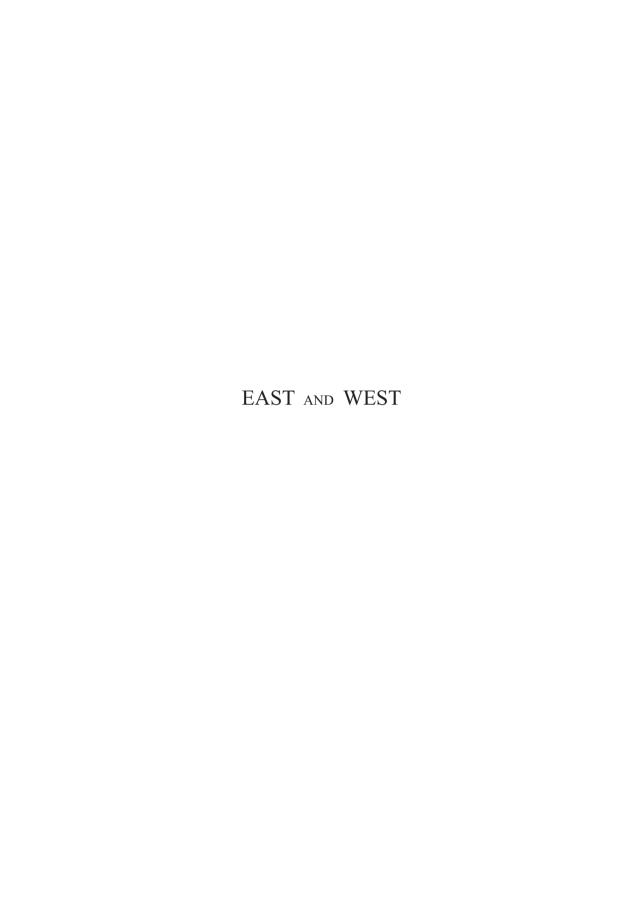
HAL Id: hal-03471254

https://hal.science/hal-03471254

Submitted on 22 Dec 2021

HAL is a multi-disciplinary open access archive for the deposit and dissemination of scientific research documents, whether they are published or not. The documents may come from teaching and research institutions in France or abroad, or from public or private research centers.

L'archive ouverte pluridisciplinaire **HAL**, est destinée au dépôt et à la diffusion de documents scientifiques de niveau recherche, publiés ou non, émanant des établissements d'enseignement et de recherche français ou étrangers, des laboratoires publics ou privés.



First Series: Founded in 1950 by Giuseppe Tucci 1979-2012 directed by Gherardo Gnoli

New Series:

2020 – published as a bi-annual peer-reviewed scientific journal: edited by ISMEO – The International Association for Mediterranean and Oriental Studies

International Editorial Board

Elena Bashir (University of Chicago), Pierfrancesco Callieri (Alma Mater Studiorum University of Bologna), Franco Cardini (Scuola Normale Superiore di Pisa), Riccardo Contini (University of Naples "L'Orientale"), Michel Fournié (Institut National des Langues et Civilisations Orientales), Bert Fragner (Austrian Academy of Sciences), Claudio Lo Jacono (Istituto per l'Oriente C.A. Nallino), Marco Mancini (Sapienza University of Rome), Luca Maria Olivieri (Ca' Foscari University of Venice), Simonetta Ponchia (University of Verona), Adriano Rossi (ISMEO) (**chairman**), Maurizio Scarpari (Ca' Foscari University of Venice), Fabio Scialpi (Sapienza University of Rome), Miriam T. Stark (University of Hawai'i - Mānoa), Silvia Vignato (University of Milan - Bicocca)

International Advisory Board

Giorgio Banti (University of Naples "L'Orientale"), Pia Brancaccio (Drexel University), Giuseppe Buffon (Pontificia Università Antonianum), Franco Crevatin (University of Trieste), Andrea Manzo (University of Naples "L'Orientale"), Cristina Scherrer-Schaub (École pratique des Hautes Études), Daniel Septfonds (Institut National des Langues et Civilisations Orientales)

Editorial Staff: Marco Baldi, Luca Maria Olivieri (senior editor), Priscilla Vitolo

EAST AND WEST

BI-ANNUAL SCIENTIFIC JOURNAL PUBLISHED BY ISMEO – THE INTERNATIONAL ASSOCIATION FOR MEDITERRANEAN AND ORIENTAL STUDIES



I S M E O Vol. n.s. 1 (60) – No. 1, June 2020 This issue has been published with a grant from the "Progetto MIUR Studi e ricerche sulle culture dell'Asia e dell'Africa: tradizione e continuità, rivitalizzazione e divulgazione"

Digital manuscripts (in English, font: Times New Roman) and figures (B/W, min. 300 dpi) should be sent to the International Editorial Board, e-mail: ismeo@ismeo.eu

Yearly subscription: €70,00 – Abroad: €110,00

Subscription orders must be sent direct to:

Scienze e Lettere dal 1919 S.r.l., già Bardi Editore via Malladra 33 – 00157 Rome e-mail: info@scienzeelettere.com www.scienzeelettere.com

ISSN 0012-8376 ISBN 9788866871903

© 2020 IsIAO in l.c.a.

© 2020 ISMEO – Associazione Internazionale di Studi sul Mediterraneo e l'Oriente Palazzo Baleani, Corso Vittorio Emanuele II, 244 – 00186 Rome e-mail: ismeo@ismeo.eu www.ismeo.eu

Coordinatore attività editoriali ISMEO: Beniamino Melasecchi

Direttore responsabile: Francesco Palmieri Registrazione presso il Tribunale di Roma al n. 83/2020 del Registro Stampa in data 6 agosto 2020 Pre-print ISMEO novembre 2020 Finito di stampare nel mese di gennaio 2021 presso Universal Book srl, Contrada Cutura, 236, 87036 Rende (CS)

L'IsIAO in l.c.a. ed il MAECI non sono responsabili dei contenuti della presente pubblicazione

CONTENTS

Foreword by Adriano V. Rossi	7
G. Gnoli, More on the "Traditional Date of Zoroaster:" the Arsacid Era and Other Topics	9
S. Ferdinandi, Mons Thabor: status quaestionis	51
G. Buffon, Mount Tabor and the Politics of Archaeology in the Holy Places (1858-1924). The Custody of the Holy Land's Defence of Property Rights, Excavation Campaigns and Building Work on the Mount of Transfiguration	101
A. Taddei, The Skeuophylakion of the Hagia Sophia in Constantinople: Events of the Fourth to Sixth Centuries CE	123
M. Baldi, From Meroe to Modern Sudan: the Kushite Building Techniques in the Present Vernacular Architecture in the Area of Begrawiya	141
F. Desset, M. Vidale, N. Eskandari, K. Caulfield, <i>Distaffs and "Temple" in Early Bronze Age Iran</i>	167
A. Askari Chaverdi, P. Callieri, Tol-e Ajori and Takht-e Jamshid: a Sequence of Imperial Projects in the Persepolis Area	177
A. Filigenzi, A Space of Mobility: the Interregional Dynamics of Buddhist Artistic Production as Reflected in Archaeological Evidence	205
List of Contributors	225

Distaffs and "Temple" in Early Bronze Age Iran

by Francois Desset, Massimo Vidale, Nasir Eskandari, Kim Caulfield

Tra i materiali di età protostorica confiscati dalle forze di sicurezza iraniane nei dintorni di Jiroft (Kerman) e attualmente in mostra al Museo archeologico dello stesso centro vi è un gruppo di grandi spilloni in lega di rame, il maggiore dei quali raggiunge la considerevole lunghezza di 58 cm. Alcuni di essi hanno la testa a forma di due coni sovrapposti, che potrebbe ricordare una giara carenata con collo cilindrico. L'estremità posteriore di un esemplare, invece, è assottigliata e penetra trasversalmente in un massiccio fermaglio in lapislazzuli blu-indaco di elevata qualità, scolpito in forma della porta con architrave insellato che rappresenta uno motivi ricorrenti nell'arte dei vasi in clorite del sud-est Iranico nella seconda metà del III millennio a.C. I manufatti, provenienti da tombe scavate clandestinamente, sono privi di contesto di rinvenimento, e la loro funzione rimane questione aperta. L'articolo tuttavia esplora la possibilità che si tratti di conocchie per la filatura della lana, e che simili oggetti facessero parte dei corredi funebri e delle strategie di esibizione del rango di defunte appartenenti agli strati sociali più elevati della civiltà dell'Halil Rud. Il "portale" in lapislazzuli, uno dei più grandi oggetti nella pietra blu sinora trovati nella regione, potrebbe alludere a un edificio mitologico, sacro o a un luogo di culto, cosa che assocerebbe la lavorazione della lana alla sfera delle pratiche religiose.

Introduction

The copper and lapis lazuli object discussed in this paper is part of the collection of the archaeological Museum at Jiroft (Kerman, Iran) (Fig. 1). The origin is the same of the abundant Early Bronze Age objects already published in the famous catalogue published by Y. Madjidzadeh in 2003—a collection of exceptional artifacts in copper, chlorite and other stones and pottery illegally excavated in the Jiroft territory since 2001, that firstly revealed to the archaeological audience the existence of the Halil Rud or Marhashi civilization (besides Madjidzadeh 2003, see Piran, Hesari 2005; Madjidzadeh 2008; Piran, Madjidzadeh 2013; Vidale 2015; 2017; Pfälzner, Alidadi Soleimani 2017; Desset et al. 2017; and others). The presumed chronology for the graves containing the carved chlorite artifacts of the so-called *serie ancienne* wavers around the 25th-24th centuries BCE (Vidale 2015).

The object belongs to a series of similar items at present on exhibit, as a group (Fig. 2), in a showcase of the Museum of Jiroft. Normally classified as "pins," these objects have a standardized form but variable size (often greater than 30-40 cm). The most common head takes the shape of two superimposed cones, probably representing a carinated, restricted and necked vessel (the represented container, presumably, made of copper). Some specimens of the same description feature in Madjidzadeh's volume (2003: 155). Copper objects of the same fashion but smaller in size were also recovered in the cemeteries of Shahdad (Hakemi 1997: 650-651), preliminarily dated to the mid-3rd millennium BCE.

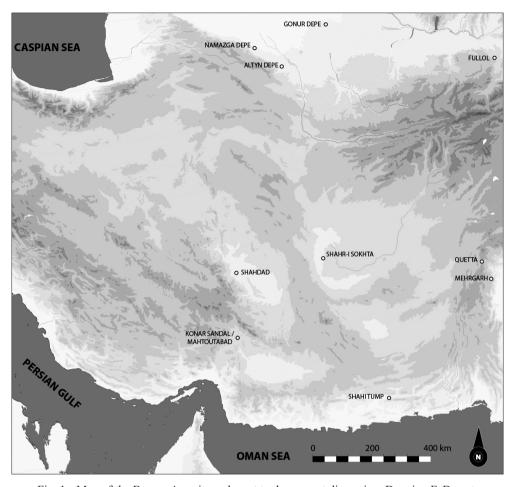


Fig. 1 - Map of the Bronze Age sites relevant to the present discussion. Drawing F. Desset.

The last item to the bottom of Fig. 2, n. 966, is larger and different (Figs. 3-4). It is formed by a rather well preserved shaft, round in section, c. 58 cm long, with a maximum thickness, at the base of the shaft, of c. 2.5 cm. The thick base or haft takes the form of seven sharp parallel ridges, separated by eight deep grooves. The surface of the whole piece is covered by a fine reddish layer of stabilized cuprite. It has a simpler restricted pointed end, but aimed at the insertion of an exceptional and unique object—a beautiful lapis lazuli finial in form of a "hut" or "temple" door model. According to the Museum personnel, such lapis lazuli clamp or finial, recently broken in two parts (see details in Figs. 5-6), when found, was actually inserted in the pointed rear end of the object, where it still fits easily. It is also likely that the recent fracture of this beautiful component was due to a careless attempt to force it out from the bent extremity of the copper corroded

168 [2]

¹ As M. Gleba pointed out, the lack of standardization of these possible tools argues against their univocal interpretation as distaffs. However, we know too little about their original contexts and proveniences to discuss safely on this ground; and our proposed identification, waiting for a scientific excavation of a grave with these objects still in their primary context, is admittedly hypothetical.

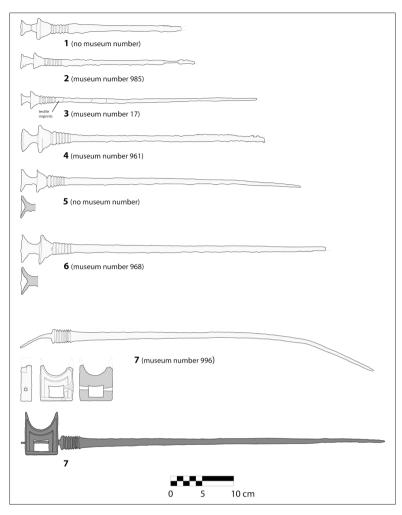


Fig. 2 - The copper or bronze "distaffs" discussed in this paper, at present kept at the Jiroft Archaeological Museum (Kerman, Iran). N. 1: 25.5 cm length (at least); n. 2: 28 cm length (at least); n. 3: 37.5 cm length; n. 4: 38.5 cm length (at least); n. 5: 44.5 cm length; n. 6: 48.5 cm length (at least); n. 7: 58 cm length.

shaft. We wonder whether all the pin-like artifacts and the composite piece 966 in Fig. 2 were distaffs for holding fine fibers to be spun.²

[3]

² The exceptionally large lapis lazuli finial actually suggests a high rank burial. It is reasonable to assume that ladies of high rank would spin the finer threads. First, spinning fine thread is more labor intensive than spinning slightly heavier yarn. Second, spinning fine thread requires the spinner to focus on work, as opposed to walking around while spinning—a multitasking attitude. Third, ancient European distaffs that indicate wealth tend to be well suited to fine spinning, perhaps a long, bast fiber such as flax. On the other hand, as M. Gleba argued in an email exchange with M. Vidale, before mid-1st millennium BCE flax was not draft spun but spliced—a very different technology that does not require distaffs: in fact, plant fibre textiles from across the Old World were made with spliced and plied yarn up to about 600 BCE. M. Gleba thus concluded that "...Your 'pins' could have been distaffs but not for flax or any long plant bast fibres-wool is much more likely, if they were indeed distaffs. Fixing them on the stand, on the other hand is an interesting idea, as it would free up both arms for spinning." (Gleba, Harris 2019).

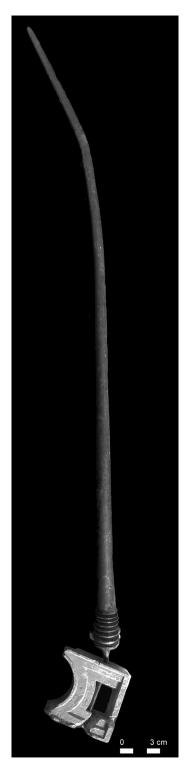


Fig. 3 - Artifact 966 in its present state. Photo M. Vidale, F. Desset.

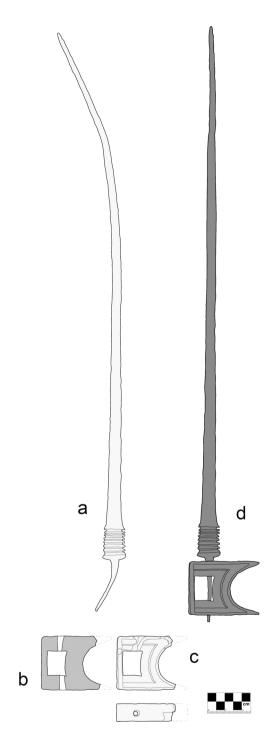


Fig. 4 - Drawing of artifact 966: a. after removal of the lapis lazuli clamp; b. the clamp in section, showing the holes for the insertion of the distaff; c. the clamp seen from two sides; d. reconstruction of the composite object as it was before being warped and damaged. Drawing F. Desset, M. Vidale.





Figs. 5, 6 - Other view of the lapis lazuli clamp in the shape of a "hut" or "temple model" attached to the copper staff (artifact 996). Photos M. Vidale.

[5]

According to the *Encyclopaedia Britannica*, a distaff is "a device used in hand spinning on which individual fibres are drawn out of a mass of prepared fibres held on a stick (the distaff), twisted together to form a continuous strand, and wound on a second stick (the spindle)" (AA.VV. 2013).

As distaffs of the length of our specimen or even shorter can be comfortably held under the armpit and efficiently used (Kania 2010), the size of these "pins" well matches the identification with this kind of spinning tool. Long wooden distaffs, on the base of multiple ethnoarchaeological and ethnohistorical records easily available on the web, could stand vertical aside the spinster. Distaffs of variable length were held under the arm, at the waist (fixed by a string or belt to the body), or even kept within the legs. Distaffs are more commonly held in a hand, while the other was spinning; while the fiber, in some traditions, was simply kept in the hand, or twisted around the wrist. Manual handling of the fiber, however, has important setbacks. In the witness of a contemporary experimental archaeologist, with these techniques:

[...] (First) your hands are never perfectly dry...The combination of friction between fibres (movement), warmth and moisture leads to felt, not nice spinnable fibre; this means less quality in the thread as you near the end of your in-hand batch or a lot more prepared fibre thrown away—a huge waste of material and time. Two, you have to hold the batch of fibre in your upper hand, thus having two things to handle the wool and the spinning. The wool in your hand does impede your movement a bit—the reason why you are not spinning as regularly and evenly and fluidly as you could. Three, when you put away your spindle, the little batch of fibre attached to it can hang free and untwist the bit of thread between the spindle tip and itself. Four, you have to have an additional fibre supply if you do not want to mangle all the unwieldy stuff in your hand right away [...]. The difference between working with hand-held fibre and with non-hand-held fibre, whether it is fixed on a hand-held short distaff, on a underarm (or belt-held) medium or long distaff or wrapped around the wrist is enormous, especially for very fine varns [...]. Personally, I prefer the medium length tucked under the arm; I can work with hand-helds, but my upper draft hand then tends to get cramped after a while, possibly because I have very small hands. (Kania 2010).

Considering in practical terms the removable lapis lazuli temple-like clamp, that is where the usual handle (disc base) would be, for its size and shape, this unusual object does not look comfortable to hold, because three sides and two corners are squared off. Not a natural shape to hold, but could the stone have fitted into a bracket on a wall or table? A possible solution might be that this was a free standing tool, i.e. a distaff that could be placed and fixed on a rigid holder near the spinner. Or, possibly, the lapis lazuli clamp might have been inserted in a tight, hard leather pocket fixed at the belt.

Similar solutions would have allowed her to use both hands to control the thread. Also, the one with the lapis lazuli temple model is also the longest distaff, which suggests it was possibly used for spinning if not wool or flax, some other long, retted plant fiber. Having both hands free to control this kind of fiber makes spinning a fine thread much easier. The same idea might also fit with the fine parallel grooves that entirely cover the base of the possible distaff (see also the movement of the fingers by the spinner in Fig. 6). To our knowledge, this is not a known concept in Near Eastern or Middle Asian archaeology, but (besides the fact that this is the first time that one at-

172

tempts an identification of distaffs in ancient Iran) we suspect this is not something people usually are looking for, either.³

Conclusions

Such distaffs, in these practical terms, were probably useful in spinning fine threads. We originally thought of flax, but recent research would point, more likely, to wool. Fine lapis lazuli and chlorite statuettes of wooly sheep and goats (Fig. 7) were found in some of the plundered graves of the Halil Rud, reminding us that the valley would have provided the most suitable accesses and environments to move flocks from the plains to the summer pastures. According to the experience of one of the authors (KC) the smaller copper pins in the Jiroft museum group, too, could have been hand-held distaffs used with combed wool. This is an easy size to hold, and can carry a fair bit of combed fiber.

Often misidentified as "pins," if made of metals, or lost if made of wood, distaffs so far have been elusive in the archaeological record of most Bronze Age Eurasian civilizations (Barber 1991: 69-70; Caulfield 2018a). Less so, in the Hittite iconography of the 2nd millennium BCE, where spindles and distaffs, together with mirrors, mark femininity; also, they might hint to individual life destinies (through the symbolism of the thread) and to goddesses involved in childbirth. When deposited in female graves, if not due to some specific rituals performed in life or death (Harlow et al. 2014: 117-118) they might allude to spinning as a future role in the afterlife.



Fig. 7 - A chlorite statette of a ram with breast covered by woolen flocks, and eyes made with a white stone or shell inlay, at the Jiroft Museum, Jiroft. The breast wool is usually the finest. Length approximately 12 cm. Photo M. Vidale, taken from the Museum's showcase.

[7]

³ We suspect that many textile tools have been left unlabeled, or mislabeled, because people cataloging them had little familiarity with how cloth was made. For example, Roman glass distaffs are usually interpreted and published as wine stirrers, or sometimes medical tools, oil dippers, cosmetic spatulas or toilet rods (Caulfield 2018a).



Fig. 8 - Paulina Elisabeta, First Queen of Romania, officially photographed in the national costume. She wears a richly-ornamented woolen skirt called *fotă* while spining wool with a distaff held under the armpit. Note how the fingers of the left hand pull the thread through what looks the upper groove of the multi-notched handle. Picture by Franz Duschek, published in Samuelson, J. (1882) *Roumania Past and Present*. London (after https://en.wikipedia.org/wiki/Romanian dress, retrieved on July 2018).

Comparisons, of course, include the famous Neo-Elamite bitumen slab of a spinning queen from Susa (Louvre Sb 2834, 8th-7th centuries BCE). While a review of the ideological implications of spinning across millennia of civilized life, of course, is out of our present scope, we may note that spinning with spindle and distaff appeared in the official royal iconography still in the late 19th century; like in the case of the Romanian royal house, whose queen Paulina Elisabeta (1882; she actually was a native German) chose to be portrayed as the mother of her new nation (Fig. 8), not only appearing in traditional dress, but also performing as a spinner—a symbolic synthesis of her supreme status and of an important sphere of conservative female values.4

Did the women of the Halil Rud elites convey similar ideological constructions, while carrying with them precious distaffs, yarns and fibers in their graves? And, as a consequence, do the copper tools so far discussed hint to the presence of high rank women buried in the plundered graveyards of the Halil Rud? The inlays in the anthropomorphic or hybrid figures in the mentioned inventories of chlorite artefacts probably refer to precious woven or embroidered garments worn by males and females. The lapis lazuli clamp shaped like a temple model—if this actually was the semantic reference of the precious object (see discussion in Vidale 2017) might

stress that spinning (and possibly textiles production in general) took place in sacred buildings or elite contexts, pretty much as it did in Mesopotamia since the times of the earliest written tablets (Uruk period, *c.* 3400-3100 BCE) and in the following periods (among others, Liverani 1988: 183; Snell 1997: 20, 35, 127; Wright 2013: 406-409).

The importance of large, high value copper distaffs was simply that they were of high value, and so served as status symbols. In this light, the burial of large copper distaffs in the Halil Rud graves might have different implications. With all the caution required by the case, the evidence might make visible, for the first time, the role of female leaders in their Early Bronze Age society; second, it might suggest a recurrent association between textile processing and sacred organizations, and finally—if religious institutions were actually involved—would reconfirm the universality of large-scale exploitation of specialized female labour.

174 [8]

⁴ In England, queen Elizabeth I spun enough to weave a shirt for one of her courtiers, and there are photographs of Queen Victoria using a spinning wheel dated 1865 (see https://www.rct.uk/collection/2105725/queen-victoria-at-a-spinning-wheel). The folk traditions linking in symbolic and formal contexts spinning and marriage persisted in various areas, as well; there are intricately carved 19th Century Scandinavian distaffs called "Wedding distaffs," as well as many other examples from the Russian world (Monger 2013: 258; see many images in https://www.pinterest.it/wildfibres/flax-distaffs-other-flax-tools/).

BIBLIOGRAPHY

- AA.VV (2013) s.v. Distaff. https://www.britannica.com/technology/distaff.
- Barber, E.J.W. (1991) *Prehistoric Textiles: The Development of Cloth in the Neolithic and Bronze Ages*. Princeton: Princeton University Press.
- Busana, M.S., M. Gleba, F. Meo, A.R. Tricomi, eds. (2018) Purpureae Vestes VI Textiles and Dyes in the Mediterranean, Economy and Society. Proceedings of the VIth International Symposium, Padova-Este-Altino, Italy 17-20 October 2016. Valencia.
- Caulfield, K. (2018a) The Hand-held Distaff also Known as the Underestimated Stick. In Busana et al.: 517-524.
- Caulfield, K. (2018b) The Surprising Stick. How Handheld Distaffs Became Beautiful and Practical. *Spin off*, 2018, 34-40.
- Crawford, H.E.W., ed. (2013) The Sumerian World. New York.
- Desset, F., M. Vidale, N. Alidadi Soleimani, E. Battistella, A. Daneshi (2017) A Grave of the Halil Rud Valley (Jiroft, Iran, ca. 2400-2200 BC): Stratigraphy, Taphonomy, Funerary Practices. *Iranica Antiqua*, 52, 25-60.
- Gleba, M., S. Harris (2019) The First Plant Bast Fibre Technology: Identifying Splicing in Archaeological Textiles. *Archaeological and Anthropological Sciences*, 11, 2329-2346. https://doi.org/10.1007/s12520-018-0677-8.
- Hakemi, A. (1997) *Shahdad: Archaeological Excavations of a Bronze Age Center in Iran*. Roma: IsIAO.
- Harlow, M., C. Michel, M.-L. Nosch, eds. (2014) *Prehistoric, Ancient Near Eastern & Aegean Textiles and Dress*. Oxford-Philadelphia.
- Liverani, M. (1988) Antico Oriente. Storia società economia. Roma-Bari.
- Kania, K. (2010) *The Praise of the Distaff*. Retrieved on July 2018 at the site http://togs-frombogs.blogspot.com/2010/08/praise-of-distaff.html.
- Madjidzadeh, Y. (2003) *Jiroft. The Earliest Oriental Civilization*. Tehran: Ministry of Culture and Islamic Guidance, Printing and Publishing Organization, Cultural Heritage Organization.
- Madjidzadeh, Y. (2008) Excavations at Konar Sandal in the Region of Jiroft in the Halil Basin: First Preliminary Report (2002-2008). *Iran*, 46, 69-103.
- McKenna, K. (2017) *Dressing a Handheld Distaff*. Retrieved on July 2018 at the site https://www.claddaghfibrearts.com/dressing-a-handheld-distaff/.
- Monger, G.P. (2013) Marriage Customs of the World: An Encyclopedia of Dating Customs. Vol. 1. Santa Barbara, CA.
- Pfälzner, P., N. Alidadi Soleimani (2017) The ICAR University of Tübingen South-of-Jiroft Archaeological Survey (SOJAS). Results of the First Season 2015. *Archäologische Mitteilungen aus Iran und Turan*, 47, 105-141.
- Piran, S., M. Hesari (2005) Cultural Around Halil Roud and Jiroft, the Catalogue of Exhibition of Select Restituted Objects. Tehran: National Museum of Iran.
- Piran, S., Y. Madjidzadeh (2013) Objects from the Jiroft Treasury, Soft Stone and Alabaster Objects (Recovered Collection) from the Halil River Basin. Tehran: National Museum of Iran.
- Snell, D.C. (1997) *Life in the Ancient Near East 3100-332 B.C.E.* New Haven-London: Yale University Press.
- Swales, L. (2015) Handling the Hand Distaff. Dressing Wool Viking, Roman & Greek Style. Retrieved on July 2018 at the site https://missingspindle.blogspot.com/2015/02/handling-hand-distaff-dressing-wool.html
- Vidale, M. (2015) Searching for Mythological Themes on the 'Jiroft' Chlorite Artefacts. *Iranica Antiqua*, 50, 15-58.
- Vidale, M. (2017) Protohistory of the Vara. Exploring the Proto-Indo-Iranian Background of an Early Mytheme of the Iranian Plateau. *The Journal of Indo-European Studies*, 45/1-2, 1-31.
- Wright, R. (2013) Sumerian and Akkadian Industries: Crafting Textiles. In Crawford: 395-417.

[9]

LIST OF CONTRIBUTORS

Prof. Alireza Askari Chaverdi Shiraz University; ISMEO c.m.

Dr Marco Baldi ISMEO o.m.

Prof. Giuseppe Buffon Pontifical University of Saint Anthony, Rome

Prof. Pierfrancesco Callieri Alma Mater Studiorum University of Bologna; ISMEO o.m.

Dr Kim Caulfield Indipendent Scholar

Dr Francois Desset CNRS team Archéorient, Lyon; University of Tehran

Prof. Nasir Eskandari University of Tehran

Dr Sergio Ferdinandi ISMEO o.m.

Prof. Anna Filigenzi University of Naples "L'Orientale"; ISMEO o.m.

† Emeritus Prof. Gherardo Gnoli Sapienza University of Rome

Dr Alessandro Taddei Sapienza University of Rome; ISMEO o.m.

Prof. Massimo Vidale University of Padua; ISMEO o.m.