

# **FLUTED MACES IN THE SYSTEM OF LONG-DISTANCE EXCHANGE TRAILS OF THE BRONZE AGE: 2350-800 BC**

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## Editor's Foreword

Fluted maces (*Kannelierte Streitkolben*) have not been an object of a monographic study so far. The reasons for this deficiency was the paucity of assemblage finds (mainly grave ones) and the fact that they occurred in the borderland between the East and West of Europe. Both reasons made it difficult to identify them chronologically and keep a full record of finds. The present monograph sums up almost 25 years of studies that at the outset were limited to Poland and only gradually were expanded to include the whole continent. This was made possible owing to the goodwill of many people and institutions from the Danube area, the Balkans and the Russian Plain.

The present volume of *Baltic-Pontic Studies* consists of two parts devoted, respectively, to the current state of knowledge on the position of the mace in the Near East and North Pontic civilizations, and the forms, chronology, origins, functions and socio-organizational significance of one of its types, namely the fluted mace.

As in previous volumes in this series, our intention is to inspire team, interdisciplinary studies involving scholars from different centres and countries. Only such a wide-range co-operation will bring about new developments in the areas discussed in this volume.

## Editorial comment

1. All dates in the B-PS are calibrated [see: Radiocarbon vol.28, 1986, and the next volumes]. Deviations from this rule will be point out in notes.
2. The names of the archaeological cultures and sites are standarized to the English literature on the subject (e.g. M. Gimbutas, J. P. Mallory). In the case of a new term, the author's original name has been retained.
3. The spelling of names of localities having the rank of administrative centres follows official, state, English language cartographic publications (e.g. *Ukraine*, scale 1 : 2 000 000, Kiev: Mapa LTD, edition of 1996; *Rèspublika BELARUS', REVIEW-TOPOGRAPHIC MAP*, scale 1:1 000 000, Minsk: BYELORUSSIAN CARTOGRAPHIC AN GEODETIC ENTERPISE, edition 1993).

**ERRATA***BALTIC-PONTIC STUDIES, vol. 11***Page 45, fig. 11:**

1 – single maces from the Baltic zone; 2 – sets of maces from the Baltic zone;  
3 – single maces from the Pontic-Caspian zone; 4 – sets of maces from the  
Pontic-Caspian zone

**Page 53, fig. 16:**

3 – southern limit of the Nordic circle; 6 – approx. borderline between  
Corded Ware culture (west) and Fatyanovo culture (east)

Piotr Taracha

## THE MACE IN THE ANCIENT NEAR EAST AND EGYPT ACCORDING TO ARCHAEOLOGICAL SOURCES

The mace was a key weapon for hand-to-hand fighting in wide use from the earliest times until the second half of the 4<sup>th</sup> millennium BC, and long after it had become obsolete as a battle weapon, it still remained the symbol of authority of the king and the god. Since the history of the mace in Egypt widely parallels the situation in the Near East, I shall describe various types of mace from both regions [see, generally — the Near East: Bonnet 1926:4ff.; Cocquerillat 1951:21ff.; Salonen 1966:69ff., 190ff.; Calmeyer 1976-1980; Korfmann 1976-1980; Egypt: Petrie 1920:22ff.; Wolf 1926:4ff.; Wildung 1977:414-415; Ciałowicz 1987; 1999:112, 132, 212-213]. The discussion will concern only the mace, i.e. a large, heavy club with a head, and omit all other sorts of battle staffs, curved sticks, scepters, etc. [cf Bonnet 1926:1ff. (*Schlagstock*); Wolf 1926:7-8, 57, 78 (*Knüppel*); see also Popko, Mace-heads..., in this volume].



Fig. 1 Clay model of a saucer-shaped mace from El Amrah, 4<sup>th</sup> millennium BC. After: Wolf 1926:Fig. 1.

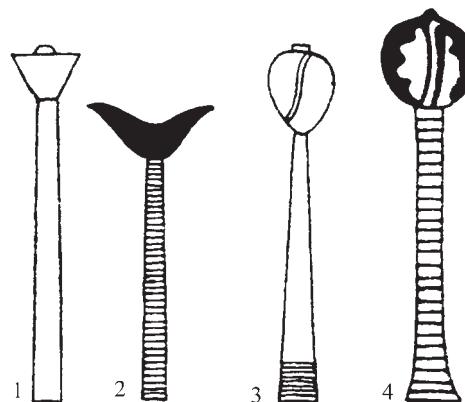


Fig. 2. Saucer- and pear-shaped maces in painted friezes of objects, XII<sup>th</sup> Dynasty (c. 1991-1785 BC). After: Wolf 1926:Pl. 1.11-14.

*Material.* Mace-heads made of stone constitute the bulk of the finds. The earliest known specimens from the 6<sup>th</sup> millennium BC, found at Çatalhöyük [Mellaart 1964:94], Asia Minor, and Jarmo [Braidwood, Howe *et al.* 1960:45], north Mesopotamia, are of white marble, conglomerate or limestone, a stone that works relatively easily, but later on, in the Chalcolithic and Early Bronze Age, also a hard, heavy stone, like hematite, was used both in the Ancient Near East and Egypt. Concerning various sorts of stone in Egyptian mace-heads W. Wolf lists: porphyry, syenite, limestone (which is the most popular material — the Egyptian word for pear-shaped mace is *hd* ‘the white one’ owing to the fact that they were usually made of white limestone [cf Wolf 1926:6]), diorite, breccia, alabaster, marble, schist, and basalt [Wolf 1926:7]. The stone material we encounter in Near Eastern maces is largely the same. A copper mace-head of the simple round type from Can Hassan, Asia Minor, is dated by the excavator to the 5<sup>th</sup> millennium BC [French 1962:33], and from the 4<sup>th</sup> millennium BC, when copper was just becoming known, much more specimens of the type were found at various sites in Palestine [*Abu Matar* — Perrot 1955:79, 172, Fig. 20, 24, Pl. 15A; *Nahal Mišmar* — Bar-Adon 1962:Pl. 36, 38-39, 42; *Ein Gedi* — Yadin 1963:40] and Iran [*Tepe Hissar IIB, IIIA* — Schmidt 1937:Pl. 29, 48, 52]. Here I agree with Y. Yadin’s statement: ‘The fact that mace-heads were molded from copper is explicable only in terms of the high importance of this weapon, so much so that neither resources nor efforts were spared to strengthen its striking power’ [Yadin 1963:40]. Bronze was used for ceremonial and votive mace-heads from the mid-3<sup>rd</sup> millennium BC onwards, and there is also textual evidence for the maces of lapis lazuli, (gilded) iron and silver [Salonen 1966:70ff.]. In south Mesopotamia, where the stone ma-

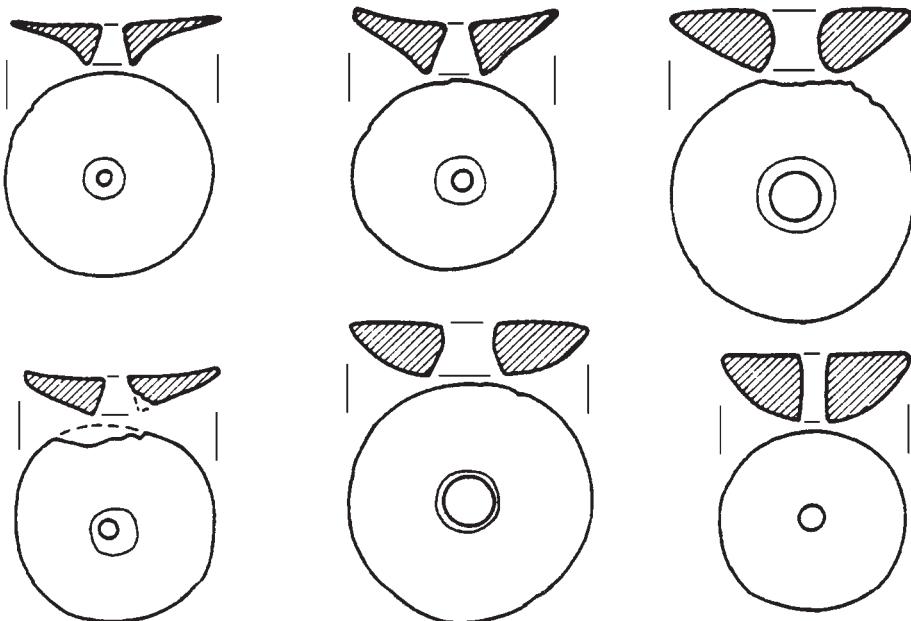


Fig. 3. Saucer-shaped mace-heads, Nagada I (c. 3900/3800-3500 BC). After: Ciałowicz 1999:111 Fig. 46

terial is hardly obtainable, mace-heads were sometimes made of burned clay with a bitumen coating. For instance, the specimens from Jemdet Nasr date to the last centuries of the 4<sup>th</sup> millennium BC [Mackay 1931:268; Christian 1940:Pl. 135.2; Salonen 1966:69]. In Egypt, clay mace-heads were found in several Nagada I burials (3900/3800-3500 BC) [Ciałowicz 1999:112]. Models of maces, made mostly of clay (Fig. 1; e.g., clay model of a saucer-shaped mace from El Amrah [Randal-MacIver, Mace 1902:Pl. 12.1; Wolf 1926:5 Fig. 1]), terracotta and wood (e.g., white painted, wooden mace-head of a New Kingdom date, with the wooden handle inserted into it, from tomb 35 at Schech abd el Gurna, now in Berlin [Wolf 1926:6]), sometimes also of precious metals, lapis lazuli and glass, occur both in Egypt and the Near East (e.g., lapis lazuli model of a pear-shaped mace-head with an ivory handle from Abusir el-Melek [Ciałowicz 1999:213]; glass models of maces from Nuzi [Starr 1939:Pl. 121A, 130B]; glass and terracotta models from Elam [Ghirshman 1966:Pl. LXXV.405, LXXVIII.448, 451, LXXXI.514]; small knobbed ‘mace-head’ of gold from Alacahöyük, Asia Minor, dated to the last centuries of the 3<sup>rd</sup> millennium BC [Arik 1937:Pl. 173]).

*Handles.* Only few handles of maces have survived since they were usually made of perishable materials, mostly wood. Note here two handles of ivory and horn,

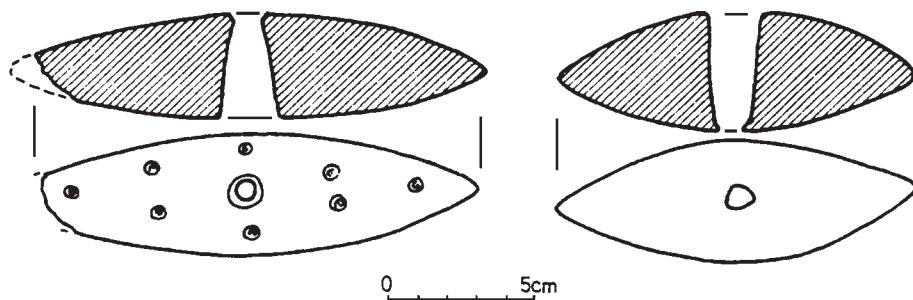


Fig. 4. Spindle-like mace-heads, Late Nagada I (c. 3500 BC). After: Ciałowicz 1999:111 Fig. 46

belonging to the saucer-shaped maces of a Nagada I date, found by W.M.F. Petrie at Diospolis, Egypt [Petrie 1901:33, Pl. 5; Wolf 1926:5; Ciałowicz 1999:112]; later finds from Egyptian tombs [cf Bonnet 1926:13]; and two hilts of iron with bronze elements, both from 'Iran', unpublished, which can be dated to the late Parthian or the Sassanian period [Calmeyer 1976-1980:579].

Wooden handles of ceremonial mace-heads had sometimes a copper, gold or silver casing. Suffice it to mention here several examples. Two Nagada III pear-shaped stone mace-heads from tomb 1/137 at Sayala, Nubia, were found together with gold sheathings of their handles [Ciałowicz 1999:213]. A copper tube from Tello, Mesopotamia, was interpreted as a covering of a mace handle [Heuzey 1910:77; Bonnet 1926:14]. Two handsome ceremonial maces were part of the royal treasure (dated c. 2500 BC) discovered at Dorak in northwest Anatolia. One mace has a pink veined marble head and a gold sheathing over its wooden handle, while the other, much smaller, has an amber head and a silver cased handle [cf Yadin 1963:142].

The models and the depictions of maces yield an additional bit of information on their handles (cf Fig. 1)[see Bonnet 1926:12ff.; Wolf 1926:5-6, Pl. 1.11-16]. The handle was inserted into the head and tightened by strips of cord or — in Mesopotamia — fastened with bitumen [Heuzey 1910:77; Bonnet 1926:13]. In Egypt it was also bound with cord on its whole length or only in the lower part, probably

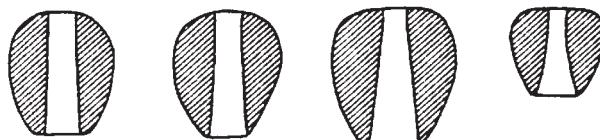


Fig. 5. Pear-shaped mace-heads, Nagada II (c. 3500-3200 BC). After: Ciałowicz 1999:132 Fig. 61

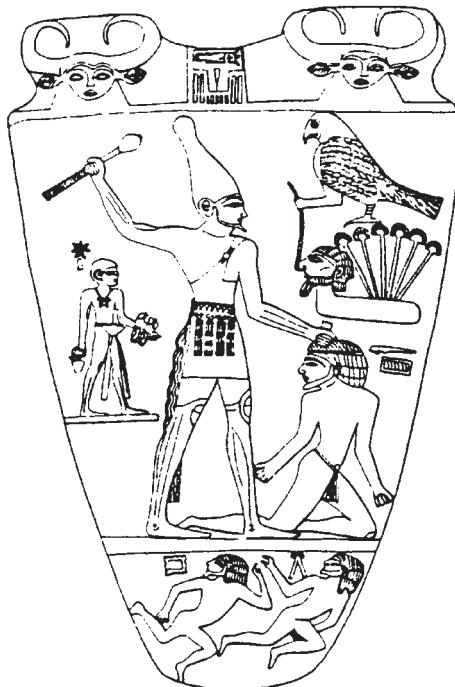


Fig. 6. Slate palette of king Narmer from Hierakopolis, c. 3100 BC. Cairo Museum. After: Ciałowicz 1999:324 Fig. 178

to prevent slipping, and sometimes tapered toward the head and broadened at the base to prevent the weapon from flying out of the hand when swung (Fig. 2; cf also Fig. 9). Neither the corded nor the swollen base of the handle is attested in Near Eastern maces.

*Mace-heads.* The types of mace-head used in Egypt in the first half of the 4<sup>th</sup> millennium BC differ from their Near Eastern counterparts in shape and function. While the earliest Near Eastern mace-heads are of the simple round type, in Egyptian Nagada I period a rather strange type of mace-head was in wide service, shaped like a disk and slightly concave (Figs 1 and 3) [Wolf 1926:4-5, Pl. 1.1-2; Bonnet 1926:8, Fig. 3; Ciałowicz 1999:112, Fig. 46]. This type survived in ceremonial weapons till the end of the Pre-Dynastic period (Nagada III, last centuries of the 4<sup>th</sup> millennium BC), and maces of a reminiscent shape still occur in the Middle Kingdom wall paintings (Fig. 2.1-2). Concerning this type of mace Y. Yadin states: 'It is clear that the designers of the disk-shaped (or saucer-like) mace-head sought to make it also a cutting instrument by giving it a sharp edge, but this necessarily reduced its smiting power' [Yadin 1963:40]. Also a rare type of pointed, spindle-like

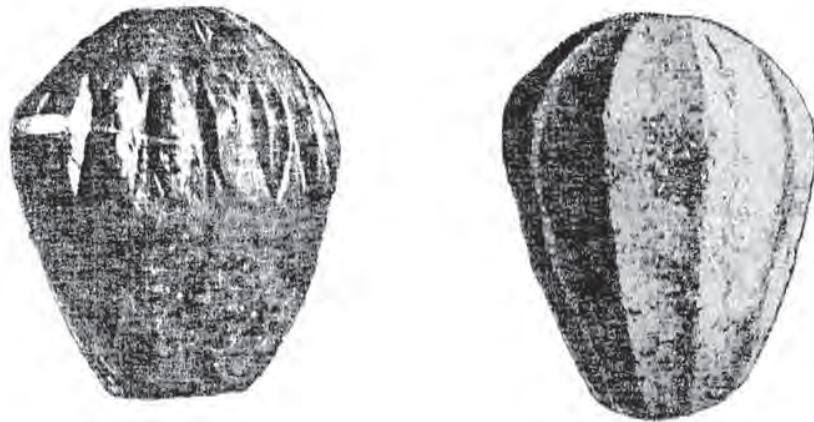


Fig. 7. Fluted pear-shaped mace-heads from Tell Agrab, Mesopotamia, Early Dynastic (3<sup>rd</sup> millennium BC). Museum of the Oriental Institute, Chicago. After: Yadin 1963:120

mace-head (Fig. 4) [Wolf 1926:6, Pl. 1.7 (*Spitzenkeule*); Ciałowicz 1999:112, Fig. 46], which appears around the middle of the 4<sup>th</sup> millennium BC, was virtually designed for both purposes.

'Eventually they realized that the two aims could not be achieved through a single instrument, and apart from isolated experiments here and there, they settled on the mace for striking and the axe for piercing and cutting' [Yadin 1963:40]. Thus, in the Nagada II period (c. 3500-3200 BC) more effective, pear-shaped mace-heads (Fig. 5; cf also Fig. 2.3-4) of Oriental origin gradually replaced the earlier types [cf Wolf 1926:4ff.; Ciałowicz 1999:132, Fig. 61]. This weapon was so characteristic of the time that it even became the symbol of the pharaoh's might (Fig. 6).

The mace of the egg- or pear-shaped type was in wide use in all countries of the Ancient Near East. Earliest, ovoid examples are dated to the 5<sup>th</sup> millennium BC (Tepe Sialk I 2; Tepe Gavra XVIII). In the 4<sup>th</sup> millennium BC the type — developing into a pear-like form, more or less — becomes characteristic of Amuq phase G in north Syria and the 'Énéolithique récent' in Byblos (3700-3200 BC), and its climax in north Mesopotamia falls in with Tepe Gawra VIII-VI, i.e. from c. 3200 BC onwards [Korfmann 1976-1980:585]. At the time, pear-shaped mace-heads appeared in the Transcaucasus, too, as a result of strengthened contacts with southwestern Asia. The finds from Mingechar on the Akstafa river, Azerbaijan (3200-2900 BC), and the Karmir-Berd cemetery in the Ararat valley, Armenia (2300/2100-1900/1800 BC), establish the chronological brackets of their use there [Kushnereva 1997:63, Fig. 23.19, 116].



Fig. 8. Bronze mace of Akkadian king Naram-Sin, c. 2250 BC. After: Salonen 1966 Pl. XXIV.1.

This type of mace frequently occurs in Mesopotamia during the Early Dynastic and Akkadian periods [cf Solyman 1968:19ff., 65ff.]; sporadically we encounter it through the 2<sup>nd</sup> millennium BC, and the latest evidence is found in the Assyrian imperial reliefs [Calmeyer 1976-1980:580-581.]. In the Early Dynastic period pear-shaped mace-heads were sometimes fluted (Fig. 7). ‘This last type, which was also found in Syria, succeeded in some measure in giving the mace a cutting function with the sharp edges between the grooves, without reducing its power to stun’ [Yadin 1963:41]. There is also a group of bronze maces, cognate with the above mentioned, in which a long tube and a head were molded together [cf Bar-Adon 1962:Pl. 38, 39A, 42]. One of the earliest examples is the mace dedicated to the Akkadian king Naram-Sin (c. 2250 BC), with the fluted, ovoid head (Fig. 8) [Salonen 1966:191, Pl. XXIV.1; Calmeyer 1976-1980:581]. Other specimens, sometimes also with vertical grooves on their heads, date to the end of the 3<sup>rd</sup> and the 1<sup>st</sup> millennium BC [Calmeyer 1976-1980:580-581].

*Function.* ‘The mace was an effective weapon so long as the enemy was not armored and his head, in particular, was unhelmeted’ [Yadin 1963:41]. This ‘age

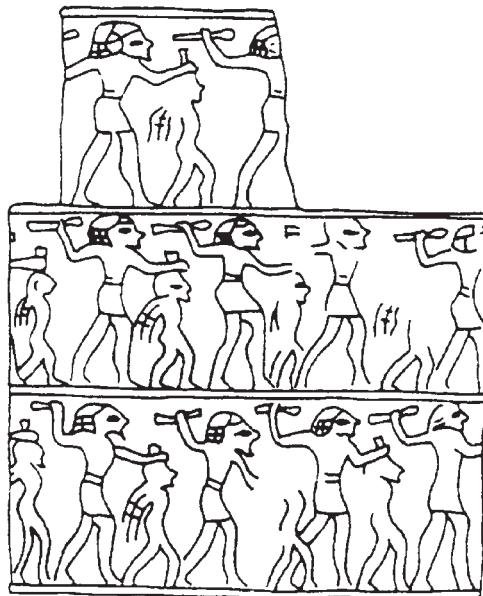


Fig. 9. Ivory cylinder seal from Hierakonpolis with representation of a bound captive being struck with a mace, 1st Dynasty (c. 3050-2890 BC). British Museum. After: Ciałowicz 1999:349 Fig. 194

of mace' came to an end in the last centuries of the 4<sup>th</sup> millennium BC. However, captives being struck with a mace occur in Egyptian (Fig. 9) and Near Eastern iconography until the 1<sup>st</sup> millennium BC [for Early Dynastic and Assyrian representations, see Calmeyer 1976-1980:582-583]. On the evidence of Assyrian reliefs, executions of captives with the stroke of a mace sometimes took place in the presence of the god, in front of his temple. Here, a legitimate reason for using the mace in the slaughter was its symbolic significance as the god's weapon [Calmeyer 1976-1980:583].

The mace became one of the most important insignia of chieftaincy and royal power, and consequently, as we see on the basis of iconographical and written sources from the 3<sup>rd</sup> millennium BC onwards, it was connected with various gods as their weapon and attribute [Bonnet 1926:15; Salonen 1966:71ff.; Calmeyer 1976-1980:583]. Apart from the texts [see Popko, Mace-heads..., in this volume] there is also abundant archaeological evidence of the symbolic role of the mace. First ceremonial mace-heads appear as early as the 5<sup>th</sup> millennium BC, like a handsome specimen from Tepe Sialk, Iran, level I2, decorated with incised zigzags and red incrustation [Ghirshman 1938:Pl. 53.4]. Moreover, many mace-heads of a 4<sup>th</sup> millennium BC date have so narrow hollows that their handles were not strong enough

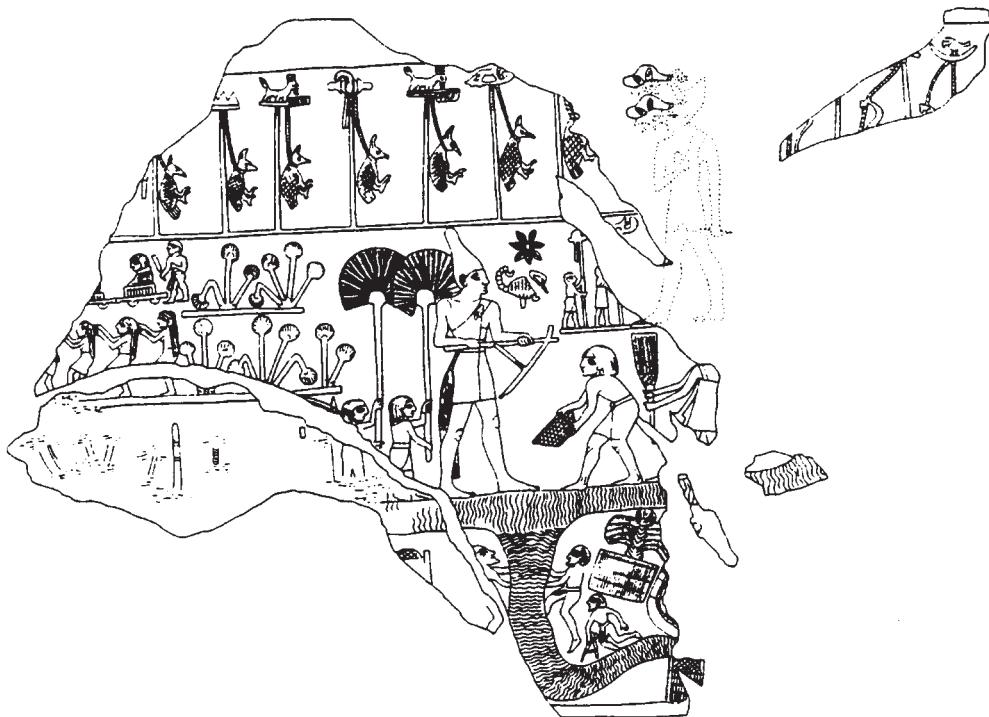


Fig. 10. Relief decoration of the king Scorpion mace-head from Hierakopolis, c. 3100 BC. Ashmolean Museum, Oxford. After: Ciałowicz 1999:336 Fig. 184

to ensure effectiveness of the mace in combat. In that case, its significance as the status symbol seems probable.

Undoubtedly, most mace-heads from the 3<sup>rd</sup> and 2<sup>nd</sup> millennia BC had a ceremonial and/or votive function. Worthy of notice here are the sculptured mace-heads from Egypt and Early Dynastic Mesopotamia. The excavations at Hierakopolis brought to light one wholly preserved and three other fragments of such mace-heads dating to c. 3100-3000 BC, i.e. Late Pre-Dynastic and the very beginning of the I<sup>st</sup> Dynasty. Most famous are those of kings Scorpion (Fig. 10) and Narmer [Ciałowicz 1987; 1997; 1999:336ff.; Millet 1990:53ff.]. The group of sculptured mace-heads from 3<sup>rd</sup> millennium BC Mesopotamia [on the style of reliefs, see Frankfort 1935:105 ff.] includes the lion mace-head of king Mesilim (c. 2600 BC) found in Tello (Fig. 11). The majority of the mace-heads glorify the king as NAMEŠDA ‘Lord of the Mace’ [this title of Mesopotamian king is attested as early as the 4<sup>th</sup> millennium BC, see now Selz 2001:13-14], while the others are connected with cult and can be considered offerings to the gods, as are those with dedicatory inscriptions (cf Fig. 8) [Calmeyer



Fig. 11. Mace-head of king Mesilim, c. 2600 BC. Louvre, Paris. After: Bonnet 1926:9 Fig. 4

1976-1980:582]. The finds of the mace-heads are sometimes regarded as evidence for the long-distance trade between Egypt, Palestine and north Mesopotamia [Mark 1997:46-47.].

Lastly, it should be stressed that offering of weapons to the gods after a victorious campaign was a well known practice in all countries of the Ancient Near East. In this connection worthy of mention is the 1<sup>st</sup> millennium BC ‘mace museum’ found in the city gate of Assur [Andrae 1913:34-35, Fig. 33; cf also Calmeyer 1976-1980:583].

*Translated by Author and Piotr T. Żebrowski*

## ABBREVIATIONS

- AJA – American Journal of Archaeology, New York  
AnOr – Analecta Orientalia, Rome  
AnSt – Anatolian Studies, London  
BPS – Baltic-Pontic Studies, Poznań  
ČVSMO – Časopis Vlasteneckého spodku musejního v Olomouci, Olomouc  
IEJ – Israel Exploration Journal, Jerusalem  
JARCE – Journal of the American Research Center in Egypt, Boston  
M.A.R.I. – MARI. Annales de recherches interdisciplinaires, Paris  
MDP – Mémoires de la Délégation archéologique en Iran, Paris  
RA – Revue d'assyrologie et d'archéologie orientale, Paris  
RIA – Reallexikon für Assyriologie und Vorderasiatische Archäologie, Berlin – New York  
TGIM – Trudy Gosudarstvennogo istoricheskogo muzeia, Moskva  
WVDOG – Wissenschaftliche Veröffentlichungen der Deutschen Orient-Gesellschaft, Leipzig – Berlin  
ZČSSA – Zprávy Československé společnosti archeologické při ČSAV, Praha  
– Brno – Nitra  
ZfE – Zeitschrift für Ethnologie, Berlin

## REFERENCES

- Albright W.F.  
1964 *Archeologia Palestyny*, Warszawa.
- Alkim B.U.  
1968 *Anatolia I. From the Beginnings to the End of the 2nd Millennium BC*.  
Geneva.
- Alp S.  
1947 La désignation du lituus en hittite, *Journal of Cuneiform Studies* 1:164-175.
- Altschlesien  
1940 Bermehrung der Sammlung des Landesamtes für Berggeschichte in Breslau.  
*Altschlesien* 9:179-189.
- Andrae W.  
1913 Die Festungswerke von Assur. Vol. 1: Textband. *WVDOG* 23.

- Androsov A.V., Yaremenko I.I., Martiushenko D.V.
- 1990 Kurgany epokhi eneolita — bronzovogo veka Kamenskogo polya. In: *Issledovaniya po archeologii Podneprovya*, 4-21. Dnepropetrovsk.
- Antoniewicz W.
- 1928 *Archeologia Polski*. Warszawa.
- 1930 Czasy przedhistoryczne i wczesnohistoryczne ziemi wileńskiej. In: *Wilno i Ziemia Wileńska*, 103-123. Wilno.
- Arik R.O.
- 1937 *Les fouilles d'Alaca Höyük, entreprises par la Société d'histoire turque, rapport préliminaire sur les travaux en 1935*. Ankara.
- Arkheologiya
- 1985 *Arkheologiya Ukrainskoy SSR*, vol. 1. Kiev.
- Artemenko I.I.
- 1967 Plemena verkhnego i srednego Podneprovia v epokhu bronzy. *Materialy i issledovaniya po archeologii SSSR* 148.
- Bar-Adon P.
- 1962 The Expedition to the Judean Desert, 1961: Expedition C — The Cave of the Treasure. *IEJ* 12:215-226.
- Berezanska S.S., N.N. Cherednichenko
- 1985 Srubnaya kultura. In: *Arkheologiya Ukrainskoy SSR*, vol. 1, 462-473.
- Berezanska S.S., V.I. Klochko
- 1998 Das Gräberfeld von Hordeevka. *Archäologie in Eurasien* 5. Rohden/Westf.
- Berounská M.
- 1987 Bulavy ve střední Evropě. *Praehistorica* 13:27-61.
- Bieliński P.
- 1985 *Starożytny Bliski Wschód od początków gospodarki rolniczej do wprowadzenia pisma*. Warszawa.
- 1991 *Ubaid Północny. Mezopotamia pomiędzy Dijalą a Haburem w latach 4800-4000 p.n.e.* Warszawa.
- Bilgi Ö.
- 1990 Metal objects from Ikiztepe in Turkey, *Beiträge zur Allgemeinen und Vergleichenden Archäologie* 9/10:119-219.
- Bittel K.
- 1945 *Grundzüge der Vor- und Frühgeschichte Kleinasiens*. Tübingen.
- Blume E.
- 1908 *Verzeichnis der Sammlungen des Uckermärkischen Museums — und Geschichtsvereins in Prenzlau*. Prenzlau.
- Bonnet H.
- 1926 *Die Waffen der Völker des Alten Orients*. Leipzig.

- Bouzek J.
- 1966 The Aegean and Central Europe an Introduction to the Study of Cultural Interrelations 1600-1300 B.C. *Pámátky archeologické* 57:242-276.
- Braidwood R.J., B. Howe
- 1960 *Prehistoric Investigations in Iraqi Kurdistan*. Chicago.
- Bratchenko S.N.
- 1976 *Nizhneye Podoniye v epokhu srednej bronzy*. Kiev.
- Bratchenko S.N., O.G. Shaposhnikova
- 1985 Katakombnaya kulturno-istoricheskaya obshchnost. In: *Arkheologiya Ukrainskoy SSR*, vol. 1, 403-420. Kiev.
- Bronicki A.
- 2000 Badania archeologiczne neolitycznej osady wyżynnej w Zimnym koło Włodzimierza Wołyńskiego jako przykład współpracy archeologów polskich i ukraińskich. In: *Zamojszczyzna i Wołyń w minionym tysiącleciu. Historia, kultura, sztuka*, 29-38. Zamość.
- Buchvaldek M.
- 1967 *Die Schnurkeramik in Böhmen*. Praha.
- Buchvaldek M., D. Koutecký
- 1970 *Vikletice. Ein schnurkeramisches Gräberfeld*. Praha.
- Bukowski Z.
- 1998 *Pomorze w epoce brązu w świetle dalekosiężnych kontaktów wymiennych*. Gdańsk.
- Busse H.
- 1915 Eine durchbohrte Steinkugel aus Radlow. *ZfE* 47:228-232.
- Butent-Stefaniak B.
- 1997 *Z badań nad stosunkami kulturowymi w dorzeczu górnej i środkowej Odry we wczesnym okresie epoki brązu*. Wrocław – Warszawa – Kraków.
- Calmeyer P.
- 1976 - 1980 Keule. B. Archäologisch. *RIA* V:579-583.
- Catalogue
- 1893 Katalog Kolleksii A.N. Pol v Ekaterinoslav. Kiev.
- Chmielewska A., M. Góra
- 1987 Kamienna buława z Puczniewa w województwie sieradzkim. *Prace i Materiały Muzeum Archeologicznego i Etnograficznego w Łodzi* 34:33-35.
- Christian V.
- 1940 *Altertumskunde des Zweistromlandes*. Vol. 1. Leipzig.
- Ciałowicz K.M.
- 1987 Les têtes de massues des périodes prédynastique et archaïque dans la valée du Nil. *Zeszyty Naukowe Uniwersytetu Jagiellońskiego, Prace Archeologiczne* 41, *Studia z Archeologii Śródziemnomorskiej* 9.

- 1997 Remarques sur la tête de massue du roi Scorpion. In: J. Śliwa (Ed.) *Studies in Ancient Art and Civilization* 8. *Zeszyty Naukowe Uniwersytetu Jagiellońskiego, Prace Archeologiczne* 59:11-27.
- 1999 *Początki cywilizacji egipskiej*. Warszawa – Kraków.
- Cocquerillat D.
- 1951 Notes pour servir à l'histoire des masses d'armes. *RA* 45:21-24.
- 1952 Les masses d'armes d'après les textes, *RA* 46:121-136.
- Cofta-Broniewska A.
- 1982 Epoka metali. In: A. Cofta-Broniewska, A. Kośko, *Historia pierwotna społeczeństw Kujaw*, 120-235. Warszawa – Poznań.
- Czebreszuk J.
- 2001 *Schylek neolitu i początki epoki brązu w strefie południowo-zachodniobałtyckiej (III i początki II tys. przed Chr.). Alternatywny model kultury*. Poznań.
- Czebreszuk J., M. Ignaczak, J. Łoś
- 1997 *Osadnictwo wczesnej kultury lużyckiej w Narkowie, gm. Dobre, stanowisko 9*. Poznań.
- Czebreszuk J., A. Kośko, P. Makarowicz, M. Szmyt
- 2000 Podsumowanie. In: A. Kośko (Ed.), *Archeologiczne badania ratownicze wzduż trasy gazociągu tranzytowego, Vol. III Kujawy, Part 4, Osadnictwo kultur późnoneolitycznych oraz interstadium epok neolitu i brązu: 3900-1400/1300 BC*, 569-572. Poznań.
- Červinka I.L.
- 1908 *Moravské starožitnosti*, Kojetín.
- Danilenko V.N.
- 1974 *Eneolit Ukrainy*. Kiev.
- Dąbrowski J.
- 1972 *Powiązania ziem polskich z terenami wschodnimi w epoce brązu*. Wrocław – Warszawa – Kraków – Gdańsk.
- 1997 *Epoka brązu w północno-wschodniej Polsce*. Białystok.
- Dickinson O.
- 1994 *The Aegean Bronze Age*. Cambridge.
- Domańska L.
- 1990 *Kakukasko-nadczarnomorskie wzorce kulturowe w rozwoju późnomezolitycznych społeczeństw Niżu strefy pogranicza Europy Wschodniej i Środkowej*. Wrocław.
- Durand J.-M.
- 1983 Textes administratifs des salles 134 et 160 du palais de Mari, *Archives royales de Mari* 21.
- 1993 Le mythologème du combat entre le Dieu de l'Orage et la Mer en Mésopotamie, *M.A.R.I.* 7:41-61.

- Edgren T.
- 1974 De ristade klubbhuvdena av sten och deras datering. *Finski Museum* 1974: 30-49.
- Esin U.
- 1989 An Early Trading Centre in Eastern Anatolia, Anatolia and the Ancient Near East. In: K. Emre et al. (Eds) *Studies in Honor of Tahsin Özgür*, 135-138. Ankara.
- Frankfort H.
- 1935 Early Dynastic sculptured mace-heads. *AnOr* 12:105-121.
- French D.H.
- 1962 Excavations at Can Hassan. Preliminary Report. *AnSt* 12:27-40.
- Gedl M.
- 1964 Wczesny i starszy okres epoki brązu na Górnym Śląsku. *Przegląd Archeologiczny* 16:24-55.
  - 1975 *Kultura przedłużycka*. Wrocław – Warszawa – Kraków – Gdańsk.
  - 1996 Uwagi o datowaniu i przynależności kulturowej kamiennych główek buław na Śląsku. *Silesia Antiqua* 38:35-43.
- Gershkovich J.P.
- 1982 Kulturno-khronologicheskie gruppy pogrebeniy epokhi sredney — pozdnej bronzy kurgana u s. Prishib. In: *Materialy po khronologii arkheologicheskikh pamyatnikov Ukrayiny*, 46-61. Kiev.
- Ghirshman R.
- 1938 *Fouilles de Tepe Siyalk près de Kashan*, 1933, 1934, 1937. Vol. 1. Paris.
  - 1966 Tchoga Zanbil (Dur-Untash). Vol. 1: La ziggurat. *MDP* 39
- Gimbutas M.
- 1965 *Bronze Age Cultures in Central and Eastern Europe*. Paris – London.
  - 1991 *Die Balten*. Frankfurt/M – Berlin.
- Gottwald A.
- 1906 Sídliště neolitická a nálezy kamenných nástrojov na Prostějovsku. *ČVSMO* 36:41-61.
- Govedarica B, E. Kaiser
- 1996 Die äneolithischen abstrakten und zoomorphen Steinzepter Südost- und Osteuropas. *Eurasia Antiqua* 2:59-103.
- Górski J.
- 1999 Die Beziehungen zwischen den westlichen Kleinpolen und dem Gebiet der Slowakei in der Klassischen Phase der Trzciniec Kultur (Ausgewählte Aspekte). In: J. Bátor, J. Peška (Eds), *Aktuelle Probleme der Erforschung der Frühbronzezeit in Böhmen und Mähren und in der Slowakei*, 251-265. Nitra.

- Gumiński W.
- 1989 *Gródek Nadbużny. Osada kultury pucharów lejkowatych*. Wrocław – Warszawa – Kraków – Gdańsk – Łódź.
- Harding A.F.
- 1984 *The Mycenaens and Europe*. London.
- Hauptmann H.
- 1976 Die Entwicklung der frühbronzezeitlichen Siedlung auf dem Noršuntepe in Ostanatolien. *Archäologisches Korrespondenzblatt* 6:9-20.
- Heuzey L.
- 1910 *Nouvelles fouilles de Tello*. Paris.
- Horst F.
- 1981 Bronzezeitliche Steingegenstände aus dem Elbe-Oder-Raum. *Bedenkmalpflege in Mecklenburg*. Jahrbuch 1981:33-83.
- Isaenko V.F.
- 1976 *Arkheologicheskaya karta Belorussii. Pamyatniki bronzovogo veka*. Minsk.
- 1970 Bronzovy vek. In: *Ocherki po arkheologii Belorussii*, 109-135. Minsk.
- Ivanova S.V.
- 2001 *Sotsialnaya struktura naseleniya yamnoy kultury Severno-Zapadnogo Prichernomoryya*. Odesa.
- Jadczykowa I.
- 1970 Sprawozdanie z badań prowadzonych w latach 1967 i 1968 na stanowisku 1 w Wietrzychowicach, pow. Kolo. *Prace i Materiały Muzeum Archeologicznego i Etnograficznego w Łodzi* 17:125-155.
- Jasnosz S.
- 1975 Materiały do osadnictwa w starszej epoce brązu na obszarze Wielkopolski południowej. *Fontes Archaeologici Posnanienses* 25:85-94.
- Jaźdżewski K.
- 1936 *Kultura pucharów lejkowatych w Polsce zachodniej i środkowej*. Poznań.
- 1981 *Pradzieje Europy Środkowej*. Wrocław – Warszawa – Kraków – Gdańsk.
- Kadrow S.
- 2001 *U progu nowej epoki. Gospodarka i społeczeństwo wczesnego okresu epoki brązu w Europie środkowej*. Kraków.
- Kadrow S., J. Machnik
- 1997 *Kultura mierzanowicka. Chronologia, taksonomia i rozwój przestrzenny*. Kraków.
- Kelly-Buccellati M.
- 1990 Trade in metals in the Third Millennium in northeastern Syria and Eastern Anatolia In: P. Matthiae, M. van Loon, H. Weiss (Eds), *Resurrecting the Past. A Joint tribute to Adnan Bounni*, 117-131. Leiden.

Klein L.S.

- 1968 *Proiskhozhdenie donetskoy katakombnoy kultury*. Leningrad (avtoreferat).

Klochko V.I.

- 1995 Copper Objects and the Question of ‘Sofievka Metallurgy’. In: A. Kośko (Ed.) Cemeteries of the Sofievka type: 2950-2750 BC, *BPS* 3:235-242.
- 1996 Novye aspekty sviazey Seviernogo Prichernomoria z Vostochnym Sredzim-nomoriem. In: ‘*Mir Olbii’ Pamiatnik issledovatielu i issledovanie pamyatnika. Materialy yubileynykh chtaienu posviashchenykh 90-leti so dnia rozhdeniya Professora L.M. Slavina*, 129-131. Kiev.
- 2001 Weaponry of Societes of the Northern Pontic Culture Circle: 5000-700 BC. *BPS* 10.

Klochko V.I., A. Kośko, M. Szmyt

- 1999 A comparative chronology of the area between Vistula adn Dnieper: 3150-1850 BC. In: The Foundations of Radiocarbon Chronology of Cultures between the Vistula and Dnieper: 3150-1850 BC. In: A. Kośko (Ed.) The Foundations of Radiocarbon Chronology of Cultures Between the Vistula and Dnieper: 3150-1850 BC, *BPS* 7:264-282.

Klochko V.I., V.I. Manichev, V.N. Kvasnitsa, S.A. Kozak, L.V. Demchenko, M.P. Sokhotskiy

- 2000 Concerning Tripolye metallurgy and the virgin copper of Volhynia. In: A. Kośko (Ed.) The Western Order Area fof the Tripolye Culture, *BPS* 9:168-186.

Klochko V.I., S.Z. Pustovalov

- 1994 The Warfare of the Northern Pontic Steppe — Forest-Steppe Pastoral Societies: 2750-2000 BC (Catacomb Culture). In: A. Kośko (Ed.) Nomadism and pastoralizm in the circle of Baltic-Pontic early agrarian cultures: 5000-1650 BC, *BPS* 2:196-215.

Kłosińska E.

- 1997 *Starszy okres epoki brązu w dorzeczu Warty*. Wrocław.

Knapowska-Mikołajczykowa A.

- 1956 Wczesny okres epoki brązu w Wielkopolsce. *Fontes Archaeologici Posnanienses* 7:31-115.

Kohl P.L.

- 1987 *The Ancient Economy, Transferable Technologies and Bronze Age World System: A view from the northeastern frontier of the Ancient Near East. Centre and Periphery in the Ancient World*, 13-24. Cambridge.

Kohlmeyer K.

- 1995 *Anatolian Architectural Decorations, Statuary, and Stelae, Civilizations of the Ancient Near East*. New York.

- Korfmann M.
- 1976 - 1980 Keule. C. Archäologisch (Prähistorisch). *RIA* V:583-586.
- Kostrzewska M.
- 1953 Wyroby kamienne kultury łużyckiej w Wielkopolsce w epoce brązowej i wczesnożelaznej. *Przegląd Archeologiczny* 9:214-238.
- Kostrzewski J.
- 1923a *Wielkopolska w czasach przedhistorycznych*, 2nd edition. Poznań.
- 1923b Nowe nabytki Działu Przedhistorycznego Muzeum Wielkopolskiego za lata 1922-1925. *Przegląd Archeologiczny* 3:221-233.
- 1928a I, II, III okres epoki brązowej w Polsce. *Przegląd Archeologiczny* 4:1-35.
- 1928b Nowe nabytki Działu Przedhistorycznego Muzeum Wielkopolskiego za lata 1922-1925. *Przegląd Archeologiczny* 3:221-233.
- 1954 Ze studiów nad wczesnym okresem żelaznym w Polsce. *Slavia Antiqua* 4:22-70.
- Kośko A.
- 1979 *Rozwój kulturowy społeczeństw Kujaw w okresach schyłkowego neolitu i wczesnej epoki brązu*. Poznań.
- 1981 *Udział południowo-wschodnioeuropejskich wzorców kulturowych w rozwoju niżowych społeczeństw kultury pucharów lejkowatych*. Poznań.
- 1985 Influences of the 'Pre-Yamnaya' ('Pre-Pit grave') Communities from Black Sea, Steppe Area in Western European Cultures. In: J.K. Kozłowski, J. Machnik, *L'éneolitic et le début de l'âge du bronze dans certains régions de l'Europe*, 57-72. Wrocław – Warszawa – Kraków – Gdańsk – Łódź.
- 1988 Rozwój kulturowy społeczeństw Kujaw w okresie późnego neolitu oraz interstadium epok neolitu i brązu w aspekcie recepcji egzogennych wzorców kulturotwórczych. In: A. Cofta-Broniewska (Ed.), *Kontakty pradziejowych społeczeństw Kujaw z innymi ludami Europy*, 145-183. Inowrocław.
- 1989 Cultural Development of Kuiavian Communities during the Late Neolithic and Neolithic-Bronze Age. Interstage in the Aspect of Exogenous Culture-Forming Pattern Reception. In: A. Cofta-Broniewska (Ed.), *Prehistoric Contacts of Kuiavian Communities with others Europeans Peoples*, 155-182. Warszawa.
- 1991 The Vistula-Oder Basins and North Pontic Region. *The Journal of Indo-European Studies* 19:235-257.
- 2000 From research into the issue of the development dependencies of the Corded Ware culture and Yamnaya culture. In: S. Kadrow (Ed.) *A Turning of Ages. Im Wandel der Zeiten. Jubilee Book Dedicated to Professor Jan Machnik on His 70th Anniversary*, 337-346. Kraków
- 2001 Zagadnienie wczesnobrązowej cezury w rozwoju szlaku 'Krym-Jutlandia'. In: J. Czebreszuk, M. Kryvalcevič, P. Makarowicz (Eds), *Od neolityzacji do początków epoki brązu. Przemiany kulturowe w międzyrzeczu Odry i Dniepru między VI i II tys. BC*, 283-389. Poznań.

- Kośko A., V.I. Klochko
- 1994 Nomadism and pastoralism — an outline programme for a discussion. In: A. Kośko (Ed.) Nomadism and pastoralism in the circle of Baltic-Pontic early agrarian cultures: 5000-1650 BC, *BPS* 2:1-4.
- Kośko A., J.J. Langer, M. Szmyt
- 2000 As a symptom of Tripolye ‘influence’ in the circle of neolithic Vistula cultures. In: A. Kośko (Ed.) The Western Order Area of the Tripolye Culture, *BPS* 9:282-288.
- Kovaleva I.F.
- 1983 *Pogrebalnyi obryad i ideologiya rannikh skotovodov*. Dnepropetrovsk.
- Kovaleva I.F., Mukhopad S.E., Shalobudov V.N.
- 1995 Raskopki kurganov v Dneprovskom Nadporozhye. In: *Problemy arkheolo-giyi Podneprovya*, 4-34. Dnepropetrovsk.
- Kovalyukh N., V. Skripkin, V.I. Klochko, E.V. Sobotovich
- 1998 Absolute (radiocarbon) chronology of the eastern Trzciniec culture in the Dnieper Basin. In: A. Kośko (Ed.) The Trzciniec Area of the Early Bronze Age Civilization: 1950-1200 BC, *BPS* 6:130-140.
- Kowalski K.
- 1975 Nowe stanowiska archeologiczne w powiecie Opatów. *Wiadomości Archeologiczne* 39:408-412.
- Kraynov [Krainov] D.A.
- 1972 *Drevneyshaya istoriya Volgo-Okskogo mezhdurechiya*. Moskva.
- 1987 Fatyanovskaya kultura. In: *Epokha bronzy lessnoy polosy SSSR*, 58-76. Mo-skva.
- 1992 On the problem of origin, chronology and periodisation of the Fatyanovo-Balanovo cultural community. In: M. Buchvaldek, Ch. Strahm (Eds) *Die Kontinentaleuropäischen gruppen der Kultur mit Schnurkeramik*, 321-327. Praha.
- Kraynov D.A., I. Loze
- 1987 Kultury shnurovoy keramiki i ladevidnykh toporov v Vostochnoy Pribaltike. In: *Epokha bronzy lesnoy polosy SSSR*, 51-57. Moskva.
- Krivtsova-Grakova O.A.
- 1949 Bessarabskiy klad. *TGIM*.
- Kruts V.A., S.M. Ryzhov
- 2000 Tripolye Culture in Volhynia (Gorodsk-Volhynian group). A. Kośko (Ed.) The Western Border Area of the Tripolye Culture, *BPS* 9:86-110.
- Kryvaltsevich M.N.
- 2001 *Spravazdacha ab arkhealagichnym dosledovaniakh na Byeloruskim Polessi i Podniaproui 2000 godze*. Minsk: Arkhiv NAN Byelorus.

- Kryvaltsevich M.N., N.N. Kovalyukh  
 1999 Radiocarbon Dating of the Middle Dnieper Culture from Belarus. In: A. Koško (Ed.) *The Foundations of Radiocarbon Chronology of Cultures Between the Vistula and Dnieper: 3150-1850 BC*, *BPS* 7:151-162.
- Kudriashov K.V.  
 1948 *Polovetskaya step*. Moskva.
- Kunkel O.  
 1936 Forschungsberichte: Urgeschichte. *Baltische Studien* 38:383-406.
- Kuhrt A.  
 1998 *The Ancient Near East c. 3000-330 BC*. London.
- Kulbaka V., V. Kachur  
 1998 *Somatychni kultury bronzovoho viku pivdnya Skhidnoyi Yevropy*. Mariupol.
- Kurylenko V.Y., V.V. Ostroshchenko  
 1998 The Sasnytsa Culture of the Desna Area and its Links with Eastern Neighbours. In: A. Koško (Ed.) *The Trzciniec Area of the Early Bronze Age Civilization: 1950-1200 BC*, *BPS* 6:87-102.
- Kushnereva K.Kh.  
 1997 *The Southern Caucasus in Prehistory: Stages of Cultural and Socioeconomic Development from the Eight to the Second Millennium B.C.* Philadelphia.
- Kuznetsov P.F., A.A. Khokhlov  
 1998 Sledy travmaticheskikh povrezhdeniy liudei po materialam pogrebenii epokhi bronzy Volgo-Uralskogo regiona. In: *Voyennaya Arkheologia. Oruzhie i voyennoye delo v istoricheskoi i sotsialnoi perspektive. Materialy mezhdunarodnoi konferentsii*, 31-34. Sankt Petersbrug
- Lagodovska O.F., O.G. Shaposhnikova, M.L. Makarevich  
 1962 *Mikhaylivske poselennya*. Kiev.
- Lampe W.  
 1963 Über einige Formen von Keulengeräten, besonders im südlichen Niedersachsen. *Die Kunde* 14:56-62.
- Larsen M.T.  
 1996 *Old Assyrian Copper Trade in Anatolia*. Istanbul.
- Lasak I.  
 1996 *Epoka brązu na pograniczu śląsko-wielkopolskim. Część I — materiały źródłowe*. Wrocław.  
 2001 *Epoka brązu na pograniczu śląsko-wielkopolskim. Część II — zagadnienia kulturoowo-osadnicze*. Wrocław.
- Latynin B.A.  
 1967 Molotkovidnye bulavki, ich kulturnaya atributsiya i datirovka. *Arkheologicheskiy Sbornik* 9.

- Leemans W.F.
- 1950 *The Old-Babylonian Merchant, his Business and his Social Position*. Leiden.
  - 1960 *Foreign Trade in the Old-Babylonian Period*. Leiden.
- Leick G.
- 2001 *Mesopotamia. The Invention of the City*. London.
- Leskov A.M.
- 1967 O severoprichernomorskom ochage metalloobrabortki v epokhu pozdnei bronzy. In: *Pamyatniki epokhi bronzy yuga Yevropeiskoi chasti SSSR*, 143-178. Kiev.
- Lichardus J.
- 1960 Kamenné nástroje na Slovensku a ich hlavné typy. *Archeologické Rozhledy* 12:842-859.
- Lietuvos
- 1974 *Lietuvos TSR Archeologijos Atlasas I*. Vilnius.
- Limet H.
- 1960 *Le travail du métal au pays de Sumer au temps de la III<sup>e</sup> dynastie d'Ur*. Paris.
  - 1984 Documents relatifs au fer à Mari, *M.A.R.I.* 3:191-196.
  - 1985 Les relations entre Mari et la côte méditerranéenne sous le règne de Zimri-Lim, *Studia Phoenicia* 3.
- Liverani M.
- 1993 Model and Actualization. The Kings of Akkad in the Historical Tradition. In: M. Liverani (Ed.) *Akkad. The First World Empire. Structure, Ideology, Traditions*, 41-68. Padova.
- Lloyd S.
- 1967 *Early Highland Peoples of Anatolia*. London.
- Lysenko S.D.
- 2001 *Seredne Podniprovia za doby piznou bronzi*. Kiev.
- Machnik J.
- 1979 Krąg kultury ceramiki sznurowej. In: W. Hensel (Ed.) *Prahistoria Ziemi Polskich*, Vol. II, 337-412. Wrocław – Warszawa – Kraków – Gdańsk.
  - 1999 Radiocarbon Chronology of the Corded Ware Culture on Grzeda Sokalska. A Middle Dnieper Perspective. In: A. Kośko (Ed.) The Foundations of Radiocarbon Chronology of Cultures Between the Vistula and Dnieper: 3150-1850 BC. *BPS* 7:221-250.
- Mackay E.J.H.
- 1931 Report on Excavations at Jemdet Nasr, Iraq. *Field Museum. Anthropology Memoirs* 1. Chicago.
- MacKendrick P.
- 1962 *The Greek Stones Speak. The Story of Archaeology in Greek Lands*. London.

Makarenko M.

1933 *Mariupilskiy mohylnik*. Kiev.

Makarowicz P.

- 1998 Absolute Chronology of the Trzciniec Complex in the Vistula Drainage in the Light of <sup>14</sup>C Datings. In: A. Kośko (Ed.) *The Trzciniec Area of the Early Bronze Age Civilization: 1950-1200 BC. BPS* 6:141-155.
- 1998a *Rola społeczności kultury iwieńskiej w genezie trzcinieckiego kręgu kulturo-wego (2000-1600 BC)*. Poznań.
- 1999 The Problem of Reception of Otomani Culture Patterns on the Polish Lowlands. In: J. Gancarski (Ed.) *Kultura Otomani-Füzesabony — rozwój, chronologia, gospodarka*, 231-247. Krosno.
- 2000 Osadnictwo społeczności kultury iwieńskiej oraz trzcinieckiego kręgu kulturo-wego (2400-1400/1300 BC). In: A. Kośko (Ed.) *Archeologiczne badania ratownicze wzduż trasy gazociągu tranzytowego, Vol. III Kujawy, Part 4, Osadnictwo kultur późnoneolitycznych oraz interstadium epok neolitu i brązu: 3900-1400/1300 BC*, 457-550. Poznań.

Makiewicz T.

1969 Cmentarzysko grobowców kujawskich w Wietrzychowicach powiat Koło. *Sprawozdania Archeologiczne* 21:25-28

Malov N.M.

1991 Pogrebeniya s bulavami i vtokami iz Nataliynskogo mogilnika. In: *Arkheologiya Vostochno-Yevropeiskoi stepi*, 15-42. Saratov.

Manzura I.V.

1984 Issledovanie kurganov u pos. Svetlyi. In: *Kurgany v zonakh norostroek Moldavy*, 109-142. Kishinev.

Marina Z.P., Romashko V.A., Severin A.B.

1995 Kurgany epokhi bronzy u s. Bogdanovka v Prisamarye. In: *Problemy Archeologiyi Podneprovya*, 35-62. Dnepropetrovsk.

Mark S.

1997 *From Egypt to Mesopotamia. A Study of Predynastic Trade Routes*. London.

Matthiae P.

1982 The Problem of the Relations Between Ebla and Mesopotamia in th Time of the Royal Palace of Mardikh IIB1 (ca. 2400-2250 BC). In: H.J. Nissen, J.R. Preis (Eds) *Mesopotamien und seine Nachbarn. Politische und kulturelle Wechselbeziehungen im Alten Vorderasien vom 4. bis 1. Jahrtausend v. Chr.*, 111-124. Berlin.

Mellaart J.

1964 Excavations at Çatal Hüyük: Third Preliminary Report. *AnSt* 14:39-120.

1982 *Mesopotamian Relations with the West, Including Anatolia. Mesopotamien und seine Nachbarn. Politische und kulturelle Wechselbeziehungen im Alten Vorderasien vom 4. bis 1. Jahrtausend v. Chr.*, 7-12. Berlin.

- 1999 Anatolia 4000-2300 BC. In: *Cambridge Ancient History*, Vol. I, part 2, Early History of the Ancient Near East, 438-473. Cambridge.
- 1999a Anatolia 2300-1750 BC, In: *Cambridge Ancient History*, Vol. I, part 2, Early History of the Ancient Near East, 681-722. Cambridge.
- Mellink M.J.
- 1982 Archaeology in Asia Minor, *AJA* 86:557-566.
- 1989 Anatolian and Foreign Relations of Tarsus in the Early Bronze Age. Anatolia and the Ancient Near East. In: K. Emre et al. (Eds) *Studies in Honor of Tahsin Özgüç*, 319-331. Ankara.
- Merpert N.Y.
- 1967 Razkopki v nizhney Povolzhe. In: *Pamyatniki epokhi bronzy Yuga Evropeyskoy chasti SSSR*, 82-96. Kiev.
- Mertins O.
- 1904 Steinzeitliche Werkzuge und Waffen in Schlesien. *Schlesiens Vorzeit in Bild und Schrift* 3:1-27.
- Mezzena F.
- 1998 Les stèles anthropomorphes en Europe. In: *Dei di pietra. La grande statuaria antropomorfa nell'Europa del III millenio a.C.*, 15-89. Genève – Milano.
- Millet N.B.
- 1990 The Narmer mace-head and related objects. *JARCE* 27:53-59
- Montelius O.
- 1900 *Die Chronologie der ältesten Bronzezeit in Nord-Deutschland und Skandinavien*, Braunschweig.
- Moorey P.R.S.
- 1982 The Archaeological Evidence for Metallurgy and Related Technologies c. 5500-2100 B.C., *Iraq* 44:13-38
- Mozolevskiy V.N.
- 1970 *Albom zarisovok i photographii Instituta Arkheologii AN USSR*. Kiev.
- Mozolevskiy V.N., S.Z. Pustovalov
- 1999 Kurgan ‘Dovga mogila’ z grupi chortomilka. *Kulturologichni studii* 2:118-140.
- Much M.
- 1889 *Kunsthistorischer Atlas*. Wien.
- Muhly J.D.
- 1997 Metals, In: *The Oxford Encyclopaedia of Archaeology in the Ancient Near East*, vol. II, 1-15. London.

Müller-Karpe A.

- 1974 Studien zur Geschichte des altanatolischen Metallhandwerks. *Offa Bücher* 75.

Müller-Karpe H.

- 1974 *Handbuch der Vorgeschichte* 3. München.

Nikolova A.V.

- 1999 Radiocarbon dating of graves of the Yamnaya and Catacomb cultures on the Dnieper Right Bank. In: A. Kośko (Ed.) *The Foundations of Radiocarbon Chronology of Cultures Between the Vistula and Dnieper: 3150-1850 BC*, *BPS* 7:103-128.

Okulicz J.

- 1973 *Pradzieje ziem pruskich od późnego paleolitu do VII w.n.e.* Wrocław – Warszawa – Kraków – Gdańsk,

Oppenheim A.L.

- 1969 Babylonian and Assyrian Chronological Texts. In: J.B. Pritchard (Ed.) *Ancient Near Eastern Texts Relating to the Old Testament*, 265-319, 558-567. Princeton.

Otroshchenko V.V.

- 1994 O dvukh linijakh razvitiya kultur plemen srubnoj obshchnosti. In: *Tez. Dok. Mezhdunarodnoi konferentsii 'Problemy skifo-sarmatskoi arkheologii Severnogo Prichernomorya'*, 150-153. Zaporozhye.

Palmieri A.

- 1985 Eastern Anatolia and Early Mesopotamian Urbanization: Remarks on Changing Relations. In: M. Liverani, A. Palmieri, and R. Peroni (Eds) *Studi di paletnologie in onore di Salvatore M. Puglisi*, 191-213. Rome.  
 1993 From Arslantepe Metalwork to Arsenical Copper Technology in Eastern Anatolia. In: M. Frangipane, H. Hauptmann, M. Liverani, P. Matthiae and M. Mellink (Eds) *Between the Rivers and Over the Mountains: Archaeologica Anatolica et Mesopotamica Alba Palmieri Dedicata*, 573-599. Rome.

Pavelčík J.

- 1967 Kultura s kanelovanou keramikou a skupina bošáckého typu na Morave a ve Slezsku. *ZČSSA* 9:1-18.

Perrot J.

- 1955 The Excavations at Tell Abu Mat ar near Beersheba. *IEJ* 5:17-40, 73-84, 167-189.

Petrie W.M.F.

- 1901 *Diospolis Parva. The cemeteries of Abadiyeh and Hu.* London.  
 1920 *Prehistoric Egypt.* London.

- Polidovich Y.B.
- 1993 Novye pogrebalnye pamyatniki epokhi bronzy s territorii Donetskoy oblasti. In: *Arkheologicheskij almanakh* 2:35-98. Donetsk.
- Popko M.
- 1995 *Religions of Asia Minor*. Warsaw.
- 1998 Zum Wettergott von Halab. *Altorientalische Forschungen* 25:119-125.
- Popova T.B.
- 1955 Plemena katakombnoy kultury. Severnoye Prichernomorye vo II tys. do n.e. *TGIM* 24.
- Potts D.T.
- 1997 *Mesopotamian Civilization. The Material Foundations*. London.
- Prinke A., J. Skoczyłas
- 1980 *Neolityczne surowce kamienne Polski środkowo-zachodniej*. Warszawa – Poznań.
- Přikryl F.
- 1891 Pravěké nálezy ze Záhoří. *ČVSMO* 8:23.
- Puhvel J.
- 1991 *Hittite Etymological Dictionary*, Vol. 3. Berlin – New York.
- 1997 *Hittite Etymological Dictionary*, Vol. 4. Berlin – New York.
- Pulak C., Bass G.F.
- 1997 *Uluburun, The Oxford Encyclopaedia of Archaeology in the Ancient Near East*, vol. I, 266-268. London.
- Pustovalov S.Z.
- 1992 *Vozrostnaya polovaya I sotsilnaya kharakteristika katakombnogo naseleniya severnogo Prichernomoryya*. Kiev.
- 1993 Deyaki blizkoskhidni elementy v ideologii katakombnogo naseleniya Severnogo Prichernomorya. *Arkheologiya* 1:24-33.
- 1994 Economy and social organization of Northern Pontic Steppe-Forest Steppe pastoral populations: 2750-2200 BC (Catacomb culture). In: A. Koško (Ed.) Nomadism and Pastoralism in the Circle of Baltic-Pontic Early Agrarian Cultures: 5000-1650 BC, *BPS* 2:86-134.
- 1999 Modelirovanie litsa po cherepu u naseleniya ingulskoy katakombnoy kultury. *Stratum plus* 2:222-255.
- Rajewski Z.
- 1965 *10 000 lat Biskupina i jego okolic*. Warszawa.
- Randal-MacIver D., A.C. Mace
- 1902 *El-Amrah and Abydos*. London.

Rassamakin Y.Y.

- 1994 The main of the Development of the Early Pastoral Societes of Northern Potnic Zone: 4500-2450 BC (Pre-Yamnaya Cultures and Yamnaya Culture). In: A. Koško (Ed.) Nomadism and Pastoralism in the Circle of Baltic-Pontic Early Agrarian Cultures: 5000-1650 BC, *BPS* 2:29-70.

Richthofen B.

- 1926 *Die ältere Bronzezeit in Schlesien*. Berlin.

Saallaberger W., S. Westenholz

- 1999 *Mesopotamian Akkade-Zeit und Ur III-Zeit*. Freiburg.

Salonen E.

- 1966 Die Waffen der alten Mesopotamier. Eine lexikalische und kulturgeschichtliche Untersuchung. *Studia Orientalia* 33.

Sarnowska W.

- 1975 *Kultura unietycka w Polsce*, vol. II. Wrocław – Warszawa – Kraków.

Schmandt-Besserat D.

- 1995 *Record Keeping Before Writing, Civilizations of the Ancient Near East*, 2097-2106. New York.

Schmidt E.F.

- 1937 *Excavations at Tepe Hissar, Damghan*. Philadelphia.

Seger H.

- 1912 Maslographia 1711-1911. *Schlesiens Vorzeit in Bild und Schrift* 6:1-16

Selz G.J.

- 2001 'Guter Hirte, Weiser Fürst' — Zur Vorstellung von Macht und zur Macht der Vorstellung im altmesopotamischen Herrschaftsparadigma. *Altorientalische Forschungen* 28:8-39.

Shaposhnikova O.G.

- 1971 Katakombna kulturna oblast. In: *Arkheologiya Ukrainskoy SSR*, vol. 1, 317-334. Kiev.

Sharafutdinova I.N.

- 1980 Ornamentirovannye topory-molotki iz katakomnikh pogrebenni na Ingule. *Arkheologiya* 33:60-70

Skibiński S.

- 1964 Sumin, pow. Chełm. *Z Otchlani Wieków* 30:106

Smirnov K.F.

- 1960 Kurgany bilya m. Velykogo Tokmaka. In: *Rozkopky kurganiv na r. Molochnyj v 1951-1952 rokakh. Arkheologichni pamyatky URSR* 8:164-189. Kiev.

Smutek K.M.

- 1950 Ślęzańskie toporki bojowe. *Z Otchlani Wieków* 19:156-159.

- von Soden W.
- 1962 *Akkadisches Handwörterbuch*. Vol. I. Wiesbaden.
  - 1969 *Akkadisches Handwörterbuch*. Vol. II. Wiesbaden.
  - 1974 *Akkadisches Handwörterbuch*. Vol. III. Wiesbaden.
- Solyman T.
- 1968 *Die Entstehung und Entwicklung der Götterwaffen im alten Mesopotamien und ihre Bedeutung*. Beirut.
- Starr R.F.S.
- 1939 *Nuzi. Report on the Excavations at Yorgan Tepe near Kirkuk, Iraq*. Cambridge.
- Subbotin L.V.
- 1985 Semenovskiy mogilnik epokhi eneolita — bronzy. In: *Novye materialy po arkheologii Severo-Zapadnogo Prichernomorya*, 45-95. Kiev.
  - 1995 Grobnitsy Kemi-obinskogo tipa Severo-Zapadnogo Prichernomorya. *Rossiiskaia Arkheologija* 3:193-197.
- Suprunenko A.B.
- 1994 *Kurgany Nizhnego Povorsklya*. Moskva – Poltava.
- Szmyt M.
- 1999 Tripolye traits In the materials of Central (Polish) Group of the Globular Amphora culture — a radiocarbon perspective. In: A. Kośko (Ed.) *The Foundations of Radiocarbon Chronology of Cultures Between the Vistula and Dnieper: 3150-1850 BC*, *BPS* 7:211-220.
- Szukiewicz W.
- 1904 Narzędzia kamienne gładzone w powiatach lidzkim i trockim (gub. wileńska). *Światowit* 5:50-58
- Ślusarska K.
- 2003 Problem ‘wschodnioeuropejskiej korekty’ w systemie szlaków bursztynowych 2 poł. 2 tys. BC w świetle odkryć na Ukrainie. *XIII Sesja pomorza-znawcza*, Gdańsk (in print).
- Šturm E.
- 1936 *Die ältere Bronzezeit im Ostbalticum*. Berlin.
- Tasić N.
- 1973 The problem of ‘Mycenean influences’ in the Middle Bronze Age cultures in the southeastern part fo the Carpathian Basin. *Balcanica* 4.
- Telegin D.Y.
- 1991 *Neoliticheskie mogilniki mariupolskogo tipa*. Kiev.
- Telegin D.Y., A.L. Nechytailo, I.D. Potekhina, Y.V. Panchenko
- 2001 *Srednestogovskaya i novodanilovskaya kultury eneolita azovo-chernomorskogo reyona*. Luhansk.

Tharne H.

- 1975 *Europaiske forbindelser. Bidrag til studiet af fremmde forbindelser i Danmarks yngre bronzealder (periode IV-V). Nationalmuseets skrifter. Arkeologisk-historisk række 16.*

The Assyrian Dictionary

- 1956 *The Assyrian Dictionary of the Oriental Institute of the University of Chicago. H.* Chicago.
- 1971 *The Assyrian Dictionary of the Oriental Institute of the University of Chicago. K.* Chicago.
- 1977 *The Assyrian Dictionary of the Oriental Institute of the University of Chicago. M. Part II.* Chicago.
- 1992 *The Assyrian Dictionary of the Oriental Institute of the University of Chicago. Š. Part II.* Chicago.

Thureau-Dangin F.

- 1924 Notes assyriologiques. *RA* 21:41-42.

Todorova H.

- 1989 *Eneolit Bulgarii*, Sofia.

Vandkilde H.

- 1996 *From Stone to Bronze. The Metalwork of the Late Neolithic and Earliest Bronze Age in Denmark*. Aarhus.

Vasilyev I.B., A.T. Sinyuk

- 1985 *Eneolit Vostochno-Evropeyskoy lesostepi (voprosy priskhodeniya i periodizatsii kultury)*. Kuybyshev.

Vencl S.

- 1960 Kamenné nástroje prvních zemědělců ve Střední Evropě. *Sborník Národního Muzea v Praze. Seria A-Historie* 14.

Vladár J.

- 1973 Osteuropäische und mediterrane Einflüsse im Gebiet der Slowakei während der Bronzezeit. *Slovenská Archeológia* 21-2:55-357
- 1974 Mediterrene Einflüsse auf die Kulturenentwicklung des nordlichen Karpatenbeckens in der älteren Bronzezeit. *Prehistorica Alpina* 10:219-236.

Wachsmann S.

- 1997 Seafaring. *The Oxford Encyclopaedia of Archaeology in the Ancient Near East*, vol. IV, 505-509. London.

Waetzoldt H.

- 1990 Zur Weiterverwendung mesopotamischer Siegel in Karum Kaniš, *Nouvelles Assyriologiques Brèves et Utilitaires*:48.

Wawrzyniecki M.

- 1913 Ślady kultury i osadnictwa przedhistorycznego Ziemi Kujawskiej. *Pamiętnik Fizjograficzny* 21.

Wildung D.

- 1977 Keule, Keulenkopf. In: W. Helck, W. Westendorf (Eds), *Lexikon der Ägyptologie*. Band 3. Wiesbaden.

Wilson J.A.

- 1969 *Egyptian Historical Texts*, In: J.B. Pritchard (Ed.) *Ancient Near Eastern Texts Relating to the Old Testament*, 227-264, 554-555. Princeton.

Włodarczak P.

- 1998 Chronologia absolutna grupy krakowsko-sandomierskiej kultury ceramiki sznurowej na podstawie danych z cmentarzyska w Żernikach Górnym. *Sprawozdania Archeologiczne* 50:31-54.

Wolf W.

- 1926 *Die Bewaffnung des altägyptischen Heeres*. Leipzig.

Wrzosek A., M. Ćwirko-Godycki

- 1938 Przedmioty z kamienia znalezione na cmentarzysku lużyckim w Laskach w powiecie kępińskim. *Przegląd Antropologiczny* 12:613-634.

Wykaz

- 1030 Wykaz ofiarodawców zabytków przedhistorycznych ze zbiorów Państwowego Muzeum Archeologicznego w 1938 r. *Z Otwieraniem Wieków* 14:68-73.

Vyazmitina M.I., Illinska V.A., Pokrovska Y.F. and others

- 1960 Kurgany bilya s. Novo-Pylypivky i radhospu ‘Akkermen’. In: *Rozkopky kurganiv na r. Molochniy v 1951-1952 rokakh. Arkheologichni pamiatky URSR* 8:22-135. Kiev.

Yadin Y.

- 1963 *The Art of Warfare in Biblical Lands*. London.

Yakar J.

- 1979 Troy and Anatolian Early Bronze Age chronology for Anatolia. *AnSt* 29: 51-67.
- 1984 Regional and Local Schools of Metalwork in Early Bronze Age Anatolia, Part I. *AnSt* 34:59-86.
- 1985 Regional and Local Schools of Metalwork in Early Bronze Age Anatolia, Part II. *AnSt* 35:25-38.

Yarovoy E.V.

- 1984 Pogrebalnyi obryad nekotorykh skotovodcheskikh plemen Srednego Pruta. In: *Kurgany v zonakh novostroyek Moldavii*, 37-75. Kishinev.
- 1985 *Devneyshiye skotovodcheskiye plemena Yugo-Zapada SSSR*. Kishiniev.

Yener K.A.

- 2000 *The Domestication of Metals. The Rise of Complex Metal Industries in Anatolia*, Leiden.

Yevdokimov G.L.

- 1991 Pogrebeniya epokhi ranney i sredney bronzy Astakhovskogo mogilnika. In: *Katakombnye kultury Severnogo Prichernomoryya*, 187-213. Kiev.

Zanotti D.G., B.A. Rhine

- 1974 The Catacomb variant of South Russia and its extensions within the Mediterranean. *The Journal of Indo-European Studies* 7:333-359.

Zhytnikov V.G., Tsimidanov V.V.

- 1999 Pokhovannya zrubnoyi spilnoty z bulavamy. *Arkheologia* 1:131-141.

Żaki A.

- 1967 Pierwsze znaleziska neolityczne z Tatr Polskich i Podtatrza. *Acta Archaeologica Carpathica* 9:55-62.

Żurek J.

- 1938 Wykopaliska w Mątwach. *Ilustrowany Kurier Polski* 23.

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