

**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).

Maciej Popko

MACE-HEADS AND SIMILAR OBJECTS IN THE ANCIENT NEAR EAST ACCORDING TO WRITTEN SOURCES

The mace-head is one of the oldest and most widely spread primitive weapons. Hence, it comes as no surprise that mace-heads are mentioned in the written records of the Ancient Near East from the Sumerian period until the end of its history. What is striking, however, is the diversity of the names given to the object, and their different values. As a result, it is not always possible to identify individual terms and assign them to objects that are archaeologically or iconographically documented.

The oldest mace-heads from the historical times, specifically from the Sumerian period (second half of the 3rd millennium BC) bore a name represented by a group of cuneiform signs consisting of KAK and GIŠ, with KAK 'stake' or 'stick', while GIŠ means that the object in question was made of wood. This name is found in inscriptions on mace-heads surviving to this day [Cocquerillat 1952:121-122]. Later, other logograms referring to the mace-head appeared. In time, with the domination of the Akkadian language (from the early 2nd millennium BC until the fall of the Persian Empire), some Akkadian terms for this object are attested. Of great assistance to the scholar studying this terminology are the lexical lists of the 2nd and 1st millennia BC, compiled after old Sumerian patterns. However, their analysis yields sometimes different results; for this reason it is recommended to rely on the textual evidence that allows to determine the meaning of the examined word in a specific time and place.

Old names of the mace-head included the Sumerian word TUKUL, Akkadian *kakku* (from Sumerian KAK) [The Assyrian Dictionary. . . 1971:50-58]¹. In historical times the term is most often encountered as a designation of weapons in general, also a specific weapon used by men and deities. Moreover, it refers in a metaphorical sense to power, military strength, attack and troops. In the sphere of cult it stood for a symbol of deity. The use of the term in various technical meanings is documented as well, including 'tool, staff' etc., or even the name of a part of the liver in augury.

¹ The view that the sign TUKUL originally stood for the mace-head was expressed already by F. Thureau-Dangin [1924:141].

As a general designation of the weapons the word is found in various contexts. For instance, the weapons used in victorious battle and then decorated with precious metals were placed on the altar of protecting deity. On other occasions they were washed with waters of the sea (= the Mediterranean) by Assyrian kings during their campaigns in the West. As a god's weapons they were also used for political purposes. As an example we can quote the case of Addu, the Storm God of the Syrian city of Halab. According to a myth, borrowed from the Mediterranean coast after all, the god was supposed to have subdued the personified Sea. The weapons he was said to have used were given by his priests to various rulers as a symbol of his support and a guarantee of victory. There is evidence that during the reign of Zimri-Lim in Mari (18th century BC) the weapons were moved to the temple of the god Dagan in the city of Terqa on the Euphrates. In return, the priests of Addu demanded that their god be favoured, moreover, his universal significance be recognized, which was a novelty in the polytheistic thought of that time. The policy proved effective, because it led to the spread of the cult of the Storm God of Halab far beyond Syria [Durand 1993:41-61; Popko 1998:119-125]².

As a symbol of deity, the object could have different shapes, but in general it resembled a mace-head. In this meaning it is often encountered in Hittite descriptions of cult images (13th century BC), where it is an aniconic representation of Mountain God to whom offerings were given. It could also be an attribute of a deity, mostly the War God or the Storm God, but also of some goddesses. In this case the mace-head itself was worshipped as a sacred object and got offerings. According to the texts, such mace-heads were as a rule made of wood and decorated with metal, often a precious one, silver, gold or iron (at the time more precious than gold). Apparently the whole mace-head was sometimes made of metal. Possibly belongs here a reference to TUKUL of iron found in one text from Mari [Limet 1984:193]. When the TUKUL/*kakku* appears as part of individual's armament, it certainly stand for a mace-head. Also references to the front (head) and back part (handle/shaft) of the TUKUL in Akkadian texts surely apply to mace-heads.

Another Akkadian term for the mace-head is *miṭtu* which is also a loan-word from Sumerian [The Assyrian Dictionary. . . 1977:147-148]. It is a synonym for *kakku* and, likewise, translated also as weapons in general. In a metaphorical sense it appears, for instance, in a hymn to the god Marduk, where the deluge (*abūbu*) is referred to as the god's *miṭtu*. The object is well documented as a god's weapon. This kind of mace-head could have had a head resembling a lion's head. To note is also a peculiar mention of a *miṭtu* with fifty heads. In a letter found in El Amarna, Egypt (14th century BC), a *miṭtu* made of iron and set in gold is listed among gifts sent to the pharaoh by Tušratta, king of Mitanni. There is also evidence for a mace-head of this kind made of bronze or mysterious *luddu* wood.

² For details on the weapons used in fighting the Sea compare the Ugaritic myth of Baal. The weapons can be found on some Syrian seals from Aleppo and its vicinity.

In Anatolia a mace-head was probably named *hattala-* in Hittite, written with the determinative for wood. The name is derived from the verb *hat(t)-* 'to pierce or strike' [Puhvel 1991:255-256]. It is found only in festival texts with participation of the king, but the object did not belong to the royal insignia. One text mentions the god's *hattala-*; indeed, in a description of the heavenly Storm God he holds the mace-head in his right hand. According to the texts, this god's weapon was made of lapis lazuli and gold.

To return to the Akkadian terminology, it is supposed that *pattaru* and *patarru* are other words for the mace-head. However, relying on lexical lists, these terms stand sometimes for a double axe because they occur with the determinative URUDU which designates objects made of copper or bronze [Salonen 1963:73-74; von Soden 1969:848]. In light of the texts the *pattaru/patarru* made of bronze was used as a weapon in battle. However, the name was sometimes confused with similar sounding *patru* 'sword'.

Uncertain is also the meaning of the Akkadian word *hutpalu* (also *hutappalû*, *hurpalu*, *hurpalû*, *hulpalû*) written usually with the determinative for wood [von Soden 1962:356; The Assyrian Dictionary... 1956:263; Salonen 1963:16-17; Durand 1983:344-345; Limet 1985:17]. The inconsistent writing of the second consonant (originally it must have been *d) testifies to the foreign origin of the word. Examples for *hutpalu* with the adjective *kaptarawatum* 'Cretan' in the texts show that these objects may have come to Western Asia from the Aegean, but certainly the majority of them was of local production. The object consisted of a head and a 'base' or a handle, hence it resembled the TUKUL/*kakku* (see above). However, relying on lexical lists, one is made to believe that a double axe is meant here. This supposition is confirmed by the texts in which *hutpalu* occurs next to TUKUL. It served as a weapon, for instance, the king Ashurbanipal used it when hunting lions. In Babylonia the *hutpalu* could have belonged to the attributes of deities; it also appears in the descriptions of demons, held in either the right or left hand. In the Annals of the Hittite king Hattušili I, among priceless spoils of Syrian origin *hurpalû* of lapis lazuli and gold is mentioned; the trophy was placed in the temple of the Storm God in Hattuša, the capital of the state. There is also evidence of the objects made of iron and then gilded.

Among the terms of uncertain meaning we should also mention *katâpu*, sometimes encountered with the determinative for wood [The Assyrian Dictionary... 1971: 303]. In a document from Mari the word stands with the adjective *kaptâru* which means that the object may have originated in Crete or generally in the Aegean. It was made of bronze or gold and could have had a head and 'base', like the TUKUL and the *hutpalu* did, moreover 'lips' (or edges?) and 'eyes'. In Durand's opinion, its head resembled the human head, hence, it may have been a mace-head [Durand 1983:342-343].

The majority of the above discussed terms refers to mace-heads. A separate group is formed by similar weapons used both for striking and throwing. Here

belong *gamlu* 'a hooked or curved staff' ['*Krummholz*' or '*Bumerang*' in German; see von Soden 1962:279; The Assyrian Dictionary... 1956:34] and probably also *gišhaššu* and *mašgašu* whose meanings are still unclear. According to lexical lists, these terms were used as synonyms; other equivalents are mentioned, too [Salonen 1963:70-75, 144-45]. Before *gamlu* and *gišhaššu* stands the determinative for wood. The object named *gamlu* was made of *kiškanû* (birch?) and *erû* wood. As a ceremonial weapon it was decorated with gold. The word *mašgašu* is derived from the verb *šaġašu* 'to kill'. One of its Sumerian equivalents occurs with the determinative for leather; in Salonen's opinion it may refer to a strap fastened to the handle.

As we can see, some forms of mace-heads could have served as insignia of gods and rulers. It seems worthwhile to describe briefly in this context other objects which according to the texts were used for the same purpose. One of such objects is GIDRU, Akkadian *ḥaṭṭu*. The word is translated as a sceptre, staff, stick, branch, twig or shelf [von Soden 1962:337; The Assyrian Dictionary... 1956:153-156]. It was made of reed or wood. Although at times the GIDRU is an equivalent of TUKUL and was used for beating, or even as a weapon in combat, it occurs rather as a symbol of function or office, from that of messenger to the position of king. The GIDRU is often mentioned next to other attributes of the royal power, such as a throne or tiara, and then it was decorated with silver, gold or lapis lazuli. In a metaphorical sense the word meant reign, which is evident from the benediction 'May Shamash prolongue his GIDRU'. Together with other insignia it shows the king as shepherd of the community he ruled. It could have also been a symbol of a deity. Here, it is supposed that the shape of its crown may have reflected the nature of a given deity as opposite to other deities. If this is true indeed, the much discussed standards found in the tombs of Alacahöyük and other sites of Central Anatolia can be interpreted as such crowns [Popko 1995:45, 76]. GIDRU of gods were among the furnishing of cellae in the temples and as sacred objects received offerings.

As attribute of the king in his role of shepherd, besides GIDRU we also encounter *šibirru*, an object interpreted as a staff [The Assyrian Dictionary... 1992:377-379]. It is yet another symbol of the royal power, which is evident from the phrase 'By virtue of your *šibirru*'. The object is also found in the descriptions of the images of deities as their attribute. As the emblem of Shamash it was supposedly made of lapis lazuli. Still another symbol of the royal power was *palû*, however, nothing is known of its appearance.

While discussing various forms of staffs as symbols of power, one cannot ignore *kalmuš*, a peculiar object characteristic of the culture of Hittite Anatolia, usually identified as a lituus. On the basis of depictions of the king holding the *kalmuš* in his hand, we can see that it resembled the modern hockey stick and was carried with the crooked part pointing back and downwards. Being one of the attributes of the king as the chief priest of the state, it is mentioned only in religious texts. The

determinative GIŠ indicates that it was made of wood, but it could also have been decorated with silver and iron [Alp 1947:164-175; Puhvel 1997:28-30]³.

A review of the terms referring to mace-heads and similar objects in the literature of the Ancient Near East shows the wealth of their meanings and uses. This data is to some degree supplemented by archaeological finds and examples of ancient art. An identification of the terms with specific objects remains a serious problem.

Translated by Piotr T. Żebrowski

³ Puhvel [1997:28-30] considers the possibility that *k.* is a loan-word a semitic language, cf Akkadian *gamlu* (on this term see above) and Ugaritic *gnl*.

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 4th 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, 4th millennium BC. After: Wolf 1926:Fig. 1.

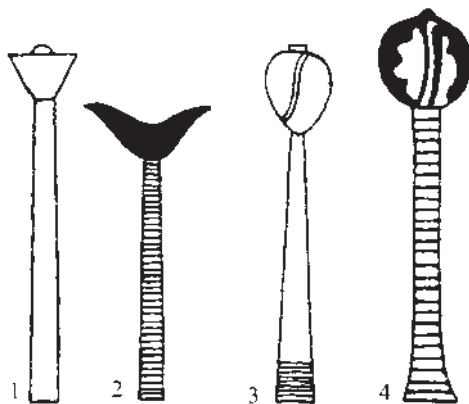


Fig. 2. Saucer- and pear-shaped maces in painted friezes of objects, XIIth Dynasty (c. 1991-1785 BC). After: Wolf 1926:Pl. 1.11-14.

Material. Mace-heads made of stone constitute the bulk of the finds. The earliest known specimens from the 6th 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 *ḥd* ‘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 5th millennium BC [French 1962:33], and from the 4th 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; Yadin 1963:120; *Naḥal 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-3rd 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-

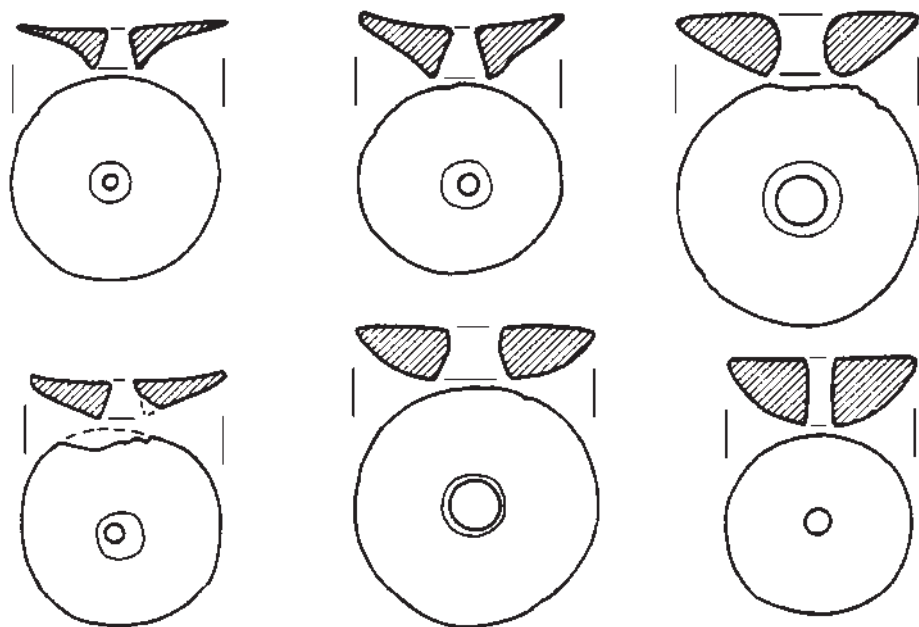


Fig. 3. Saucer-shaped mace-heads, Nagada I (c. 3900/3800-3500 BC). After: Ciałowicz 1999:111 Fig. 46

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 4th 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 3rd 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,

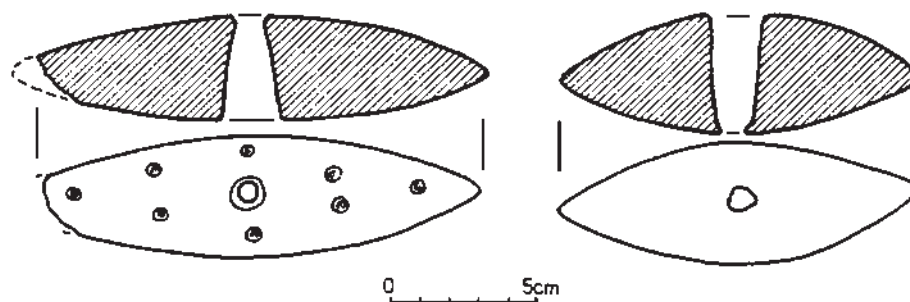


Fig. 4. Spindle-like mace-heads, Late Nagada I (c. 3500 BC). After: Ciałowicz 1999:111 Fig. 46

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

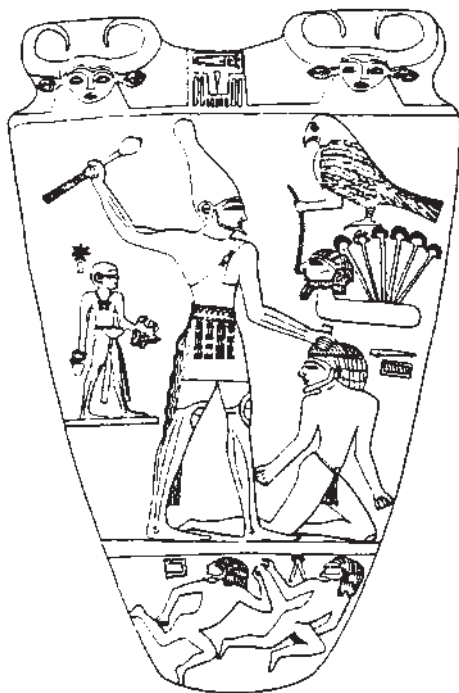


Fig. 6. Slate palette of king Narmer from Hierakonpolis, c. 3100 BC. Cairo Museum. After: Ciałowicz 1999:324 Fig. 178

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 cording 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 4th 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 4th 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 (3rd 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 4th 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 5th millennium BC (Tepe Sialk I 2; Tepe Gawra XVIII). In the 4th 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 Mingechaur 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 2nd 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 3rd and the 1st 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

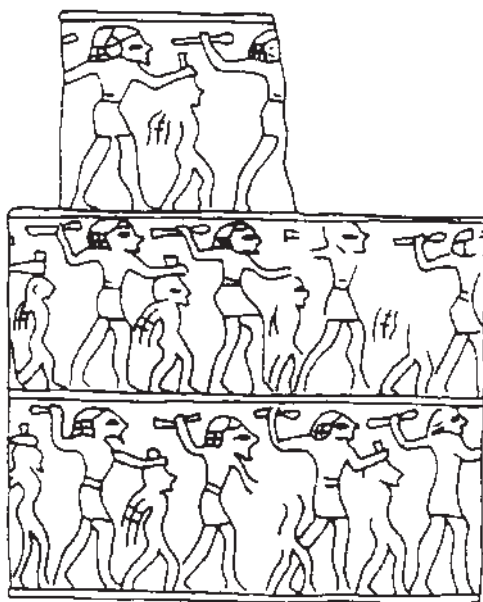


Fig. 9. Ivory cylinder seal from Hierakonpolis with representation of a bound captive being struck with a mace, Ist Dynasty (c. 3050-2890 BC). British Museum. After: Ciałowicz 1999:349 Fig. 194

of mace' came to an end in the last centuries of the 4th millennium BC. However, captives being struck with a mace occur in Egyptian (Fig. 9) and Near Eastern iconography until the 1st 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 3rd 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 5th 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 4th millennium BC date have so narrow hollows that their handles were not strong enough

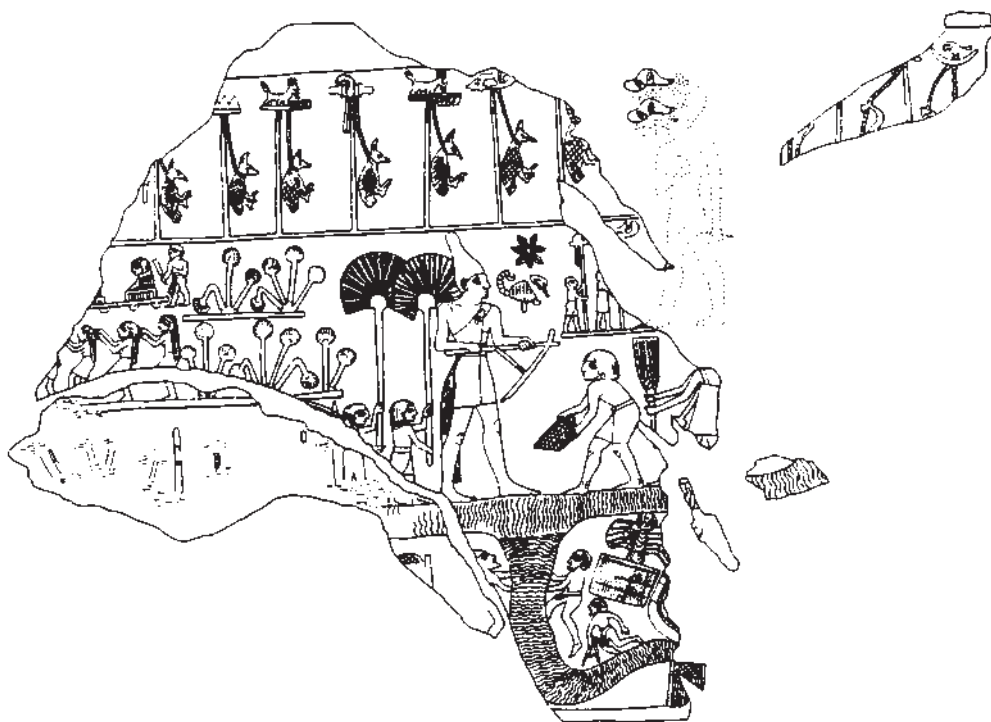


Fig. 10. Relief decoration of the king Scorpion mace-head from Hierakonpolis, c. 3100 BC. Asmolean Museum, Oxford. After: Ciałowicz 1999:336 Fig. 184

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 3rd and 2nd 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 Hierakonpolis 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 Ist 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 3rd 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 4th millenium 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 1st millenium 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

Viktor I. Klochko

MACES OF THE NEOLITHIC-BRONZE AGE OF THE NORTHERN PONTIC REGION

This article addresses one of the oldest kinds of specialized weaponry: maces, both weapons and 'insignia' of military power. Maces are among the oldest types of weapons in Eurasia, with their origin linked to the Near East [Berounská 1985; see Popko, Mace-heads. . . , in this volume; Taracha, The Mace. . . , in this volume]. Let us discuss the find of maces in the Northern Pontic area.

1. NEOLITHIC-ENEOLITHIC AGE (5000-2800 BC)

The oldest maces of the Northern Pontic area were found in eneolithic steppe monuments of the Mariupol type that belong to the **Dnieper-Donets** and the **Sredni Stog cultures** [Arkheologiya 1985:156-319].

A round flattened mace with a 'collar' at the lower hole, made of firm stone, was found in the Mykolsky cemetery [Telegin 1991] (Fig. 1:1). Cruciform jade maces with four bulges, found in graves 8 and 31 of the Mariupol cemetery [Makarenko 1933] (Fig. 1:2-3), are the oldest maces of that shape in the Northern Pontic Region and represent prototypes of the Borodino type of maces of the Bronze Age. Therefore, I propose to define such type of maces as the 'Mariupol-Borodino'.

2. EARLY BRONZE AGE (2500-1900 BC)

A pear-shaped mace of black diorite, very similar to maces of the Catacomb culture (see below) (Fig. 1:4) was found in grave 3 of barrow 33 (Hostra Mohyla) of the Alkaliya cemetery near the village of Shyrokye of the Bilgorod-Dniestrovsky

District, the Odesa Region [Subbotin 1995:195-196; Fig. 2:1-11]. The grave was made in stone, therefore, its cultural attribution is rather complicated: it may be referred either to the late Yamnaya culture (as it was actually described in the report about the excavation) or to monuments of the Kemi-Oba type [Subbotin 1995]. However, the weaponry complex from that grave, in general, differs from weaponry of the Yamnaya culture. Monuments of the Kemi-Oba culture, generally synchronous with the Yamnaya culture, are located mostly in the steppe Crimea, but also occur in the south of the right-bank Steppe [Arkheologiya 1985]. Unfortunately, monuments of that culture are very poorly processed and almost none of them have been described in publications.

At that time maces were a rather typical kind of weapons of the steppe cattle-breeding tribes of the Catacomb culture historical community. Common features of that community that populated the steppe and forest-steppe zones of Eastern Europe from the Lower Danube to foothills of the Caucasus and to the east up to the Volga river included the method of burying the dead in catacombs, as well as some other features of the burial rite and inventory [Arkheologiya 1985:404]. In the territory of Ukraine, the following four Catacomb cultures have been distinguished: the Kharkiv-Voronezh, the Donets, the Dnipro-Azov, and the Inhul. The best studied of them are the Donets (a) and the Inhul (b) cultures.

a. Globular and pear-shaped maces are typical for the Donets Catacomb sites.

*Globular maces**: the Kudinov kurgan, 1.9; Novochoerkask Institute of Winery 2.11; Pokrovske 205.6 [Bratchenko 1976:Fig. 26:4, 5; 55:10] (Fig. 2:1, 2). Marble globular maces come from 'classic Donets' graves of the Astakhovo cemetery in the Sverdlovsk District of the Luhansk Region [Yevdokimov 1991] — Astakhovo 18.9 and 18.10 (Fig. 2:4-5). A globular white limestone mace was found in the Kindrativka 1.9 cemetery near Mariupol [Kulbaka, Kachur 1998:Fig.11:1] (Fig. 2:6). The latter three maces had a bulge near the lower hole. The globular flattened mace was found in the Mayachka 1.14 grave in the Kherson Region [see Klochko 2001:104].

Pear-shaped maces were found in the Kotovka 2.3.2, Kolpakivka 3.4.1, Blahodatne 4.5.6 and 4.13.16 cemeteries in the Orel-Samara river area [Kovaleva 1983:79] (Fig. 2:7-10). A flattened pear-shaped mace with a rim around the lower hole was found in a grave near the Shevchenka 2.13 settlement on the Molochna river [Smirnov 1960:172].

Also known are finds of cross-shaped maces of the 'Mariupol-Borodino' type. A mace of that kind was found in the 'late Donets' grave Pidhorodnye 7.9.6 in the Orel-Samara river area [Kovaleva 1983:79], and graves Luhansk of the year of 1929, 1.20, and Starytsya 30.5 [Bratchenko 1976:Fig. 55:14; 72, II 5] (Fig. 2:11-12).

b. Finds of the Catacomb Inhul graves can be classed into globular, pear-shaped, cross-shaped and hammer-like mace-heads.

* The said typological unit comprises also forms classified as type B — according to A. Koško [Fluted maces. . . , in this volume]

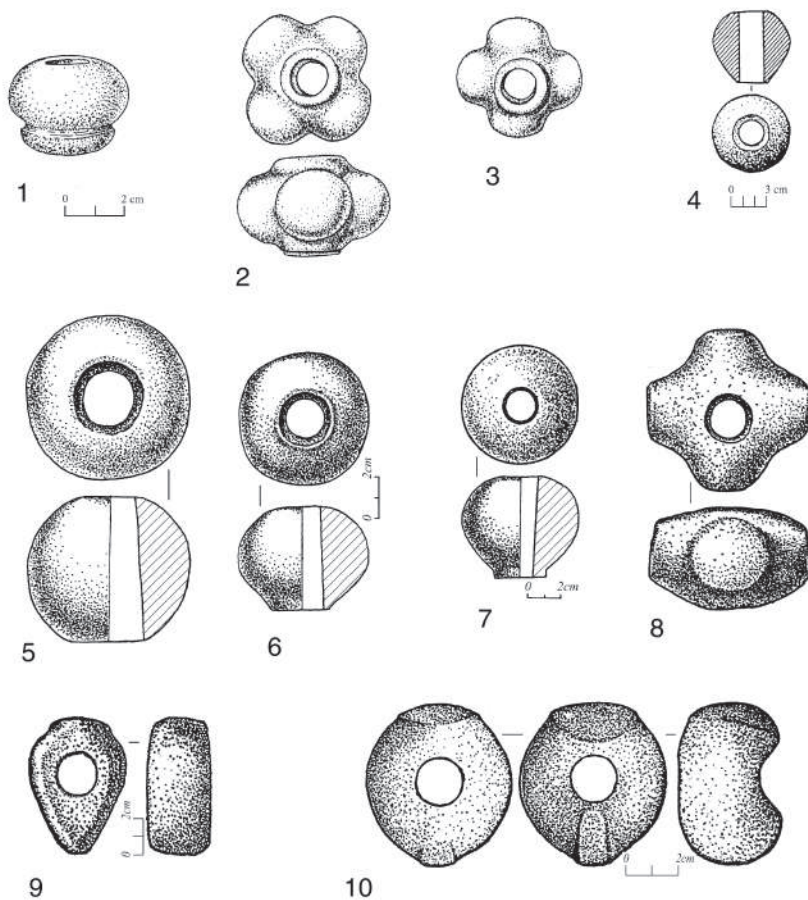


Fig. 1. Maces of the Northern Pontic area. 1 - Mykolsky; 2, 3 - the Mariupol cemetery; 4 - Shyroke 33.3; 5 - Mengikury 1.29; 6 - Vynogradne 3.36; 7 - Bohdanivka 3.9; 8 - Filativka 12.2; 9 - Vasylivka 2.5; 10 - Vasylivka 2.5.5.

Globular maces were found in the complexes of Mengikury 1.29; V. Tokmak 1.9; Davydivka 1.5 and 2.3 (the last two are globular maces with a rim at the lower hole) in the Kherson Region [see Klochko 2001:116]; Korpach 3.7 in the Yedinets District of Moldova [Yarovoy 1984:Fig. 12:7] (Fig. 1:5). A flattened globular mace was found in grave 5.3.1. of the Kamianka barrow field in the Dnipropetrovsk Region [Androsoy, Yaremenko, Martiushenko 1990:Fig. 5:5].

Pear-shaped maces were found in Vynogradne 3.36 grave, in grave 3.9.11. near the village of Bohdanivka of the Pavlohrad District, the Dnipropetrovsk Region [Ma-

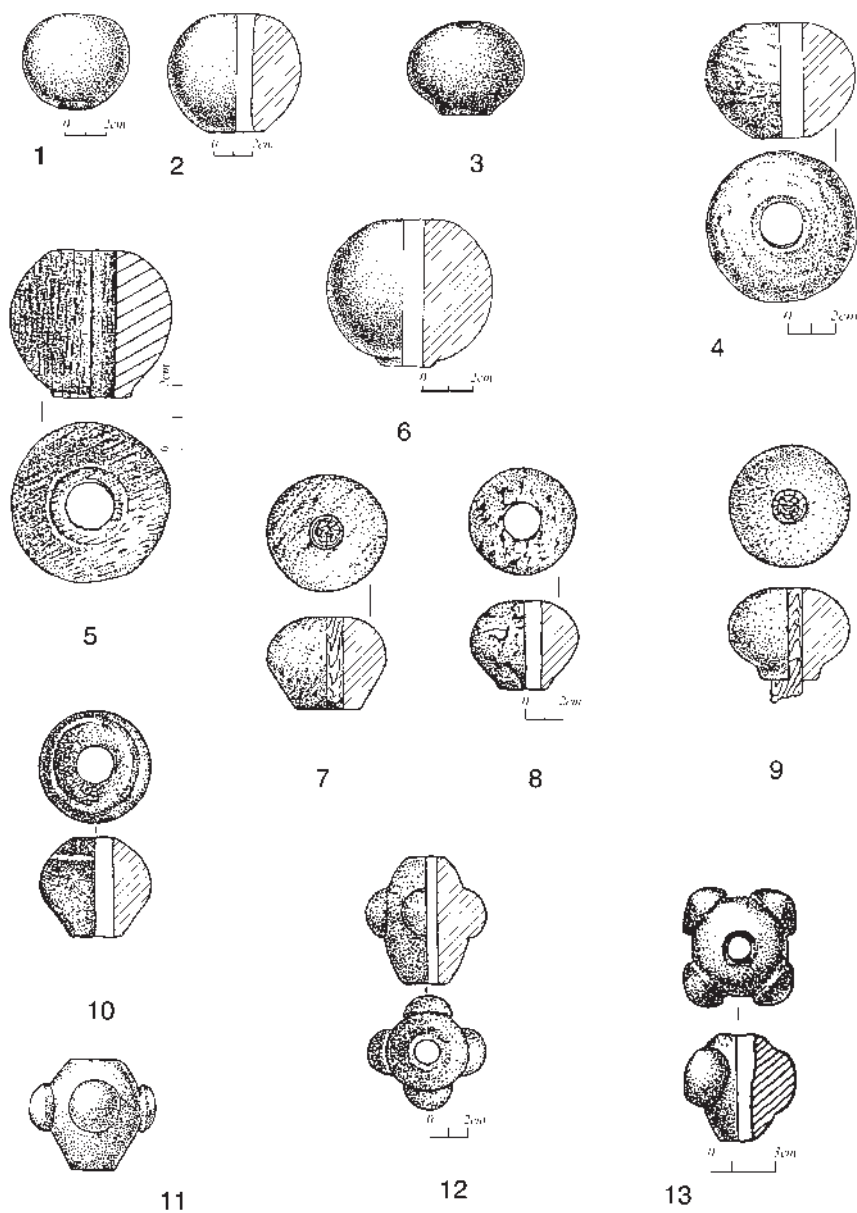


Fig. 2. Maces of the Northern Pontic area. 1 - Kudinov kurgan 1.9; 2 - Novoherkask 2.11; 3 - Pokrovske 205.6; 4 - Astakhovo 18.9; 5 - Astakhovo 18.10; 6 - Kindrativka 1.9; 7 - Kotovka 2.3.2; 8 - Kovpakivka 3.4.1; 9,10 - Blahodatne 4.13.16; 11 - Luhansk,1929b 1.20; 12 - Pidhorodnye 7.9.6

rina, Romashko, Severin 1995:Fig. 3], N. Mayachka 30.2 in the Kherson Region, Mayorivka 3.15 in the Mykolayiv Region; Vynogradne 23.3 in the Zaporizhya Region [see Klochko 2001:16-119]; (Fig. 1:6-7).

A *cruciform mace* of the 'Mariupol-Borodino' type was found in the Filativka 12.2 grave [Klochko, Pustovalov 1994] (Fig. 1:8).

Hammer-like maces. A strange artifact — a mace decorated with a minor butt and imitation of a blade at the opposite side (Fig. 1:9) — was found in grave 2.5.5 near the village of Vasylivka in the Dnipropetrovsk Upper Rapids area [Kovaleva, Mukhopad, Shalobudov 1995:Fig. 9]. A very similar artifact was found in grave Tomarino 1.6 in the Kherson Region [see Klochko 2001:119]. Small globular stone axe-hammers, very similar in shape to maces found in graves of Vasylivka 2.5 in the Dnipropetrovsk Region [Kovaleva, Mukhopad, Shalobudov 1995:Fig. 9] and N. Mayachka 2.29 in the Kherson Region (Fig. 1:10). Hammer-like maces were found only in the 'Inhul' monuments; no finds in other cultures of Europe have occurred.

The **Middle Dnieper culture** occupied a large area of the Middle and Upper Dnieper Region that covered the contemporary territories of Ukraine, Belarus and Russia. On the territory of Ukraine its monuments have been studied mostly in the Kyiv and the Chernihiv Regions [Arkheologiya 1985], but the research into that culture had been incomplete. I believe that those monuments should be singled out in a separate Middle Dnieper version. A cross-shaped mace of the 'Mariupol-Borodino' type, with an egg-like body and four 'knobs', made of white, veined marble, was found in grave 3 of the mound near the village of Vasyliyivka of the Dykanka District, the Poltava Region, referred by researchers to the Middle Dniipro culture [Suprunenko 1994:15-20, Fig. 6:2]. A cone-shaped hole was drilled in the head of the mace from above: the outer diameter is 1.6 cm, the inner diameter is 1.4 cm. The dimensions of the mace are as follows: height — 5.0 cm; diameter of body — 5.7 cm; maximum diameter ('cones' included) — 6.5 cm. (Fig. 2:13). Among the cross-shaped maces of the Neolithic-Bronze period found on the territory of Ukraine, the closest shape was observed in a mace from the late Catacomb grave 20 of barrow 1, Luhansk, 1929 [Bratchenko 1976:Fig. 75:5].

3. MIDDLE BRONZE AGE (1900-1600 BC)

The Middle Bronze Age in the steppe and most of the forest-steppe zones of the Central and left-bank Ukraine is represented by the **Mnogovalikovo Pottery culture** [Arkheologiya 1985]. The Borodino treasure, referred to that culture, contained tree stone mace-heads: a globular one with an impressed 'belt' in the

middle, (Fig. 3:1); a globular flattened head with a rim around the lower hole (Fig. 3:2); a pear-shaped head with four 'knobs' (the 'Mariupol-Borodino' type) (Fig. 3:3) [Krivtsova-Grakowa 1949]. All these types of maces occur in Catacomb sites of Ukraine; therefore, at least at the end of the early Bronze Age they could be regarded as local types. All maces of the Borodino treasure were made of talc shale — a rather soft kind of stone, plastic enough to facilitate making the artifacts but too soft to make the weapons strong; therefore, there are reasons to doubt that they were actually used as weapons. Most probably, those were ceremonial objects. However, I might be wrong about properties of that stone.

A pear-shaped mace made of diorite with four knobbles was found in the Semenivka grave in the Dniester estuary area [Subbotin 1985:Fig. 7:1-2]. The mace, made of diorite, is 5.3 cm. long, 3.8 cm. wide, the diameter of the top is 1.3 cm (Fig. 3:4). It is very close in shape to the Borodino mace and differs only by its larger knobs. This monument is a confirmation that the Borodino treasure belongs to the Mnogovalikovo Pottery culture.

The **Old Srubnaya (Pokrovsk) culture** is one of the largest cultures of the late Bronze Age of Eurasia. It occupied a major territory of the Don, the Volga and the Front Urals Regions [Otroschenko 1994:150-153]. Maces of that culture were found mainly in the old Srubnaya monuments of the Volga Region. By the form of the head, they can be classed into several types.

X-shaped maces. A bronze-cast X-shaped mace-head was found in the grave 7 of the Nataliynsky barrow near the Natalivka village in the Balakovka District of the Saratov Region [Malov 1991:13] (Fig. 3:5). The object is 3.8 cm. long, the external diameter of the bushing is 2.5 cm. The handle of the mace has a conical shape. The head has four hollow knobbles with metal balls inside. The lower edge of the bushing is reinforced with the roll. One of the knobbles has a through-hole 2.5 cm in diameter reaching up to the bushing, quite likely, for fastening the shaft. I deem that such an elaborated mace-head could be cast only in a two-ply casting mould with a clay slip with four raised portions so that to make the bushing's hole, hollow knobbles and a through-hole in one of the knobbles. I believe this mace to be a metal modification of the Northern Pontic stone maces of the 'Mariupol-Borodino' type. According to M.M. Malov, three more stone X-shaped maces were found in the Srubnaya cemeteries in the area between the Don and Volga rivers, including of the mace from the Mykolaiv cemetery, barrow 1, grave 5 (Fig. 3:6). He argues that those maces belong to the Neolithic tradition of the Lower Volga Region [Malov 1991:33] and does not take into account the artifacts found in the territory of Ukraine. In my viewpoint, the X-shaped maces rather belong to the general Eastern European type proliferated in the Northern Pontic and the Volga Regions. According to P.F. Kuznetsov and A.A. Khokhlov [Kuznetsov, Khokhlov 1998:33], the combat usage of x-shaped maces in the Srubnaya period may be proven by the wound on the skull of the man,

whose remains were found in the Syntashtynsk-Potapovsk barrow 8 of the Potapovsk cemetery.

Ellipse-shaped maces. An ellipse-shaped mace-head made of deep-green serpentine was found in the grave 6 of the Nataliynsky cemetery. The mace-head is 2.5 cm long and 5.5 cm. in diameter. The diameter of the bushing is 1.5 cm. at the bottom and narrows to 1 cm. at the top. Objects very close in terms of shape to the mace from the Natalijinsky barrow were found in the Bykovo grave 1.1.5 [Malov 1991:15, 36; Fig. 7:4, 7:7] (Fig. 3:7-8) and the Pryshyb grave 2.40 of the Donetsk Region [Gershkovich 1982:Fig. 5:1] (Fig. 3:10). This type of maces is very rare for Eastern Europe and more typical for Near Eastern countries (Egypt), where it emerged at the beginning of the Neolithic period [Müller-Karpe 1974]. However, ellipse-shaped maces can be also viewed as further modification of the oblate globular maces of the Catacomb horizon.

Globular maces. A globular mace-head made of chlorine serpentine was found in the grave 10 of the Nataliynsky barrow. The mace-head is 6 cm. long, its largest diameter is 7 cm. The diameter of the bushing is 2 cm at the bottom and 1.5 at the top. The analog of that mace was found in the Yervovka grave 3.1.3 (Fig. 3:9, 3:11). The oblate maces from the graves Podkletnoe 13.2, V. Balykley 6.6 [Malov 1991:Fig. 7] and Yasyrivka 2.3 of the Donetsk Region [Zhytnikov, Tsimidanov 1999:Fig. 1] can be regarded as a version of the above type (Fig. 3:12-14).

Numerous analogues have been found for all types of the Pokrovsk maces in Eastern European monuments of the Yamnaya-Catacomb chronological horizon.

4. LATE BRONZE AGE, 1600-900 BC

That period includes finds in monuments of the Berezhnovka-Mayovka (late Srubnaya) culture. The **Berezhnovka-Mayovka Srubnaya culture**, identified by V.V. Otroshchenko [Otroshchenko 1994:150-153], occupied, mainly, the forest-steppe and the steppe zones of the left-bank Ukraine, as well as some areas along the right bank of the Dnipro (for instance, in the Kyiv Region). Stone maces were found in two Berezhnovka-Mayovka graves. A flattened globular mace was found in grave Kastyrsky 5.2.1 in the Donetsk Region [Zhytnikov, Tsimidanov 1999:Fig. 2, 3] (Fig. 3:15). A pear-shaped mace was found in grave Zhelanne 1.11 of the Yasyrivata District of the Donetsk Region [Polidovich 1993:Fig. 40:1] (Fig. 3:16). Both of the maces are very similar to maces of the Catacomb culture of the previous period.

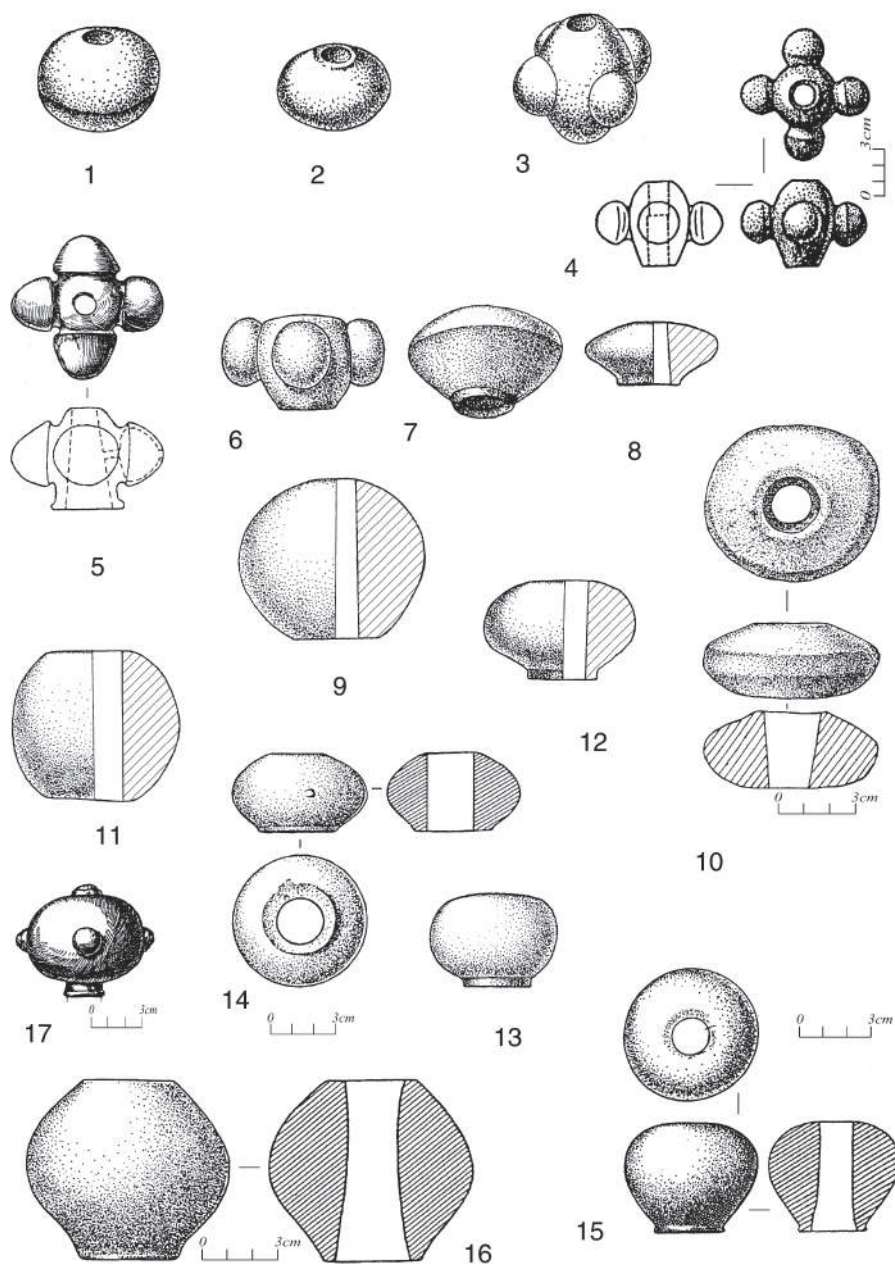


Fig. 3. Maces of the Northern Pontic area. 1-3 - the Borodino treasure; 4 - Semenivka 8.1; 5 - Natalivka 7; 6 - Nikolskyi 1.5; 7 - Bykovo 1.1.5; 8 - Natalivka 2.6; 9 - Natalivka 10; 10 - Pryshyb 2.40; 11 - Yezovka 3.1.3; 12 - Pidklitne 13.2; 13 - V. Balykei 6.6; 14 - Yasynivka 2.3; 15 - Zhelanne; 16 - Kastyrsky; 17 - the Rajhorodsky treasure.

A bronze mace with five symmetric 'knobbles' was found in the Rayhorodsky treasure near Luhansk [Leskov 1967:Fig. 9, 14] that refers to the late Bronze Age (Fig. 3:17). In my view, that mace represents a metal continuation of traditions of stone maces of the 'Mariupol-Borodino' type.

CONCLUSIONS

1. Maces emerged on the territory of Ukraine in the Eneolithic period (5000-2800 BC) and became common only in monuments of the steppe zone.
2. They occurred most broadly in the early and middle Bronze Age (2500-1600 BC); during that period they occurred both in the steppe and the forest-steppe zones.
3. The main types of mace-heads of the Eneolithic-Bronze Age of the Northern Pontic area were globular and cruciform ('X-shaped') maces (the 'Mariupol-Borodino' type).

Translated by Inna Pidluska

Aleksander Koško

FLUTED MACES IN CULTURAL SYSTEMS OF THE BORDERLAND OF EASTERN AND WESTERN EUROPE: 2350–800 BC. TAXONOMY, GENESIS, FUNCTION

Social and organisational changes in central Europe at the decline of the Neolithic/Eneolithic and dawn of the Bronze Age were marked by a number of changes, one of which was the appearance of a vast range of stone maces in graves and hoards. Genetically, the maces were derived from the Near East tradition and indirectly from eastern Europe (Caucasus), where they functioned as an element of weaponry and a symbol of social rank-power [cf Berounská 1987: 48-49].

Basically, the central European finds of maces can be divided into three typological groups of forms: A – globular, non-ornamented maces, B – globular maces ornamented with vertical flutes (cannelured maces), and C – cruciform maces (this division leaves out developmentally marginal or incidental forms, e.g. ‘kidney-shaped’, ‘horizontally fluted’ or ‘zone decorated’ modelled on pottery [cf: ‘kidney-shaped’ — Makarenko 1933:72, Fig. 31:118; ‘horizontally fluted’ — Mozelevskiy 1970:9, Tab. 2:1; Klochko 2001:184, Fig. 74:6; ‘zone decorated’ — Edgren 1974: Fig. 12-16]), Fig. 1. This article is devoted to the second category of maces (type B) mentioned above, called *inter alia* fluted, grooved and lemon-shaped. The present author shall consider taxonomy, cultural identification, chronology of makers and users, and functional interpretation, i.e. social and symbolic. This consideration shall lead to conclusions identifying the emergence of the Pontic-Baltic ‘Crimea-Jutland Trail’ (specifically: the network of trails with diverse destinations); its genesis, course, and principles of functioning, which were mentioned in the author’s earlier works [Koško 1991:250-251; 2001; cf also Editor’s Foreword in this volume].

1. FLUTED MACES: HISTORY OF RESEARCH

Fluted maces appear in the studies of Germany's and Poland's prehistory at the beginning of the 20th century. In 1912 an assemblage which most probably included a fluted mace, i.e. a grave from the 2nd period of the Bronze Age in Masłowo (Massel) in Silesia, was first published [Seger 1912:12-13]. However, in subsequent decades of the 1st half and the start of the 2nd half of the 20th century, further unquestionable assemblages failed to appear [cf so called hypothetical assemblages: Laski — Wrzosek, Ćwirko-Godycki 1938:616; Wymysłowo — Jasnosz 1975]. That is why the cultural and chronological identification of fluted maces aroused controversy [v. Kostrzewski 1923a:29; Richthofen 1926:103n; Antoniewicz 1930:109; Jażdżewski 1936:286; cf 1970:18; Šturms 1936:37; Lichardus 1960:856-857; Pavelčík 1967; Gedl 1975:60-61; Machnik 1979:351; Kłosińska 1997:92], reducing their importance in synthesising the history of Europe.

This situation was not changed by the post-war discoveries of assemblages with fluted maces from Ukraine (Kalanchak, Mykhailivka) and Russia (Stepan Razin), published between 1962 and 1985 [Lagodovska, Shaposhnikova, Makarevich 1962:141, Fig. 39:2; Merpert 1967:95-96; Bratchenko, Shaposhnikova 1985:412-413, Fig. 110:26].

In the 1970s the first attempt was made to record and systematise fluted maces, however only the ones from the territory of Poland [Koško 1979:39-40, Catalogue V]. This resulted in compiling a complete catalogue containing 35 items: apart from the earlier mentioned Masłowo assemblage, several other maces were culturally identifiable (through the context of the finds — 'hypothetical assemblages'). Upon reviewing the data collected at that time, it was possible to incorporate fluted maces into the synthesis of the prehistory of Bronze Age beginnings on the territory of Poland [Koško 1979:194n]. The studies referred to above were expanded at the turn of the 1970s, as a result of which the preparation of a comprehensive catalogue of fluted maces on the European scale was initiated. Apart from reviewing literature and available museum sources (from Poland, Ukraine and subsequently from Belarus and Slovakia), the basic data was collected by means of a questionnaire sent to the leading archaeological centres of Central and Eastern Europe*.

Independently of this initiative, the issue of central European maces (of all typological groups) was undertaken by M. Berounská who covered all finds from the territory of Bohemia, Moravia, Silesia, Wielkopolska, Małopolska, southern Germany, Austria and Switzerland, trying to interpret them genetically and functionally

* The author would like to thank all persons who took part in the questionnaires (or related research initiatives). Their participation allowed the author to specify the territories where the maces appeared, make a list of finds of fluted maces and clearly characterise a number of forms. The list of persons the author is particularly grateful to can be found in the Catalogue: 'oral communication', 'letters' and 'archives'.

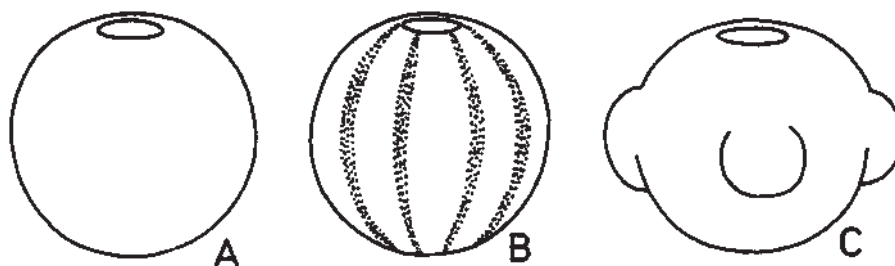


Fig. 1 Typological groups of stone maces. A - globular, undecorated; B - globular, decorated with flutes (fluted maces); C - cruciform

[Berounská 1987]. However, her research does not identify fluted maces as a separate phenomenon.

A turning point in the work on a monograph of a given category of sources occurred in 1988. It was then that for the first time the sources were interpreted as the evidence of 'the emergence of a permanent route of exchanging symbolic artifacts (insignia), the full development of which... is marked by distribution of lemon-shaped maces' [Koško 1988:179; 1989:179-180]. In 1991 the first all-European cartogram of the discussed typological group of maces was published [Koško 1991:250-251, Fig. 9]. This line of research was continued in a paper delivered at the international symposium on 'Archaeology Between the Black and Baltic Seas' ['Brześć Białoruski 2000' — Koško 2001], intended to initiate an interdisciplinary debate. The outcomes of the debate are drawn on by this volume of 'Baltic-Pontic Studies'.

The 1990s are also the decade which saw the publication of the first fully documented assemblage with a fluted mace, i.e. a grave from a cemetery in Kietrz in Silesia dated at the III period of the Bronze Age [Gedl 1996].

2. FLUTED MACES: CLASSIFICATION OF SOURCES

The fluted maces of typological group B are classified, according to the existing division, into three types [Koško 1979:39-40]:

- B1 (26,1) — maces with curvilinear contour in horizontal projection;
- B2 (26,2) — maces with visible flutes (or wide grooves) in horizontal projection;

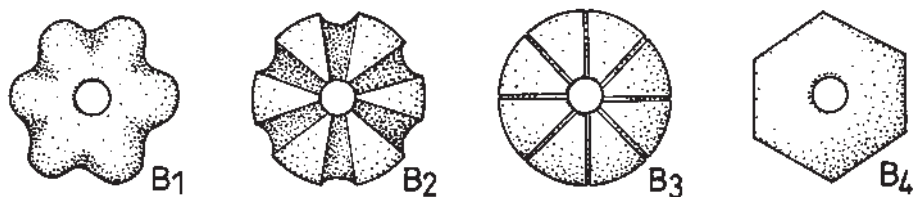


Fig. 2 Types of fluted maces (see text)

- B3 (26,3) — maces with incised lines (narrow, shallow cavities) in horizontal projection; cf Fig. 2:B1-B3.

The above division is supplemented by a new unit:

- B4 — maces with polygonal profile in horizontal projection-‘barrel-shaped’ (Fig. 2:B4).

However, adding the unit here may be considered disputable.

A list of 84 maces classified into the above types is presented in Catalogue 1; cf Fig. 3-10*. For a mapping of sources listed in the Catalogue, see Fig. 11.

A closer description of the discussed types should take into account (in a different sequence than in Catalogue 1) the applied techniques (stages of production): (a) information about raw materials (types of rock), (b) shape and dimensions, specifically the diameter and height, (c) the number of ‘flutes’ (i.e. arch-shaped cavities, flutes, incisions or flat surfaces), (d) other forms of surface marking and (e) technique of shaft-hole boring.

a. Little is known of the raw materials used to make lemon-shaped maces. Information on the vast majority of these maces comes only from literature and archives (including private ones) where identification of raw materials was marginal. Alternatively, intuition-based (macroscopic) evaluations are found. Catalogue 1 (point f) presents 19 petrographic assessments and 4 ‘macroscopic descriptions’ to be treated as reliable or relatively reliable.

B1. 14 items with identified raw materials: diorite – 7; granite – 3; serpentinite – 1; quartz – 1; sandstone – 1; monzonite (gabbro-gneiss) – 1. Moreover, four ‘macroscopic descriptions’ were recorded: ‘fine-grained crystalline dark-colour rock’ – 1; ‘black stone’ – 1; ‘grey rock’ – 1; ‘red-colour’, ‘hard’ – 1.

B2. One item with identified raw materials: granite.

B3. Two items with identified raw materials: granite.

B4. One item with identified raw materials: sandstone.

* The initial version of the Catalogue containing 79 forms was finished at the beginning of 2001, while the verification of ‘sites and doubtful zones’ was still in progress. The outcomes of the verification were added at the end of 2001 in a form of annexes (cf Catalogue) and figures (cf Fig. 10). It is worth mentioning that the final list of maces-84 items-excludes some of the items formerly described in literature, due to their doubtful documentation [e.g. Machnik 1979:351 Posądz, Małopolska region; cf Kłosińska 1997:92]

For a mapping of the above assessments (without general-term raw material descriptions), see Fig. 12.

b. The level of exact identification of the forms of maces is also hardly satisfactory. Only a little more than 69 percent of the items may be evaluated formally (taxonomically) in detail, i.e. may be subsumed under the previously distinguished types.

B1. 43 items.

B2. 4 items.

B3. 9 items.

B4. 2 items (however, it is possible that the share of this type has been considerably lowered by rejecting items in 'the preliminary production phase').

In view of the above list, it may be assumed that the overwhelming majority of the remaining 26 items, accounted for in Catalogue 1, on the basis of general descriptions in literature, falls under category B1, which was presented in the map of types of fluted mace shapes — Fig. 13.

Diameters of maces range between 40 and 88 mm (except for the dimensionally incidental form No. B21: 103-92 mm). Describing them more precisely means listing the average diameters for individual types.

B1. 70 mm (on the basis of 39 measured items).

B2. 66 mm (on the basis of 3 measured items).

B3. 66 mm (on the basis of 6 measured items).

B4. 66 mm (on the basis of 2 measured item).

The height of the maces ranges between 26 and 73 mm (with the exception, as was the case with diameters, of form No. B21: 23 mm). By analogy, these observations may be specified in terms of average uplands for individual types.

B1. 57 mm (on the basis of 33 measured items).

B2. 54 mm (on the basis of 1 measured item).

B3. 50 mm (on the basis of 5 measured items).

B4. 49 mm (on the basis of 2 measured item).

Only in three cases height is greater than width-types: B1 49 x 51 mm (form No. B39); B1 62 x 64 mm (form No. P10) and B3 40 x 45 mm (form No. P8).

c. The assessments of the number of flutes may be divided into detailed, i.e. based on the observation of the whole forms known from examination or literature, and hypothetical, i.e. reconstructed on the basis of analysed fragments of forms which allow to adopt the most reliable version. The following characteristics of individual types show only the former ('indisputable') assessment categories.

B1. 5 to 47 'flutes'; 10 odd, 14 even.

B2. 7 to 10 'flutes'; 2 odd, 2 even.

B3. 6 to 27 'flutes'; 2 odd, 3 even.

B4. 8 to 10 'flutes'; only odd (2).

For the mapping of distribution of all maces including the division into odd and even ornamentation patterns, see Fig. 14.

d. One mace of type B3 (form No. P14; Fig. 4:2) is decorated not only with 'flutes' (incised lines) but also with other forms, namely, lines composed of 'X' signs. However, with the available data it is impossible to reconstruct the pattern and number of ornamentations in detail.

e. Examination of shaft-holes — in all well-documented finds (including especially those known to the author) — shows that they were bored using a one-sided drill. Therefore, the shaft-holes differ in the degree of completeness. Some are 'only marked', others are bored only halfway ('partial'), while others still are bored all the way through ('full'). In 14 maces shaft-holes or their marked and halfway borings are missing (for mapping, v. Fig. 15). This applies to 13 items with a more precise typological identification.

B1. Missing shaft-hole — 2 item; marked shaft-hole (including 1 'marked or halfway bored') — 3 items; halfway bored shaft-hole — 1 item.

B2. Marked shaft-hole — 2 items; halfway bored shaft-hole — 1 item;

B4. Missing shaft-hole — 1 item; marked shaft-hole — 1 item.

3. CULTURAL AND CHRONOLOGICAL COMMUNITIES OF PRODUCERS AND USERS OF FLUTED MACES

The nature of available data determines in what mode and how precisely the producers and users can be identified.

3.1. CRITERIA OF TAXONOMIC IDENTIFICATION (DIRECT AND INDIRECT)

It is possible to single out three groups of evidence that justify the following identification: (a) assemblage finds and highly probable assemblage finds-settlements; (b) hypothetical assemblage finds-items discovered in cemeteries and (c) unattached finds discovered in areas with a clear cultural context. Here the author shall focus primarily on the first and the second group of evidence because analysing these two types determines the extent to which evidence 'c' can be used.

a. To date, seven finds of fluted maces have been made which — with occasional

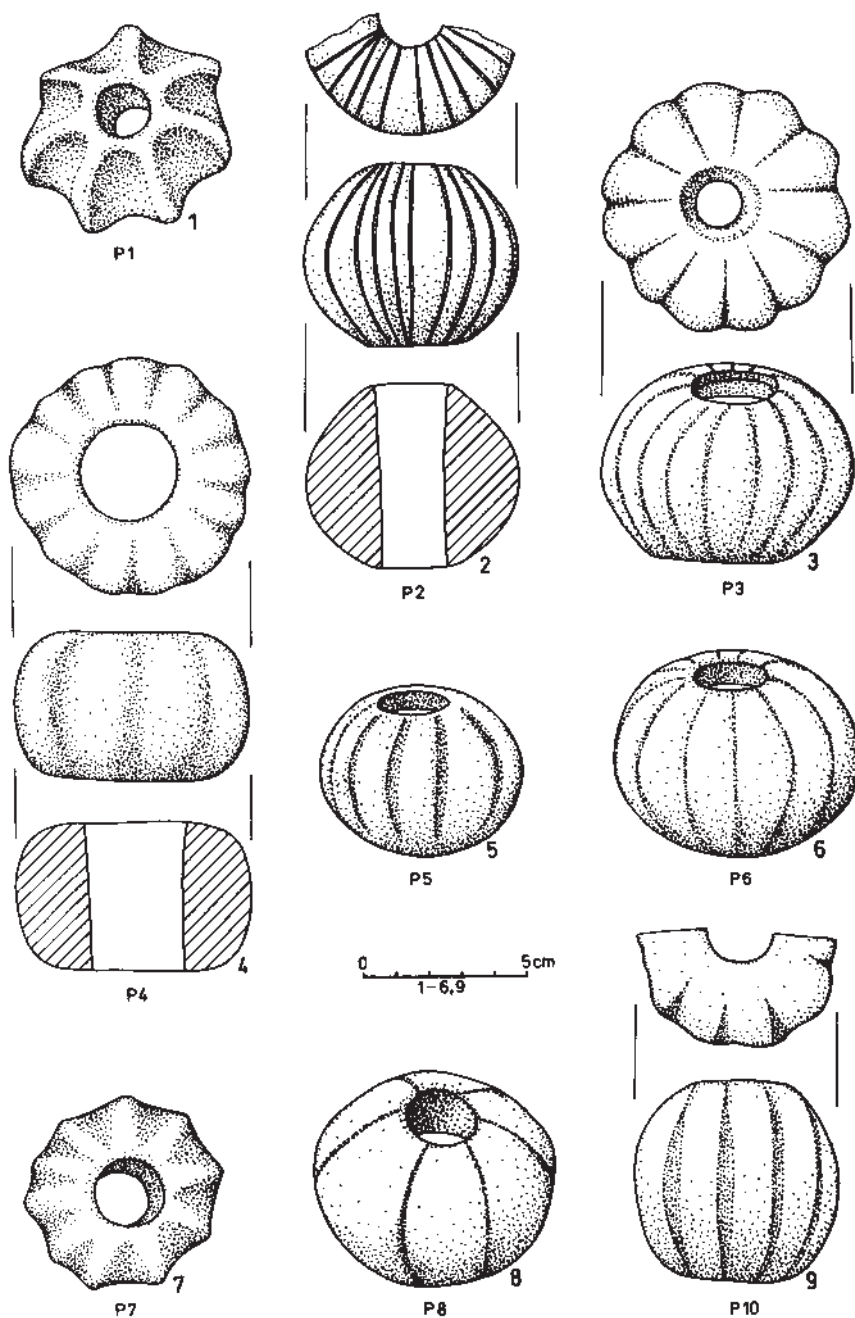


Fig. 3. Fluted maces from the Pontic-Caspian zone (P - artifact or site record number, see Catalogue)

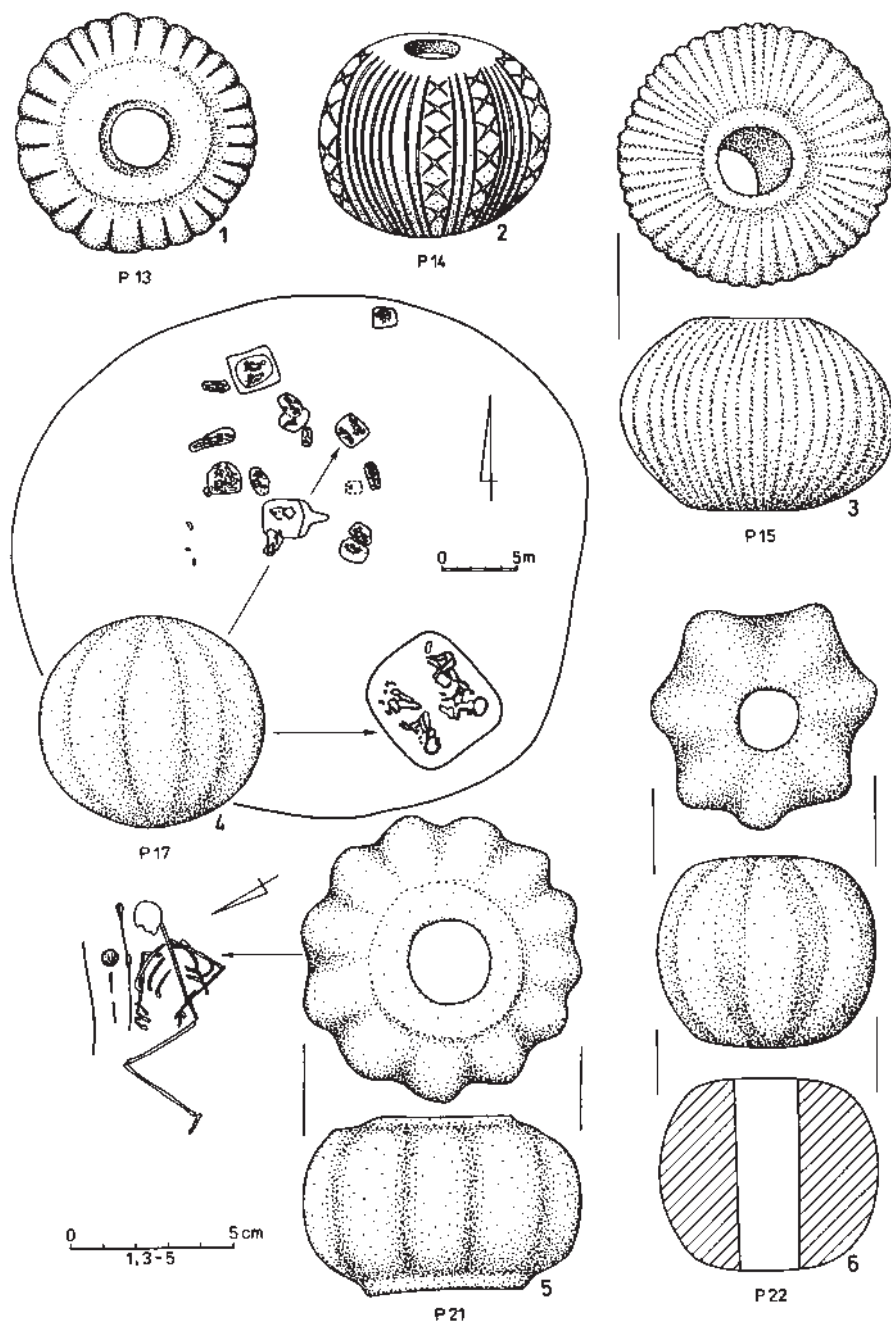


Fig. 4. Fluted maces from the Pontic-Caspian zone (P - artifact or site record number, see Catalogue)

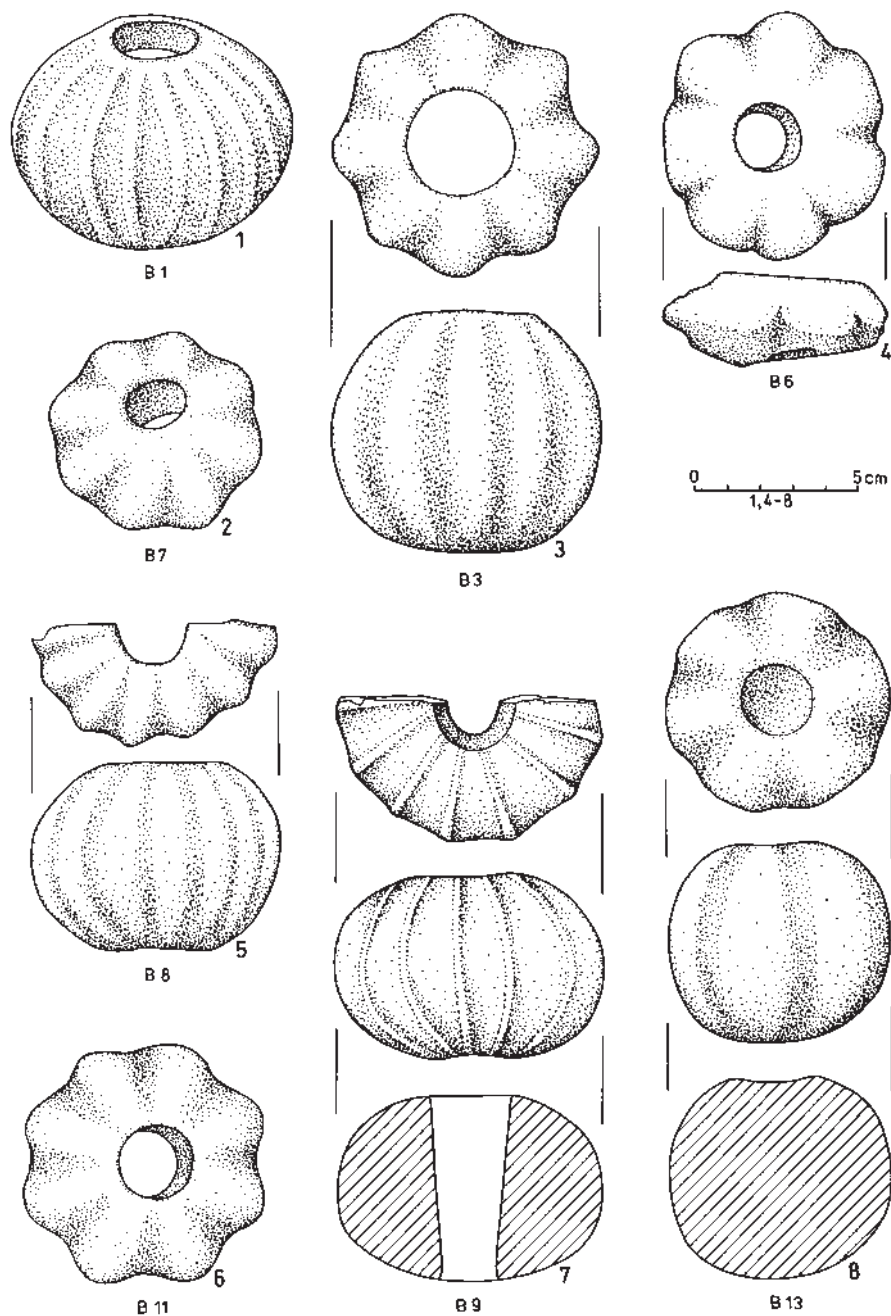


Fig. 5. Fluted maces from the Baltic zone (B - artifact or site record number, see Catalogue)

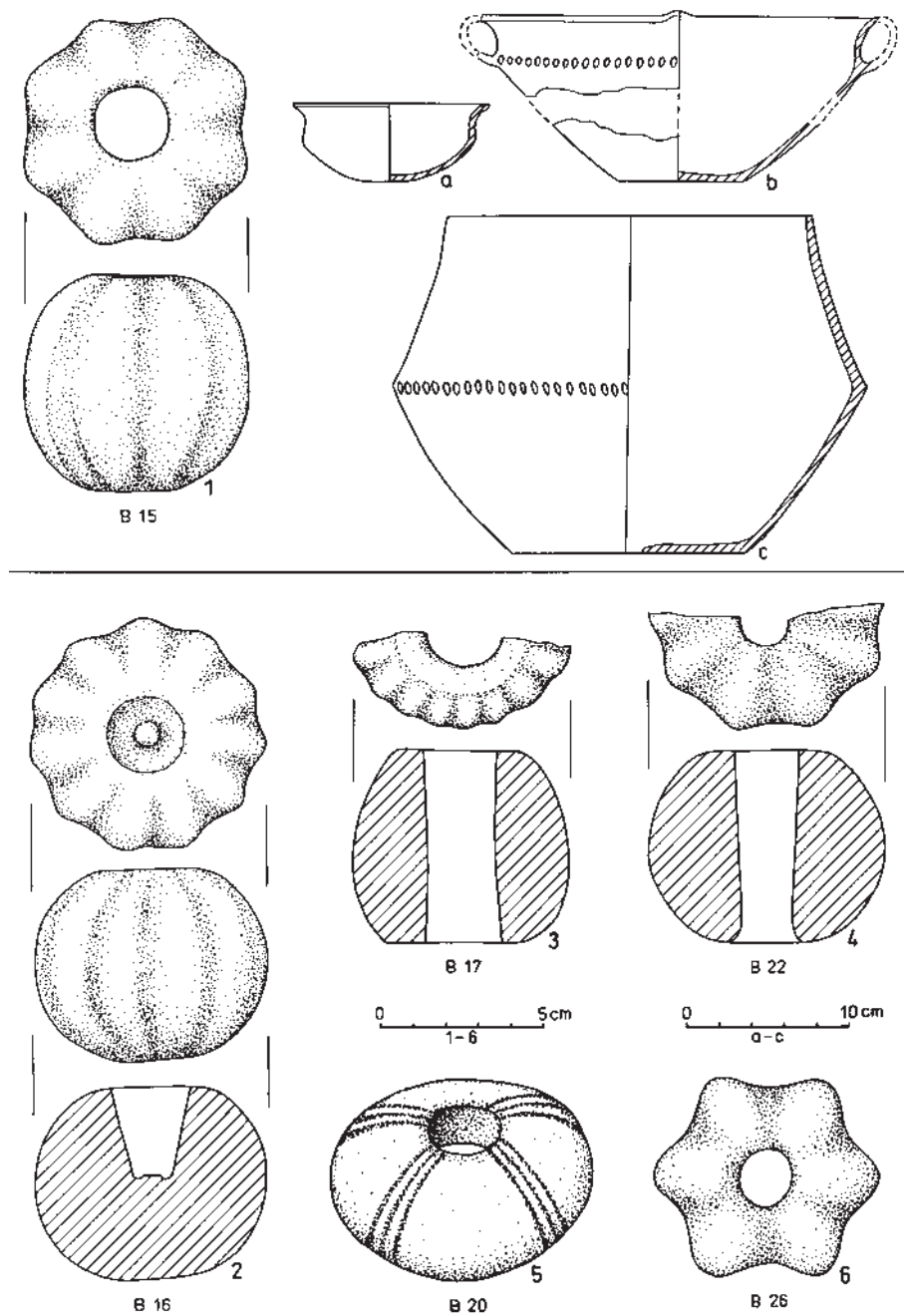


Fig. 6. Fluted maces from the Baltic zone (B - artifact or site record number, see Catalogue)

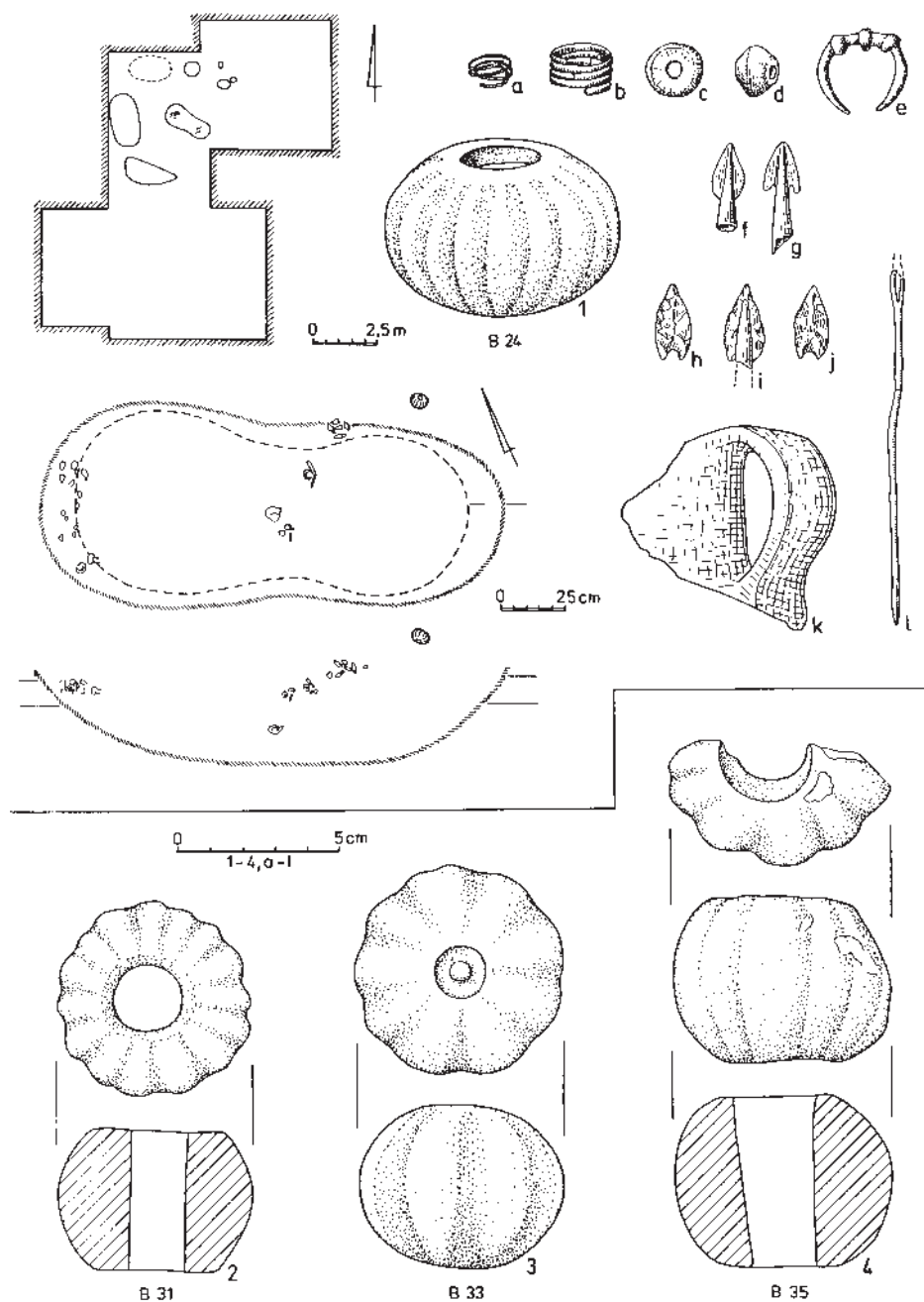


Fig. 7. Fluted maces from the Baltic zone (B - artifact or site record number, see Catalogue)

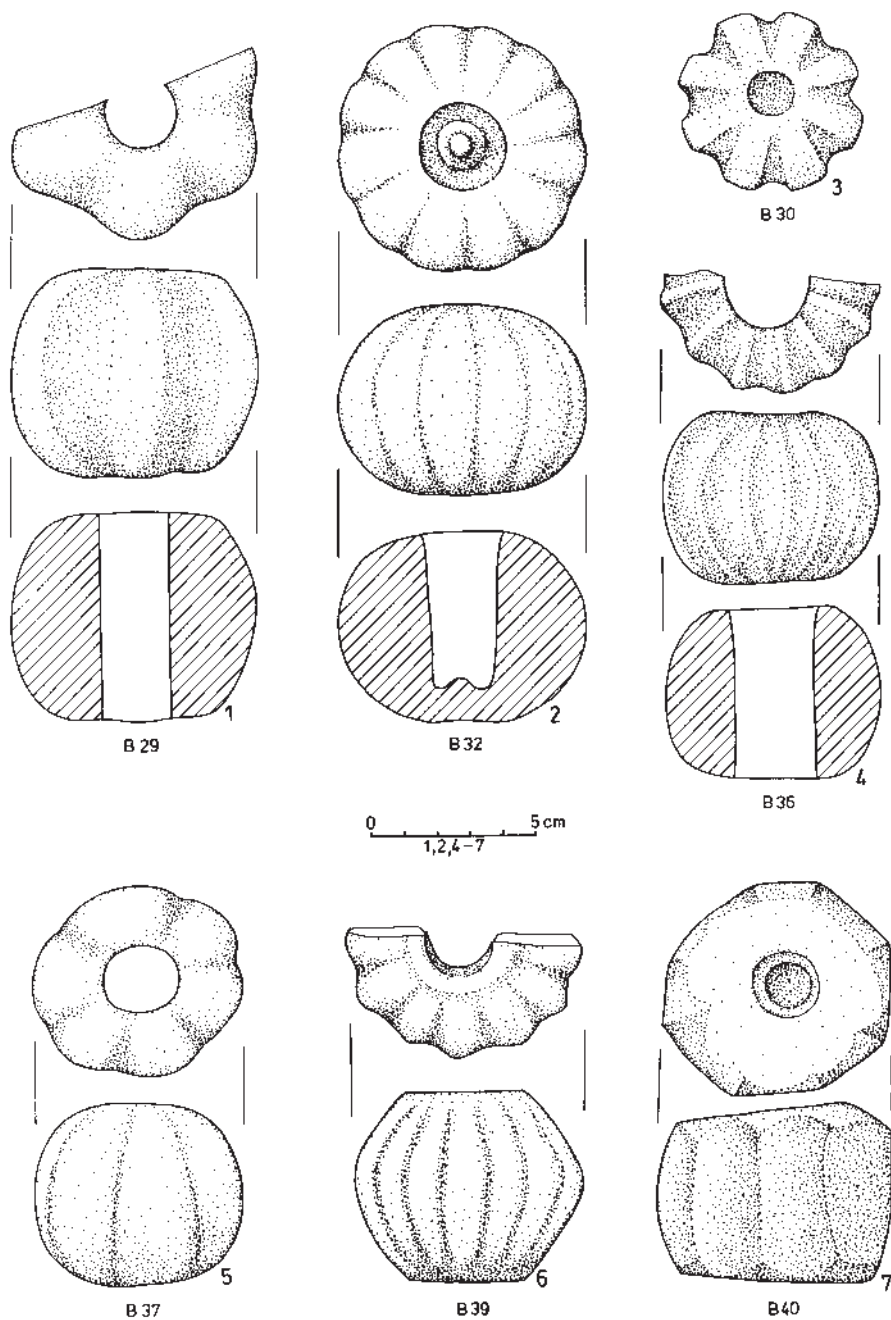


Fig. 8. Fluted maces from the Baltic zone (B - artifact or site record number, see Catalogue)

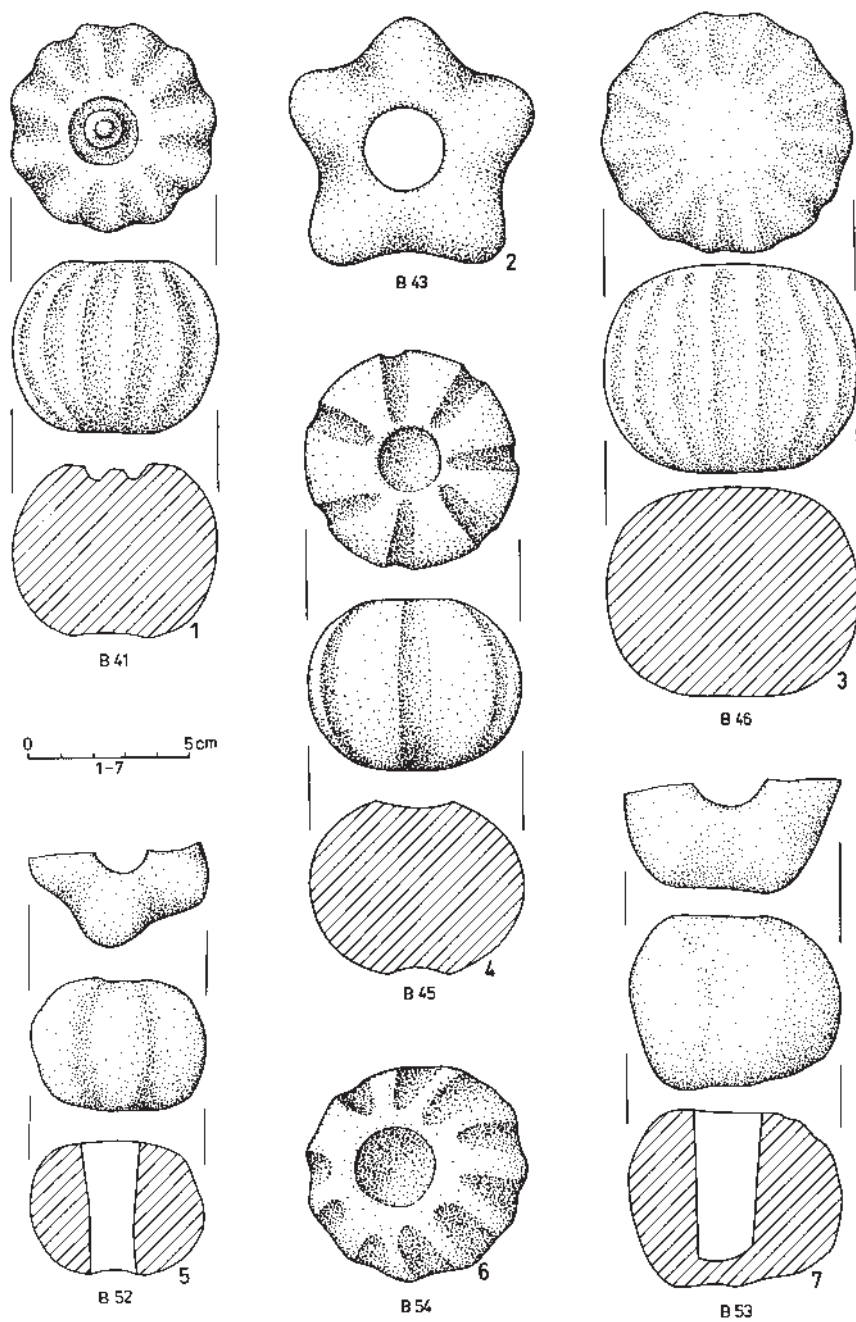


Fig. 9. Fluted maces from the Baltic zone (B - artifact or site record number, see Catalogue)

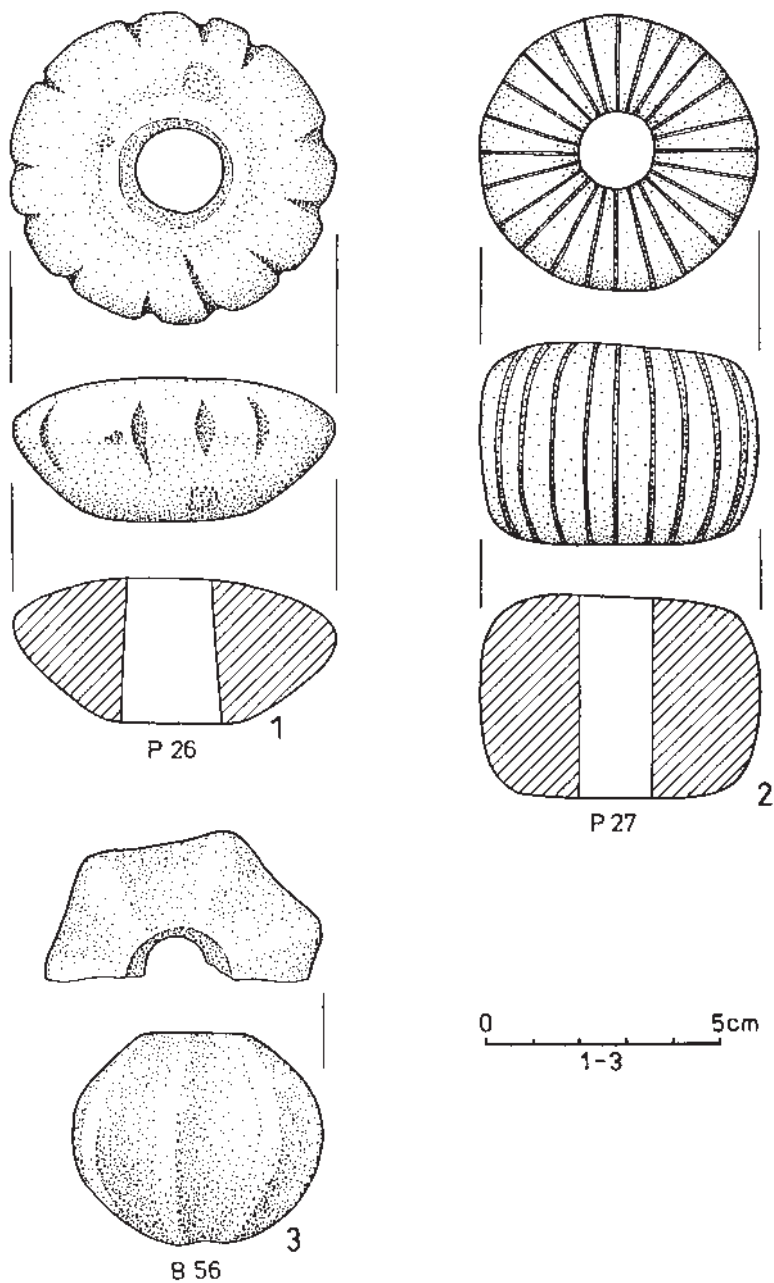


Fig. 10. Fluted maces from the Pontic-Caspian (P*) and Baltic (B*) zones - *artifact or site record number, see Catalogue: Annexes

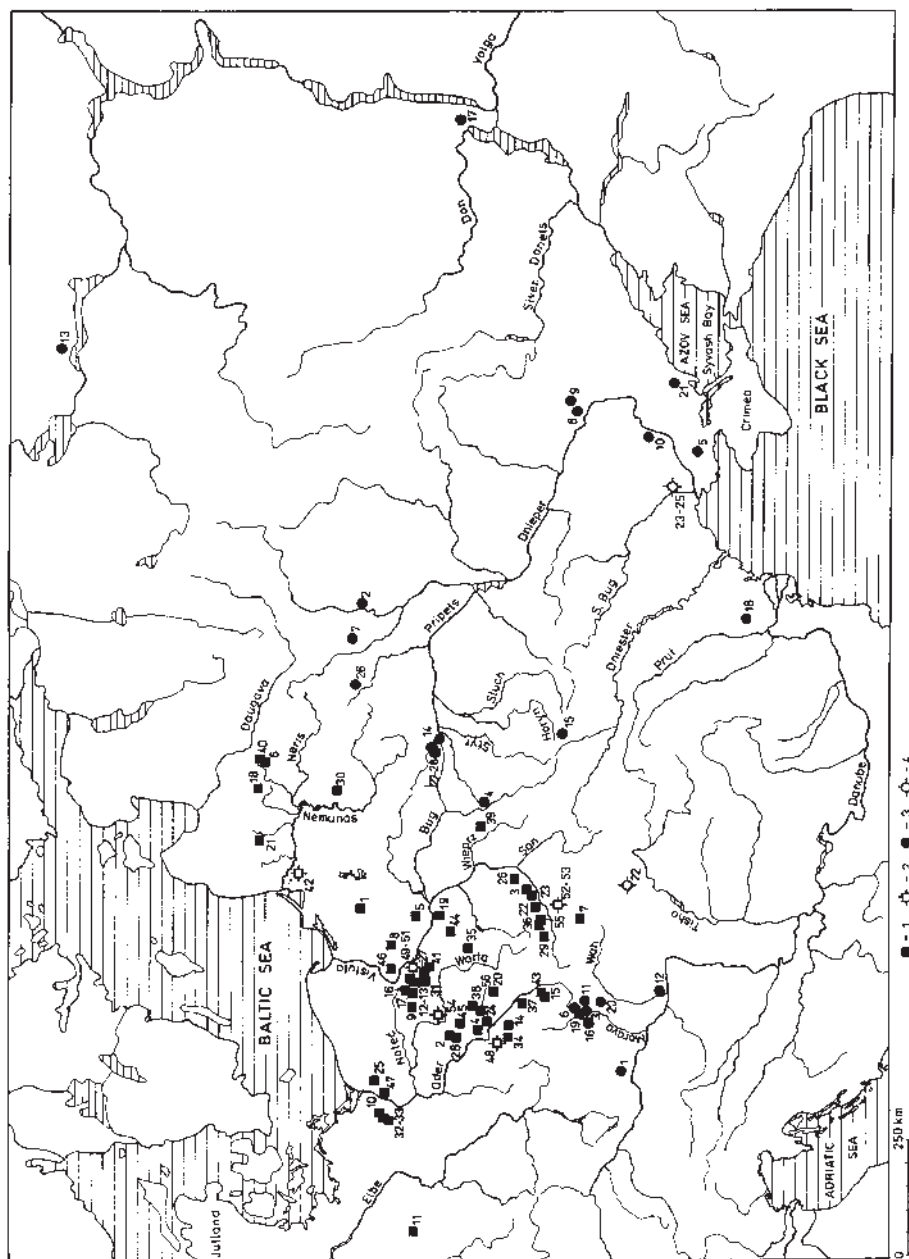


Fig. 11. Distribution of fluted maces. 1 - single maces from the Pontic-Caspian zone; 2 - sets of maces from the Pontic-Caspian zone; 3 - single maces from the Baltic zone; 4 - sets of maces from the Baltic zone

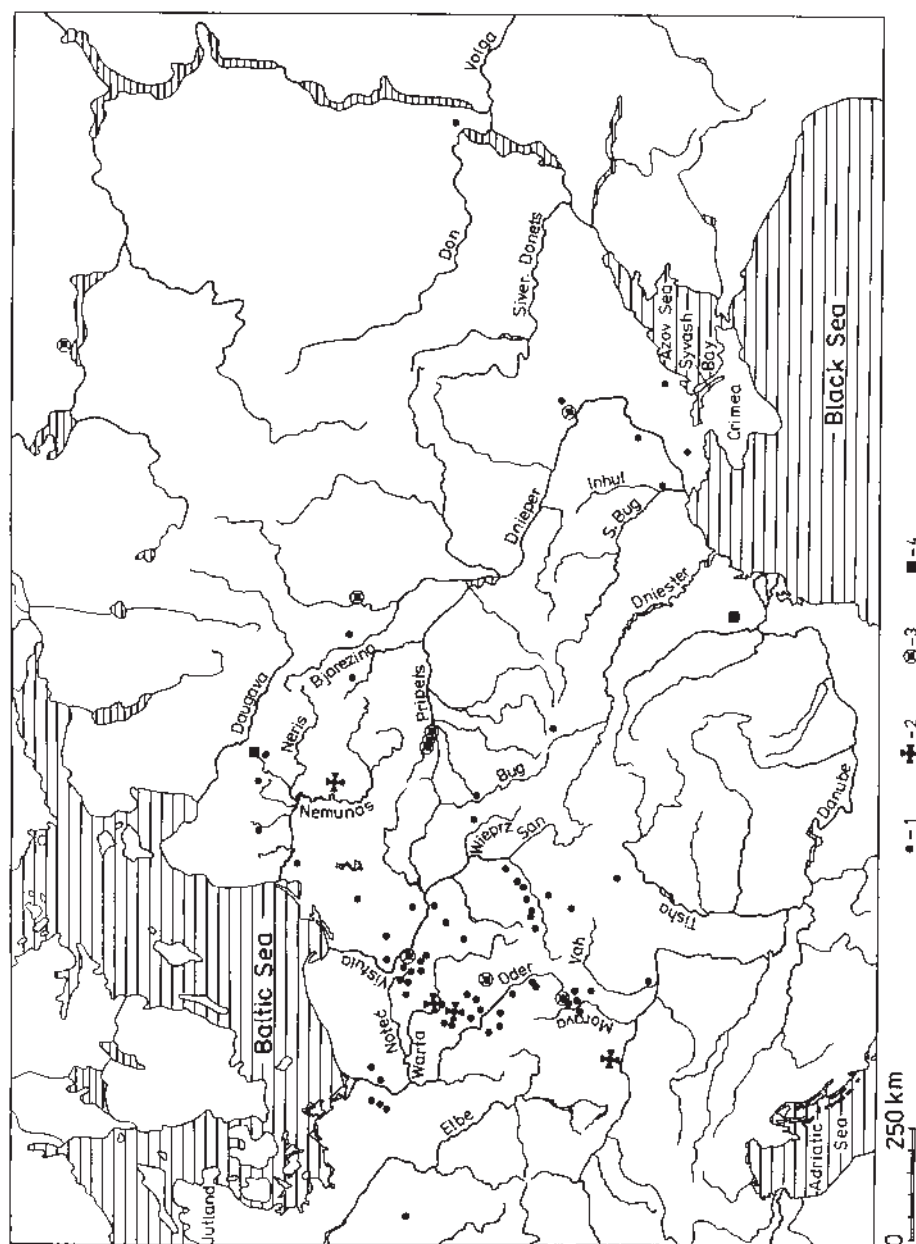


Fig. 13. Distribution of fluted mace types. 1 - type B1 or B1?; 2 - type B2; 3 - type B3; 4 - type B4

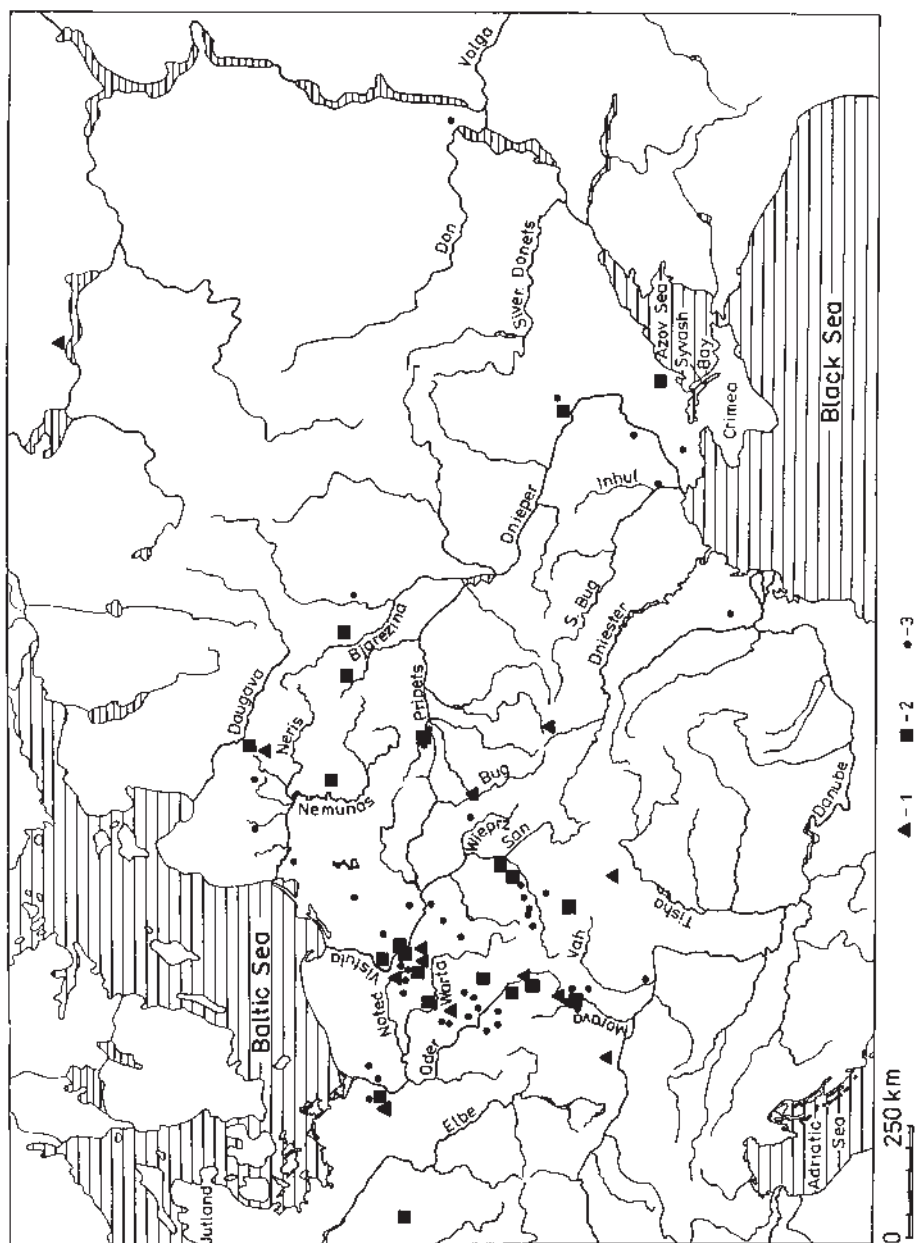


Fig. 14. Distribution of fluted maces of (1) uneven, (2) even, and (3) indeterminate (uncertain) number of flutes

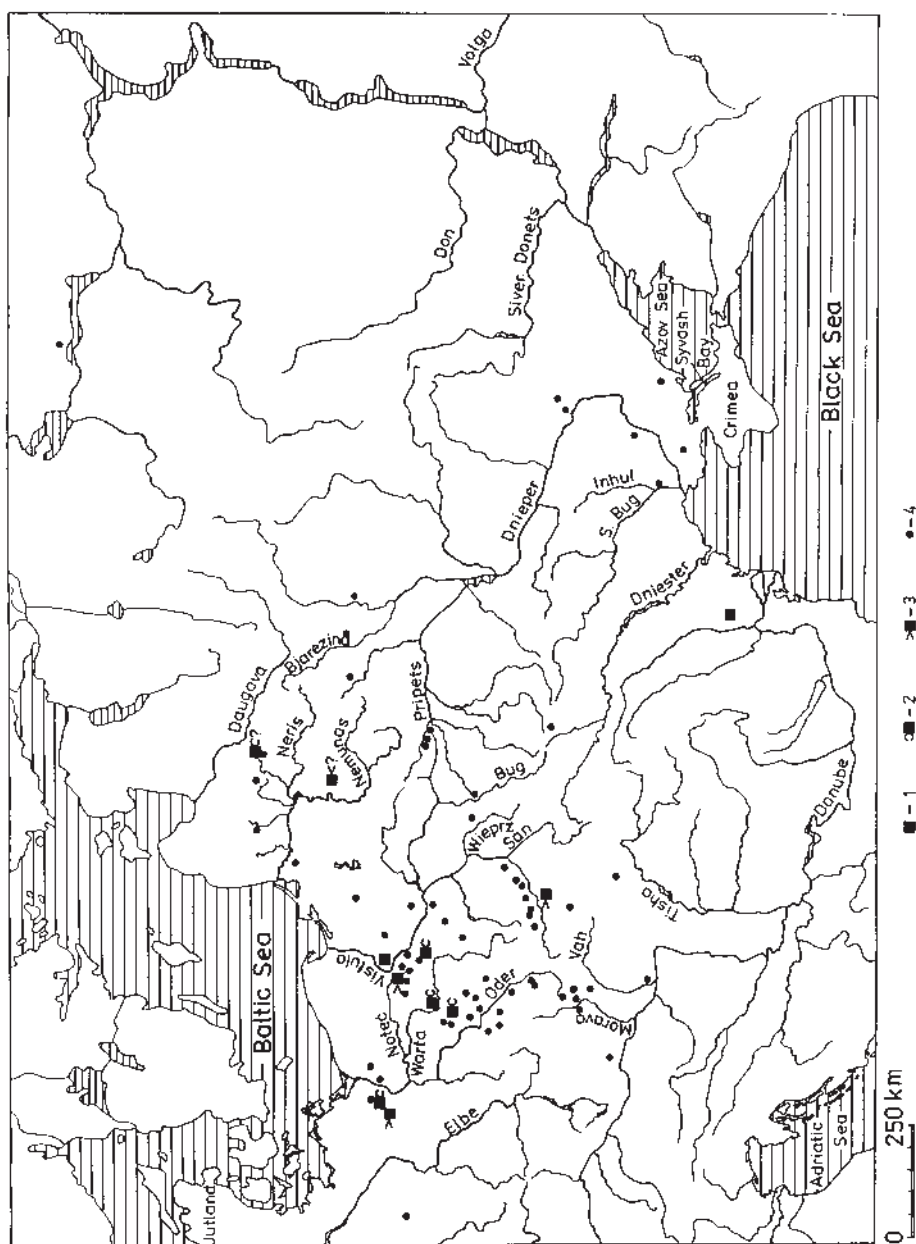


Fig. 15. Distribution of fluted maces: (1) with no holes (2) with a marked only hole, (3) with a partial hole (4) with a full or hypothetically full hole

doubts — are thought to have originated in assemblages. The taxonomic impact of these finds shall be discussed in two groups: (P) assemblages from the Pontic-Caspian zone and (B) assemblages from the Baltic zone (cf Catalogue 1).

P5 (type B1). Kalanchak: grave, unpublished (Fig. 3:5). According to S.N. Bratchenko and O.G. Shaposhnikova [1985:412-413, Fig. 110:26] and the oral assessment of I.L. Serdyukova, the feature should be related to an early phase of the Catacomb culture (CC).

P10 (type B1). Mykhailivka: settlement, published [Lagodovska, Shaposhnikova, Makarevich 1962:141, Fig. 39:2] (Fig. 3:9). The mace appeared in the 'upper layer' which, in the quoted publication, is linked with the late phase of the Yamnaya culture (YC). The layer also featured pottery from an early phase of the CC. The attempts made in the early 1980s to reanalyse the stratigraphy of the settlement (oral communication from O.G. Shaposhnikova) confirm that the little mace can be related to the period encompassing the late YC and early CC.

P17 (type B1). Stepan Razin: grave (under a tumulus), published [Merpert 1967:94, Fig. 7:1] (Fig. 4:4). The grave is connected with a cemetery from the end of the early phase and beginning of the developed phase of the Srubnaya culture (SC). According to V.I. Klochko (oral communication), both this feature and all other maces from the SC should be associated with its early phase [cf Klochko 2001:183-187].

P18 (type B4). Tarakliya: grave, published [Manzura 1984:110-112, Fig. 3:2]. The grave is identified with the late phase of the CC.

P21 (type B1). Volchansk: grave (under a tumulus), unpublished (Fig. 4:5). According to A.I. Kubyshev's oral report, the feature should be connected with the early phase of the CC.

B15 (type B1). Kietrz: grave, published [Gedl 1996] (Fig. 6:1). The grave is identified with the Lusatian culture (LC), phase Kietrz IIc, i.e. with the 'latter half' of the III period of the Bronze Age.

B24 (type B1). Masłów: grave (above the grave: the mace 'was found in pure sand at the edge of the grave'), published [Sejer 1912] (Fig. 7:1). The grave is identified with the 'late' phase of the pre-Lusatian culture — Tumulus culture (TC), or more precisely with its 3rd (declining) phase [Gedl 1975:96; 1996]; i.e. with the III period of the Bronze Age.

b. Four unattached finds from 'hypothetical assemblages' were assessed through the context of cemeteries connected with cultural units or their chronologically corresponding taxons (i.e. generally from the end of the Neolithic and beginning of the Bronze Age). The cemeteries were recorded near the place where the maces were discovered, i.e. on the given site. These observations come only from the Baltic zone (B).

B12 (type ?). Inowrocław-Mątwy: context of an Iwno culture (IC) cemetery [Żurek 1938; Koško 1979: Catalogue 1, No. 89]. In 1938, a mace was found on site 1 where

in 1970 a pit (possibly cremation) grave from phase IIIa of the IC was recorded. No other cemeteries have been documented on this site.

B20 (type B3). Laski: context of a LC cemetery [Wrzosek, Ćwirko-Godycki 1938:613, 615, Fig. I:5,616; Kostrzewska 1953:247] (Fig. 6:5). A little fluted mace was found 'among LC graves' from the IV and V periods of the Bronze Age.

B41 (type B1). Wietrzychowice: context of an IC cemetery [Makiewicz 1969:26, Fig. 2; Jadczykowa 1970:137, Fig. 4; Knapowska-Mikołajczykowa 1956:88, Fig. 114; Koško 1979:Catalogue 1, No. 172] (Fig. 9:1). A mace appeared on the megalithic cemetery of the Funnel Beaker culture (FBC) in the mound of a grave (No. IV) — 'it was found in the earth thrown beyond the rubble structure surrounding the grave.' Also, in the neighbouring grave mound, another IC grave (grave vessel) from phase IIIa was recorded. The author believes that in some of the quoted works the dating of the mace is incorrect, because it was identified through the context of an FCB cemetery.

B45 (type B2). Wymysłowo: context of a cemetery from the beginning of the LC and the end of the TC [Jasnosz 1975:90, 92-93, Fig. 14; Gedl 1975:61]. A mace occurred in the cemetery of the 'latter phase' of the TC and 'the oldest phase' of the LC, dated at the end of the II and the beginning of the III period of the Bronze Age, 'near Bronze Age relics', 'counted among the forms from the III period of the Bronze Age.'

c. The above cultural assessments of fluted maces from assemblages or hypothetical assemblages determine the chronological brackets for identifying the communities of producers and users all over the area where the maces appeared. Such areas and communities shall be discussed later in this chapter.

3.2. AN ATTEMPT TO IDENTIFY THE COMMUNITIES OF PRODUCERS AND USERS

Comparing the distribution of fluted maces (chapter 2, Figs. 11-15) discussed above, as well as their cultural and chronological position (chapter 3.1), with the ranges of identified cultural units (YC, CC, SC, IC, TC, LC), neighbouring (spatially and chronologically adjacent) and successive (having evolutionary connection) cultures, justifies the distinction of five hypothetical communities of producers and users of fluted maces: (a) YC-CC-SC; (b) Fatyanovo culture (FC); (c) Corded Ware culture's (CWC), the east European groups; (d) CWC's, the west European groups — IC, i.e. 'Bell Beakers' [Czebreszuk 2001:117n] — the Trzciniec culture, more broadly, the 'Trzciniec horizon' (TH) [Koško 1979; 194n; cf Czebreszuk 2001:150n — Trzciniec-*Riesenbecher*]; (e) TC, the middle Silesia-Wielkopolska, Silesia, middle Danube (Moravia) — LC groups.

The scope of these taxons in view of the fluted mace distribution is illustrated in Fig. 16. Each of the taxonomically determined communities has its physiographically specific character. This issue shall be presented in chapter 3.3.

It may be assumed that fluted maces were made in all of the above mentioned cultural communities. However, there are no semi-finished maces that would directly confirm their presence in the FC area (although so far only one item has been discovered here), Fig. 15. Besides, connecting positively each type of fluted maces (B1-B4) with particular communities is difficult. Instead, the currently documented distribution of maces proves that in the said cultural communities various types of maces were manufactured, primarily type B1 maces (Fig. 13; cf also Fig. 14). Hypothetically, they evolved in the following sequence: B1-the oldest forms → B2 → B3-B4 (probably the last-mentioned ones 'completed the sequence' only in the Pontic zone — Fig. 13:4). Moreover, it is possible that the number of ornaments evolved: odd number of 'flutes' → even number of 'flutes' (Fig. 14)*.

The issue of the relation between initial forms (B1) and their derivatives (B2-B4) shall be discussed at length later in this article.

3.3. CHRONOLOGY

The currently available 'evidence for taxonomic identification' of fluted maces in a series of assemblages, supported by hypothetical assemblages (chapter 3.1.), enables archaeologists to estimate the brackets of absolute dating (calibrated radiocarbon chronology: BC — i.e. historical chronology) of mace production and use. The estimates shall be presented for the previously distinguished communities (chapter 3.2), Fig. 16.

a. Black Sea and Caspian steppe/forest-steppe. Of key importance here are the following investigations: historical chronology of the late YC and dawn of CC (aa), as well as the early phase and the beginnings of the developed phase of the SC (ab).
aa. According to A.V. Nikolova's latest findings [Nikolova 1999], the late phase of the YC in the right-bank, lower Dnieper drainage (probably left-bank as well) should be dated at 2550-2250 BC. Although the oldest CC assemblages are also dated at this period, clear chronological brackets of this taxon (a 'typical CC') should be dated at 2250-2000 BC*. Taking into consideration the extreme taxonomic evaluations of the oldest fluted maces in this cultural community, i.e. the end of the early phase of the YC and beginnings of the early phase of the CC (P10 — Mykhailivka), and the late

* Suggestions of J.J. Langer [Report on the statistical analysis of ornamentation of fluted maces from group B (the Baltic drainage) and group P (the Black Sea drainage), Poznań 2001-typescript] which lay foundations for broader studies of insignia ornamentation from the Baltic-Pontic zone (forthcoming).

phase of the CC (P18 — Tarakliya), the chronological brackets may be reasonably determined at about 2350-2000 BC [cf Nikolova 1999:127, Fig. 11].

ab. The currently accepted chronology of the SC was based on the non-calibrated, 'rough' ^{14}C (bc) chronology, in which radiocarbon dating was marginal, originating mainly from areas along the Volga River [Berezanska, Cherednichenko 1985:472 and oral assessments of V.I. Klochko]. The SC along the Volga should be dated between 1750 and at least the 12th century, while the early period presumably covered years from 1750 to 1550 BC [cf Kurylenko, Otroshchenko 1998:101 who suggested an earlier chronology of SC beginnings, Tab. 4]. Consequently, the isolated find of a fluted mace on the Volga, which the discoverer associated with the end of the early and the beginning of the late phase ('period') of the SC (P17 — Stepan Razin), may be dated at ca. 1500 BC. It is possible to place it earlier, i.e. between 1750 and 1550 BC [for the methodological and comparative aspect, see the ongoing discussion about the 'rough' calibration of dating the end of BB and the beginning of BC in the Bronze Age in the Oder and Vistula drainages: 1400 BC — Makarowicz 1998:58, Fig. 19, and 1650 BC — Bukowski 1998:Tab. I].

To conclude, the chronology of producing and using fluted maces in the Pontic-Caspian steppe/forest-steppe zone is dated between 2350 and 1300 BC (cf Fig. 16).

b. Taiga: the Volga drainage. Similarly to the SC chronology described above, the FC chronometry is based on non-calibrated, 'rough' ^{14}C scale, complemented by several direct dates referring to this taxon. Distribution of the dates is inconsistent. Furthermore, there are no datings for the upper Volga group where a fluted mace was discovered (P13 — Oganino) [Kraynov 1987:60-61, Fig. 5:b, e; 1992]. The above chronometry places the FC between the 20th and 15th century bc (phases: 1 – 20th-18th century; 2 – 18th-17th century; 3 – 17th-16th century; 4 – 16th-15th century bc) [Kraynov 1987:74]. Thus, the discussed mace, according to the calibrated radiocarbon chronology, may be dated between 2450 and 1750 BC. The nature of the find, however, makes it impossible to make a more specific assessment (cf Fig. 16).

c. Taiga: the upper Dnieper and Nemunas drainages. Of vital importance in this case are the following identifications: chronology of the Middle Dnieper culture (MDC) (ca) and chronology of the Corded Ware culture (CWC) in the 'eastern Baltic States' zone — the Primorie culture (CWCP) (cb).

ca. The latest M. Kryvaltsevich and N. Kovalyukh's study of the MDC radiocarbon chronology shows that this taxon can be dated at 2350-1700 BC [Kryvaltsevich, Kovalyukh 1999]. There is also evidence to assign an earlier date to its beginnings, i.e. about 2700 BC [Machnik 1999; Klochko, Koško, Szmyt 1999:266, Fig. 1]. Since the maces found in the Dnieper area are unattached (P2 — Guta; P7 — Klichav), it is impossible to specify the outlined chronology more accurately.

cb. According to D.A. Kraynov and I. Loze, the origins of CWCP (the so-called CWC of 'eastern Baltic States'), on the strength of ^{14}C direct datings, may be con-

nected with the dates of ca. 2700/2650 (the region of Lithuania) and 2350/2150 BC (the region of Latvia-Estonia). The chronology of the end, based on an uncalibrated, 'rough' ^{14}C scale, should be connected to the following dates: 1750 bc (Lithuania), i.e. 2100 BC and after 1500 bc (Latvia-Estonia), i.e. 1750 BC [Kraynov, Loze 1987:56]. The maces found around the Nemunas (mainly Lithuanian, as concerns administration) are unattached (B6 — Dusetos; B18 — Kapiskis; B21 — Lygšilis; B30 — Orany; B40 — Vielikuskesk; B42 — Wissritten), therefore, it is impossible to make their dating more specific.

The above data shows that the general chronology of producing and using fluted maces in the taiga zone of the upper Dnieper and Nemunas drainages should be dated between 2700 and 1700 BC (cf Fig. 16).

d. Taiga/forest-steppe: the left-bank of the Pripet and the upper Dniester drainages; lowlands/uplands: the upper and middle Vistula and the upper Warta drainages. Of significance are the chronological assessments of the Corded Ware Culture Małopolska (CWCM), continued as the Mierzanowice culture (MC) (da), the late IC from phase IIIa — more broadly phase III (db), as well as the western and eastern TH (dc).

da. The latest research by P. Włodarczak into the radiocarbon chronology of the evolutionary brackets of the CWCM show that this culture developed between 3000 and 2200 BC; but the dates of the 'classical' version (Cracow-Sandomierz group) should be narrowed down to 2800-2200 BC [Włodarczak 1998:38, Fig. 3]. As concerns the MC, S. Kadrow and J. Machnik argue for a ^{14}C chronology between 2250/2300 and 1600 BC [Kadrow, Machnik 1997:169, Fig. 70]. The above assessments can be transferred to the peripheral zones of the CWCM and MC (or their impact zone): central Poland, Volhynia and Podolia. It is difficult to estimate which fluted maces recorded in the earlier mentioned territories can be connected with the said taxons (cf Fig. 16).

db. In light of the latest studies by P. Makarowicz of radiocarbon chronology of the IC, its phase III is dated between 2100-1850 BC, while its older period that occurred before TH — the period that could fully correspond with phase IIIa [Koško 1979] — falls between 2100 and 1950 BC [Makarowicz 2000; J.Czebreszuk et al. 2000:570, Fig. 1]. Another, 'narrower' dating can be fairly reliably related with two other maces from the 'hypothetical assemblages' (B12 — Inowrocław-Mątwy; B41 — Wietrzychowice). Conceivably, phase III of the IC can be connected also with some other maces, mainly from Kujawy and the Chełmno Land, i.e. from the lower Vistula and upper Noteć drainages (cf Fig. 16).

dc. The study of radiocarbon chronology of the TH west segment was recently summed up by P. Makarowicz who documented the following borderlines: 2000-1500 BC — the lower Vistula region (Kujawy), 1950-1100? BC — the upper Vistula region (Małopolska) [Makarowicz 1998:154, Fig. 5]. In the case of the TH east segment, the assessments of N. Kovalyukh, V. Skripkin, V. Klochko and S. Lysenko

are now binding. The borderlines are: 1600-1200 BC [Kovalyukh et al. 1998; cf the latest approach extending the period from 1800 to 1000 BC: Lysenko 2001]. The TH in both territorial versions can be associated with some maces recorded in the discussed community ('d') (cf Fig. 16).

To conclude the above findings, the general chronological brackets of producing and using fluted maces on the border of taiga/forest-steppe and lowlands/uplands (community 'd'), i.e. on the west-east physiographic frontier of Europe (including the Baltic and Pontic drainages), may be either broad — years 3000-1100 BC — or narrow, bearing in mind the criterion of 'hypothetical assemblages'('db'), namely, 2100/1950-1100 BC (cf Fig. 16).

e. Lowlands/uplands: the Oder drainage (excluding the upper Noteć), the lower Elbe and the middle Danube drainages. Here the chronological assessment of two taxons: (ea) of the TC and (eb) of the LC, particularly its early phase corresponding to periods III-V of the Bronze Age, are instrumental.

ea. The chronometry of the TC in the middle Danube, Oder and Elbe drainages involved mainly non-calibrated, 'rough' ^{14}C scales. Thus, this taxon could be classified between 1700/1650 and 1350 BC. Such assessment was further corroborated by the first direct dating from the middle Warta River [Makarowicz 1998:154, Fig. 5; 1998a:Fig. 38]. The only TC assemblage with a fluted mace (B24 — Masłów) was taxonomically assessed as having originated in the declining phase of the TC (at the beginning of LC). With this in mind, it is possible to assume that these forms appeared in the Middle Silesia, Silesia and the middle Danube groups of the TC around 1400-1350 BC (cf Fig. 16).

eb. The above dating is closely related to the determination of chronological brackets of three fluted maces discovered in an assemblage (B15 — Kietrz) from the 'latter half' of the III period of the Bronze Age, in 'hypothetical assemblages' (B45 — Wymysłowo) from the end of the II and the dawn of the III period of the Bronze Age (though more from the III period), as well as (B20 — Laski) from IV-V period of the Bronze Age. Similarly to the previous case, the non-calibrated, 'rough' ^{14}C chronology scale dominates here while direct dating plays only a minor role. The above assessment is enough to date this period of LC development (alternatively, the end of TC and the start of LC) between 1400 and 800 BC [Bukowski 1998:Tab. I; cf Czebreszuk, Ignaczak, Łoś 1997:38-44].

In conclusion, on the basis of the above evidence from the Oder drainage, all items recorded within the eastern TC and the 'western' LC (post-TC) groups, i.e. within the 'e' community may be assigned to the period of 1400-800 BC (cf Fig. 16).

Having reviewed the historical chronology (BC) within the five distinguished physiographic and cultural communities ('a'-'e'), in which fluted maces appeared, the author states that:

- only in two communities, namely the extreme eastern ('a') and the extreme western ('e') can the maces be dated directly (the presence of assemblages);

- the dates for community 'a' (YC, CC, SC), mean that the maces appeared earlier, but were used for a shorter period in the Pontic zone (from 2350 to 1300 BC);
- dates obtained for community 'e' (TC, LC) are much younger against the background (from 1400 to 800 BC);
- in the 'transitional territory', i.e. in communities 'b','c','d', only thanks to the last one ('db') is it possible to indicate a 'relatively direct' ('hypothetical assemblages') mace appearance chronology (from 2100 to 1950 BC).

The ranges covered by the above-discussed evidence of the historical chronology in the case of individual communities is synthetically represented in graphic form in Fig. 17.

4. GEOGRAPHICAL ORIGINS AND MORPHOGENESIS OF FLUTED MACES

The European prehistoriography provides two conceptions explaining the appearance of stone maces: the major (dominant) one-exogenous and definitely the minor one-endogenous. According to the former there were hypothetical prototypes of insignia (mostly made of metal) from the east Mediterranean-Near East civilisation circles [cf Montelius 1900:99,102; Jażdżewski 1981: 223; v. Bonnet 1926:1-16]. The latter points to the early agricultural trend of tool evolution: 'globular hammers' — known i.a. in the Band and post-Band cultural circles, initiated here by the disc-shaped forms connected with land cultivation technology [cf Vencl 1960:36]. In both of the above conceptions, European maces appear in the early metal cultures (i.e. after 5200/5000 BC), namely in the Eneolithic of the Carpathian Basin-Balkans and Northern Pontic region — Caucasus.

As it was said in chapter 1, this literature does not mention any precise assessments of (a) geographical origins and (b) morphogenesis of maces from the discussed typological group B (fluted maces).

a. In order to identify the 'original territory' of fluted maces (stage I of geographical origin), it is vital to know earlier findings concerning their extent of occurrence and particularly their chronology (chapter 3). The oldest items from typological group B are recorded in the steppe of the Northern Pontic region, in the interfluvial area of the Dnieper and Donets rivers ('Crimea base' region), in the settlements from the end of the YC and the start of the CC, i.e. about 2350 BC. Concurrently, the territory of Europe did not feature any older or contemporaneous 'generally analogous forms'. These could be items of a similar shape but clearly different functions, e.g. 'rock-crystal headed bronze pin' (Ø 58 mm) from Mainland Greece,

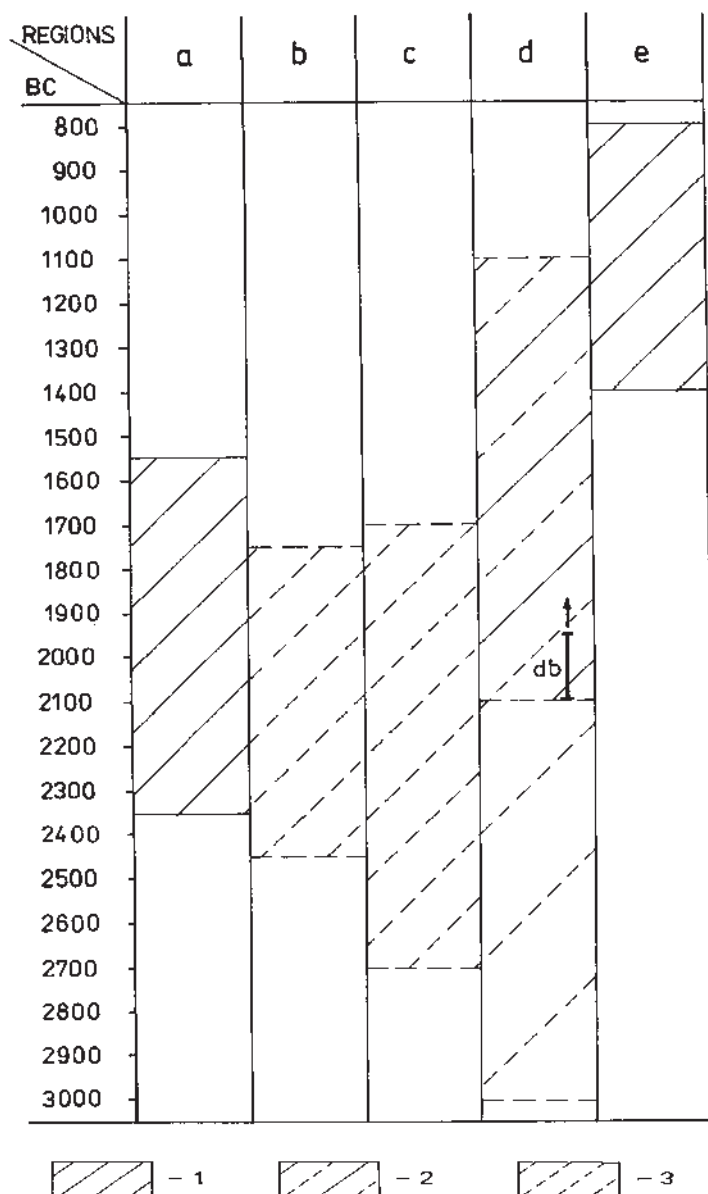


Fig. 17. Cultural environments of makers and users of fluted maces: chronology. a - Yamnaya culture - Catacomb culture - Srubnaya culture; b - Fatyanovo culture; c - Corded Ware culture, East European groups; d - Corded Ware culture, West European groups + Iwno culture + Trzciniec Horizon (da - Corded Ware culture, Małopolska region + Mierzanowice culture; db - Iwno culture; dc - Trzciniec Horizon); e - Tumulus culture + Lusatian culture. 1 - chronological assessments based on assemblages; 2 - chronological assessments based on hypothetical assemblages; 3 - chronological assessments based on a putative taxonomic identification

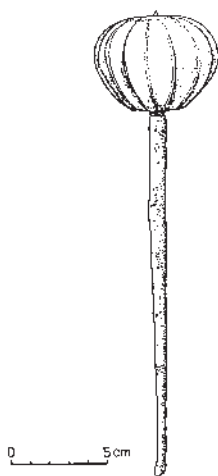


Fig. 18. 'Rock-crystal headed bronze pin' - an example of an object that is morphologically similar to fluted maces (Shaft Grave III, Middle Helladic period: 2090/2050-1600 BC). After Dickinson 1994

from Shaft Grave III dating back to the middle Helladic period of about 2090/2050-1600 BC [Dickinson 1994:182, Fig. 5.39-9], Fig. 18. Outside Europe, there are no forms either which would be older or formally similar to the Baltic-Pontic fluted maces [cf Taracha, *The mace...*, in this volume].

Accordingly, it may be assumed that the invention of the fluted mace (type B1) has its roots in the Northern Pontic region and it should be related to the early CC community (specifically YC/CC) within its Inhul and Dnieper-Azov groups [cf Bratchenko, Shaposhnikova 1985:412-417]. This form's further stages of geographical origins (II, III...) are broadly dated at the decline of the 3rd and the beginning of the 2nd millennium BC, which is documented by its derivatives: B1 → B2, B3, B4 (Fig. 13). Fluted maces were transported outside the CC thanks to trading and 'migrations of the elite'. The mechanisms of reception of fluted maces can be better identified upon analysing their social and symbolic meaning (chapters 5 and 6).

b. The Northern Pontic region, especially along the Dnieper, is the area among European cultural communities where the non-ornamented globular maces (typological group A) were received particularly early. On the basis of a holistic analysis of all mace types, this assessment has recently been made more specific by V.I. Klochko [Klochko 2001:31; cf also Klochko, *Maces...* in this volume].

Here the maces appeared as early as the end of the Neolithic and the beginning of the Eneolithic in the late stage of the Mariupol horizon ('community'), ca. 5500-5000 BC [cf Telegin et al. 2001:132, Fig. 61] and were used by successive 'communities' that inhabited the steppe during the Eneolithic and the Bronze Age:

Sredni Stog — Khvalynsk, Novodanilovka (Petro-Svestunovo — Casimcea), the YC and CC [Makarenko 1933:61, Fig. 11 — grave 8; 72, Fig. 24 — grave 24; 75-76, 78, Fig. 37-38 — grave 31; 111, Fig. 91 — found in one of the earth layers; Vasilyev, Sinyuk 1985:103, Fig. 22; Telegin et al. 2001; cf also Koško 1985]. That is why, the fact that the range of maces was extended (ca. 2350 BC) by fluted maces (typological group B) means that the endogenous trend of formal changes came to the fore. However, it was impossible to evaluate the meaning of the extension: the functional and symbolic reasons for applying the flutings (cf chapter 5).

In the 3rd millennium BC, on the borderland of the east and west of Europe, in the area where maces from typological group B are recorded (cf Fig. 11), two clear centres of applying flutings to stonemasonry are observed: (a) the Inhul group and (b) the Elbe-Oder group.

a. Until the prologue of the CC, the peoples of the Pontic steppe/forest-steppe did not continue the fluting tradition in their stonemasonry, e.g. axe surfaces or other tools. This assertion, however, excludes occasional, chronologically unclassified applications of flutings, for instance in ‘horse-head scepters’, among the Eneolithic steppe/forest-steppe cultures and along the western Pontic region in the second half and at the turn of the 5th millennium BC [cf Govedarica, Kaiser 1996 — further reference in that volume], i.e. when maces were used on these territories as well. Yet, such ornamented forms were not found in successive taxons of the 4th and 3rd millennia BC: the ‘pre-Yamnaya’ and YC. The situation changed at the beginnings of the CC, i.e. around 2350 BC. It was then that flutes became ‘one of the characteristic peculiarities of the CC stone working techniques’ [Popova 1955:168]. Flutes were found on axes ‘with distinct butts’ (‘battleaxes’ — Fig. 19), on maces and other objects, i.e. insignia and casual artifacts, as well as on production tools.

b. The tradition of fluting ‘casual’ stone artifacts in the Oder-Elbe zone in the 3rd millennium BC is older and connected with groups of the early CWC stage, i.e. ‘old corded-ware group’. This refers mainly to ‘battleaxes’ — the Ślęża type axes and the faceted axes [Machnik 1979:356-361; cf also Buchvaldek 1967:52-53, Fig. 7, Map 25 — type FHA, ‘*Facettierte Hammeraxt*’], Fig. 20. In light of the latest findings, this stage (i.e. the emergence of the Ślęża type axes) may be dated at 2850-2650 BC [Włodarczak 1998:38, Fig. 3], which corresponds to the beginnings of maces-but only the non-ornamented globular maces from typological group A-among local CWC communities [Buchvaldek 1967:56-57; cf Buchvaldek, Koutecky 1970]. When the CWC died out, the tradition of ‘fluted axes’ suffered recession, but individual cases of axe-fluting were still recorded in the TC [Kłosińska 1997:92], i.e. in the era of the ‘tumulus’ prologue of maces from typological group B, i.e. 1400 BC.

Both discussed cases show that the evolution of fluted maces is connected with a large-scale use of particular symbols-ornaments in the production of stone insignia. However, in these cases it is hard to trace the genetic and semiotic background of flutings. In the Northern Pontic region both forms of decorated insignia-axes and

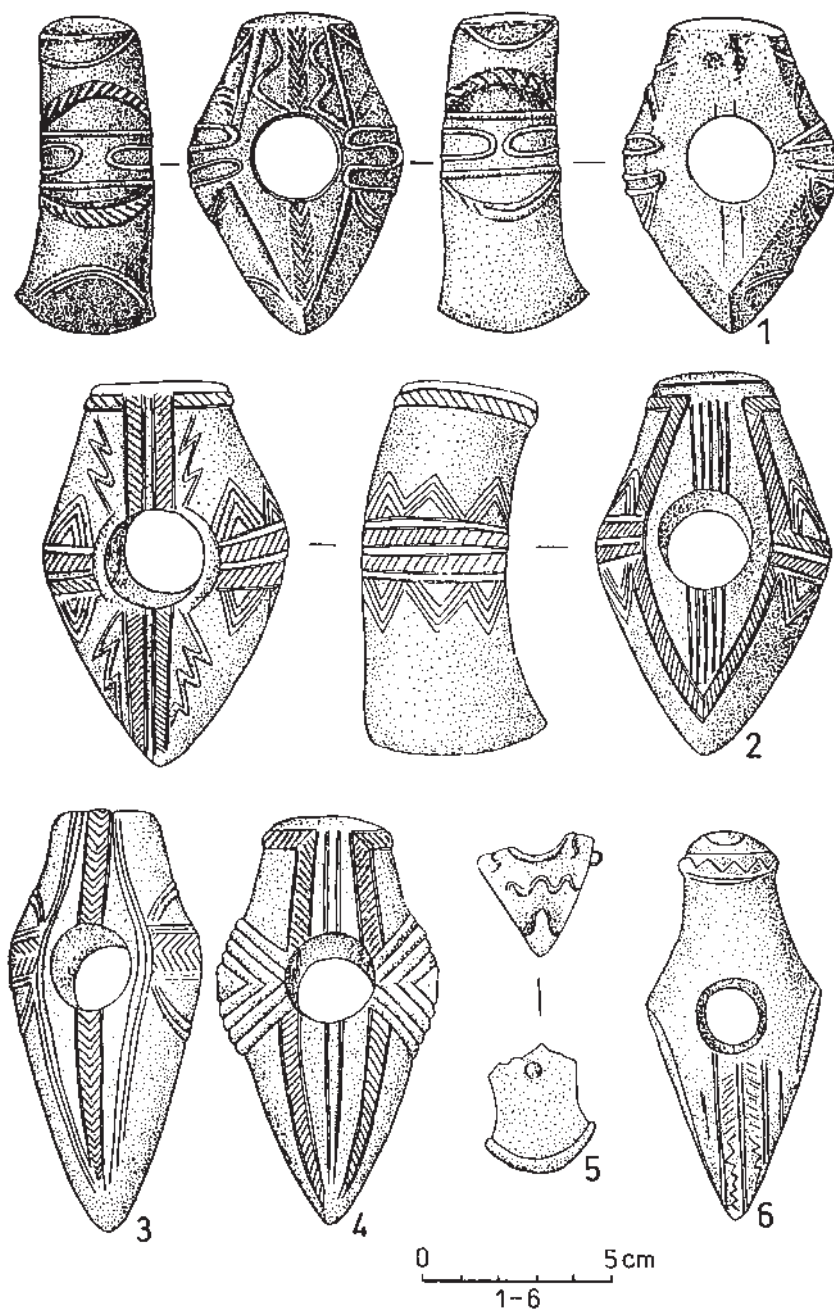


Fig. 19. Fluted decorations of battle-axes of the Inhul Catacomb culture. After Sharafutdinova 1980

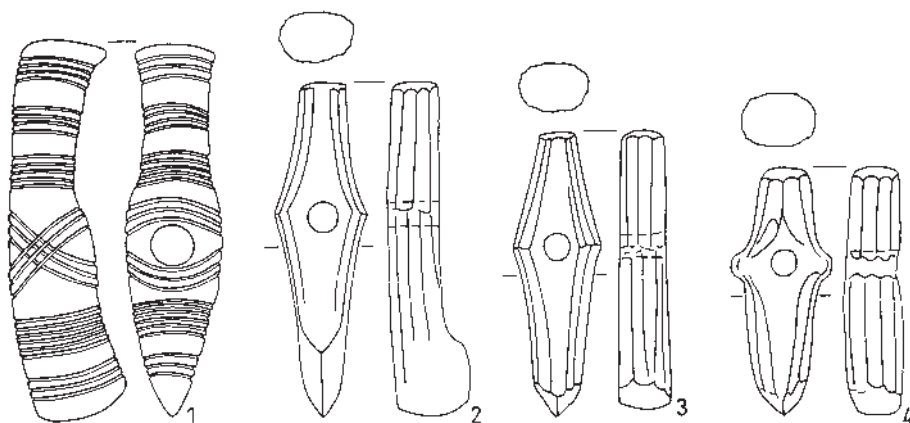


Fig. 20. Fluted decorations of battle-axes of the Corded Ware culture, Ślęza type (1) and faceted type (2-4). After Smutek 1950; Buchvaldek 1967

maces appeared simultaneously, while in the Oder drainage the latter ones occurred about 1200 years later. Conceivably, the 'Pontic models' stimulated the renaissance of the local (Elbe-Oder) fluting traditions.

5. SOCIAL AND SYMBOLIC INTERPRETATION

As it was said earlier in this article, in social interpretations, the oldest Eneolithic maces are recurrently identified as forms of insignia. They signified the emergence of 'chiefdoms' or, more generally, stratified societies. Such assessment was adopted thanks to the Near East sources, mainly iconography [e.g. Montelius 1900:177, Fig. 128; Jażdżewski 1936:286; cf Berounská 1987:48-49 — further references *ibid.*]. The complete analysis of these indications is presented in the first part of this volume of *'Baltic-Pontic Studies'*, in the articles by M. Popko and P. Taracha.

Closer studies of the context of finds of fluted maces, particularly from (a) the Northern Pontic region and from (b) the Oder drainage, make the discussed trend of interpretation more plausible.

a. The most important body of evidence in tracing the social function of fluted maces from the CC is a grave from Volchansk (P21). The grave was supplied not only with a stone mace but also with a bow (straight) and a 'crosier', both made from wood (Fig. 4:5). The same model can be found in the said Near East iconogra-

phy and on Northern Pontic steles [e.g. Berounská 1987:46, Fig. 16; cf. Danilenko 1974:82-83; Mezzena 1998]. These relations induce one to interpret the indications in historical and religious categories. For instance, the figure from a stele found in Natalivka on the Dnieper (Fig. 21) might conceivably be Teshub, 'the god of tempest and strength' [Danilenko 1974:83]. Therefore, it is highly likely that the fluted maces from the Northern Pontic region can be connected with chiefs-priests or (following the interpretation of N.I. Sharafutdinova concerning fluted axes, a category of sources close to maces) 'persons of high social class': shamans [Sharafutdinova 1980:67-68]. The image of mace users is significantly marked by the fact that the maces appear in the CC as an element of a broader 'eastern Mediterranean' inspiration [Klein 1968; Zanotti, Rhine 1974]. With this in mind, an attempt has been made to 'interpret' the communities of the Northern Pontic region (i.e. CC) from the perspective of economic and social relations in Mesopotamia at the turn of the 3rd millennium BC. The interpretation involved incorporating this region into the circumponic system of circulation of cultural models [Koško 2001:284 — hypothesis about a circumbaltic-wide 'kin-based trade companies'].

b. The social interpretation of fluted maces recorded in the Oder and Vistula drainages, presented by the author in 1979, argued that the maces served as 'attributes of secular and sacred power like some metal objects' functioning in the Únetice culture (UC) and the IC [Koško 1979:200-201]. The appearance and distribution changes of the maces supposedly determined the 'popularisation of the metallurgist-wizard-chief office within all post-Iwno cultural structures'. Extending the perspective to the Northern Pontic region modified the principally endogenous model of social reasons of the 'substitution process' — the metal UC-IC insignia were replaced by fluted stone maces. However, the question of how far afield the 'Pontic social model', stimulating the development of 'fluted insignia', was transmitted, remains unanswered.

The Northern Pontic (ba) and southern Baltic (bb) zones, more specifically the area between the Vistula and the Oder, differed significantly in terms of economic, social and ideological structures. Yet, this evaluation cannot be justified in-depth due to lack of relevant comparative studies. The economic differences concerned variations in the status of rearing/breeding as the dominant trend. The steppe/forest-steppe of the Northern Pontic area facilitated the dynamic development of the nomadisation of breeding and the formation — in the CC — of quasi-pastoral forms (often treated already as 'typically pastoral') [cf. Koško, Klochko 1994]. One can hardly assume an equally dynamic trend of changes in the environmentally different zone of the southern Baltic drainage, even though various forms of nomadisation of breeding are observable. These similarities and differences may be extended to the social and ideological sphere. The elements signalling continuation in this matter are the growth of social hierarchy and the ideological search for the identifying factors of such hierarchy in the Near East civilisation circles. It was observed whether

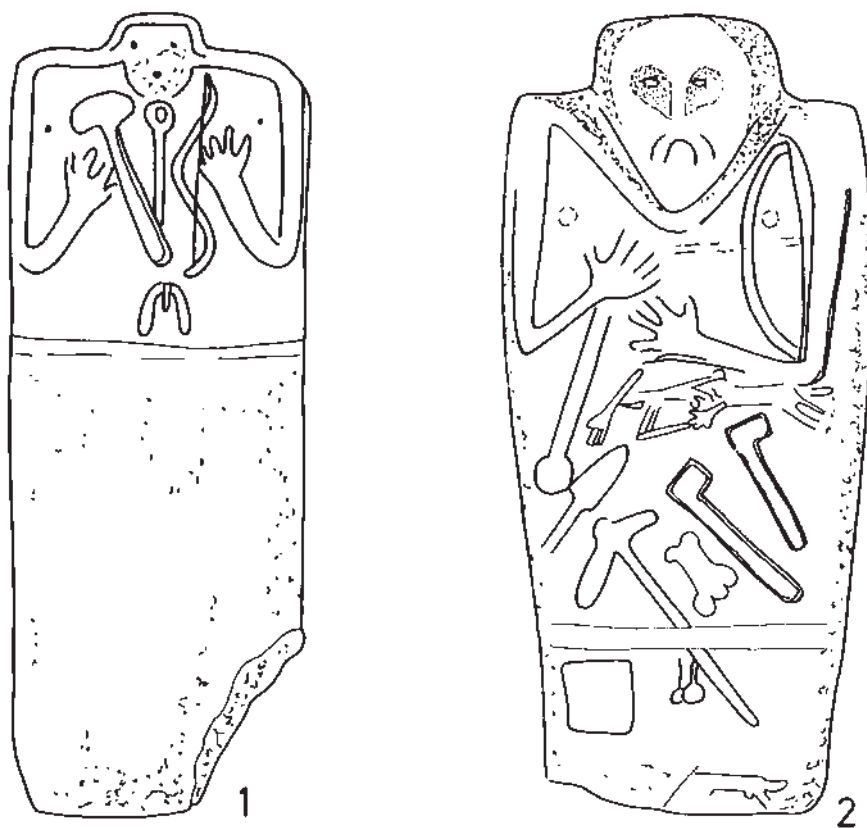


Fig. 21. Anthropomorphic stelae of northern Pontic cultures with a mace motif marked. After Koško 2001

the identifiers existed in the CC, TC and in the Nordic Circle [Pustovalov 1992; 1993; 1994; 1999; Vandkilde 1996; Czebreszuk 2001; Kadrow 2001:219n — bibliography of older works is compiled in these works]. However, it was also noticed that in the Northern Pontic region, the Near East models were being received more broadly [cf contrastive approach — Kadrow 2001:Fig. 55]. What stage of development the societies of the ‘middle zone’, the Vistula and Oder drainages, achieved, is still an open question.

ba. Evaluations of the social and ideological structures in the Northern Pontic region are clearly marked by the watershed of the early stages of the CC. This concerns both social ranking, as well as religion and rituals of the Near East. The YC societies, the predecessors of the CC societies, are referred to as ‘dual-function societies’,

i.e. composed of people of cult and people of economy (mainly breeders). However, these societies failed to form the 'military estate' [Ivanova 2001:156-159]. What is more, there are hardly any signs of the merchant class or other broader symptoms of an organised trade system. As far as rituals are concerned, the YC society continues old local 'Eneolithic steppe/forest-steppe' traditions. In contrast to the society in question, the CC peoples exhibit numerous features of a 'civilisational breakthrough', i.e. early stages of a complex social ranking accompanied by elite systems of religion and rituals [Pustovalov 1992; 1994:128-134]. Arguably, this breakthrough may have been inspired by the circles of the Near East civilisation. Such a conclusion emerged at various stages of studies of CC origins [Pustovalov 1993-earlier references *ibid.*]. However, in the last decade, the issue of Near East inspiration was shed a new light on following the studies of organised CC cult features. According to S. Pustovalov, the studies reveal a number of close references to those 'elite cults' [Pustovalov 1993; 1999; Mozolevskiy, Pustovalov 1999]. Still, the social background of transmitting these models is unknown. One of the possible hypotheses is that the territories inhabited by the CC peoples remained under the influence of trade activities of the Mesopotamian Civilisation [Koško 2001].

bb. Economic and social relations at the time when fluted maces were used in most parts of the Oder drainage (the Warta and the upper and middle Oder drainages) were not evaluated in any systemic way [Butent-Stefaniak 1997; Kłosińska 1997; Lasak 2001]. A tentative analysis was carried out and presented only for the upper and middle Noteć River [Makarowicz 1998a:256-265]. P. Makarowicz claimed that potential mace users from the area of the upper Noteć lived in 'moderately stratified' groups of 16-25 breeders with dominance of adult men. Therefore, the occasional artifacts (metal, amber)-including also maces-did not 'signify wealth of an individual but were tokens of wealth and power of the whole group'. J. Czebreszuk in his broader territorial representation claims that this is the period when 'a particular type of society' with rudiments of 'stable stratification' died out. This denoted a return of 'egalitarianism of a kind', which was typical of the LC [Czebreszuk 2001:204-205]. The above mentioned evaluation is of no help when looking for local recipients of the 'Pontic insignia'. Hence, it seems that in this case the earlier traditions were continued, namely the tradition of a 'trail' where development was stimulated by the external Northern Pontic community. Still, archaeologists are yet to discover the scope of this stimulation. Was the appearance of fluted maces in the Vistula and then in the Oder drainages connected only with transmitting organisational models of long distance trade, or was it associated with the flow of Pontic 'people of trail' as well? As yet, there is no answer to this question (cf chapter 6). With the current knowledge of the relations at the end of the CC and the beginning of the CWC-HT (particularly in the Vistula drainage) it is impossible to identify them conclusively.

6. THE ORIGINS OF THE 'CRIMEA-JUTLAND TRAIL'

The 'Crimea-Jutland Trail', or rather a system of trails that linked the cultures of the Baltic and Northern Pontic drainages, is traditionally difficult to evaluate as concerns the circulation of cultural models on the borderline of eastern and western Europe. It may be assumed that the Crimea and Jutland were the leading centres (in both communities). Until recently the issue of the 'trail' was mentioned mainly in the studies of the Iron Age. The early stages of the trail were connected with the distribution of the Stanonim type artifacts (the Hallstatt period)-in which: 'the Vistula route (...) and its branch running along the Bug River, which brought the goods to the Red Ruthenia, were easily noticeable. Further eastwards, the route went clearly across the steppe' [Kostrzewski 1954:44; v. Cofta-Broniewska 1982:159; cf Koško 2001:283].

6.1. THE SIGNS OF FUNCTIONING OF THE 'TRAIL' IN THE ENEOLITHIC AND EARLY BRONZE AGE

In light of the most recent research, the discussed 'trail' can be outlined following the observations of how the Cucuteni-Tripolye culture (C-TC) influenced areas lying to its north-west or, more broadly, how the Funnel Beaker culture (FBC) was tripolysed. This concerns the studies of both the Maławy cultural component [Koško 1981] and the scope of cultural relationships of the inhabitants of Gródek Nadbużny. In the latter case, W. Gumiński [Gumiński 1989:175] writes: 'it seems that the import of pottery and raw materials from outside the FBC Małopolska group undoubtedly also triggered the influx of various cultural models from territories inhabited by the C-TC. What is more, this trend reached further to the north-western region, i.e. deep into Wielkopolska'. Clearly, 'the influence ran straight from the south-east to the north-west, i.e. to the area of the C-TC up the Southern Bug and Seret rivers, next on the territory of FBC Małopolska group, along the upper Bug towards the confluence with the Huczwa River. Then it ran in the same direction as the morphologic sequence of the Lublin Uplands towards the Nałęczów Plateau, from where it went through the Vistula and Warta interfluvial area across Kujawy and Wielkopolska towards the mouth of the Oder'. Regarding the well dated observations from Bronocice, the above system may be dated at 3540/3340-2870 BC [Koško, Langer, Szmyt 2000], with a particular emphasis on the older part of this period, which is suggested by the latest studies of the reception of C-TC traits in the settlement in Zimne [Bronicki 2000, FBC phase II: 3000-2700/2600 BC]. The above assessment seems to

be authenticated also by the latest studies of trypolisation of the Globular Amphora culture (GAC) and the CWC, supported by i.a. finds of pottery dyed with mineral (red) pigment [Włodarczak 1998; Szmyt 1999; Koško, Langer, Szmyt 2000], recorded in the CWC settlements along the Vistula (GAC:3000-2400 BC; CWC: 2754±99 BC).

All of the above analyses of the 'trail' course in the Baltic drainage point particularly at Kujawy, where the accumulation of the Pontic models and raw materials is exceptionally dense. This may even suggest that Kujawy was a 'border/destination area' of the discussed circulation system. However, it should be remembered that the territories to the west of this mesoregion, especially the Pyrzyce Land, are not fully comparable due to a poor archaeological exploration (mainly as concerns the present issues).

Trypolisation of FBC, GAC, CWC communities was accompanied by opposite processes, i.e. reception of FBC artifacts by the C-TC societies [Kruts, Ryzhov 2000] and then penetration of the C-TC ocumene by the GAC and CWC. In particular, a great deal is known about the extensive settlement process and various forms of GAC influence [Szmyt 1999]. What is currently known about the circulation of CWC settlements — within the 'trail' in question — shows that it is necessary to identify the nature of their relations with the 'pre-Yamnaya' Zhivotilovka-Volchansk group [Rassamakin 1994; Koško 2000]; i.e. with a cultural system connecting the Balkan and Caucasus (including the Crimea) civilisation centres (since 3500 BC). Additionally, their successive YC Budzhak group (since 2400 BC), situated in the steppe part of the Dniester and Prut interfluvial area, exhibits many traits of the CWC [Yarovoy 1985:95].

A review of archaeologically distinctive circumponctic traits in the west and circumbaltic traits in the east leads to two conclusions:

- a. Between 3540 and 2400 BC, but mainly between 3000 and 2700 BC, there was a relatively permanent flow of cultural information between the south-western Baltic and north-western Pontic drainages incorporating the cycle of the following cultures: FBC, GAC, CWC, C-TC, pre-Yamnaya and YC. However, the available signs of this process are insufficiently documented. Hence, it is difficult to assess the course of the trail, the functions of its individual territorial units (e.g. the Hrubieszów Basin or the central part — the Bachorza drainage, the Kujawy Plateau), as well as the reasons for particular initiatives to relocate people, raw materials, artifacts and models.
- b. These phenomena bear hardly any signs of stable forms of organisation, i.e. permanent (long-lasting) 'contact points on the trail' (conceivably, such a role could be played by the region of Gródek Nadbużny), not to mention — culturally distinguishable — 'people of the trail'. Therefore, it can be assumed that the phenomena discussed above should be treated only as another stage of stabilisation of early agricultural interregional relationships, which were established with an increasing

role of exchange [Koško 1989], and whose outline was sketched probably as early as in the Proto-Neolithic era [Domańska 1990:61].

The borderlines of the above ‘map of interregional relationships’ should be connected with the early stages of bronze and metallurgy centres. The establishment of these centres facilitated the development of copper and tin distribution. This, in turn, promoted consolidation of the existing trends in interregional, long distance trade (extension of the array of raw materials and products that played a utilitarian and simultaneously symbolic and prestigious role). The ‘trails’ of the Bronze Age linked remote civilisation centres and raw material centres, often situated on the periphery of the former ones. The courses of the trails-on the borderlines of eastern and western Europe-were comprehensively identified by Gimbutas [1965; 1991:Fig. 13-modified version]. Her approach shall serve as a point of reference for further discussion [cf Sarnowska 1975:26] — Fig. 22.

6.2. USERS OF FLUTED MACES AS ‘PEOPLE OF THE TRAIL’?

The social and ideological image of the users of fluted maces outlined above leads one to connect the distribution of maces-between the Elbe and the Volga (Fig. 11) — with the transmission of social and organisational models of the Near East civilisation. In brief, below, the author shall try to identify the Pontic-Baltic trail with long distance trade routes organised on the basis of non-European traditions. Possibly, the traditions originated in the communities of the Mesopotamian Civilisation.

Fluted maces belong to the first category of ‘insignia’ — based sources which clearly links the cultural centres of the Pontic-Baltic drainage. Symbolism of the sources is also undoubtedly rooted in the Near East [Popko, Mace-heads...; Taracha, The mace..., in this volume]. The maces started being transported from their original Northern Pontic region towards the Baltic drainage in the first half of the 2nd millennium BC. This period coincided with the development of ‘Old-Babylonian’ long distance trade routes in the Anatolia Plateaus (2000-1600 BC — the period of ‘Fighting Kingdoms’, particularly 1819-1782 BC), where kin-based societies traded thanks to credits from great possessors [Leemans 1950; 1960; cf Arnaud 1982:83]. No source, however, confirms the existence of the Northern Pontic branches of these trails. Thus, the area in question was not included in the historical descriptions of the peripheral sphere of the Mesopotamian civilization circle [cf the attempt to correct the already mentioned ‘cognitive blockade’ — Tyborowski, Mesopotamia... in this volume]. The assertion of the ‘lack of evidence’ concerns both historical and archaeological sources, e.g. in the Meso-

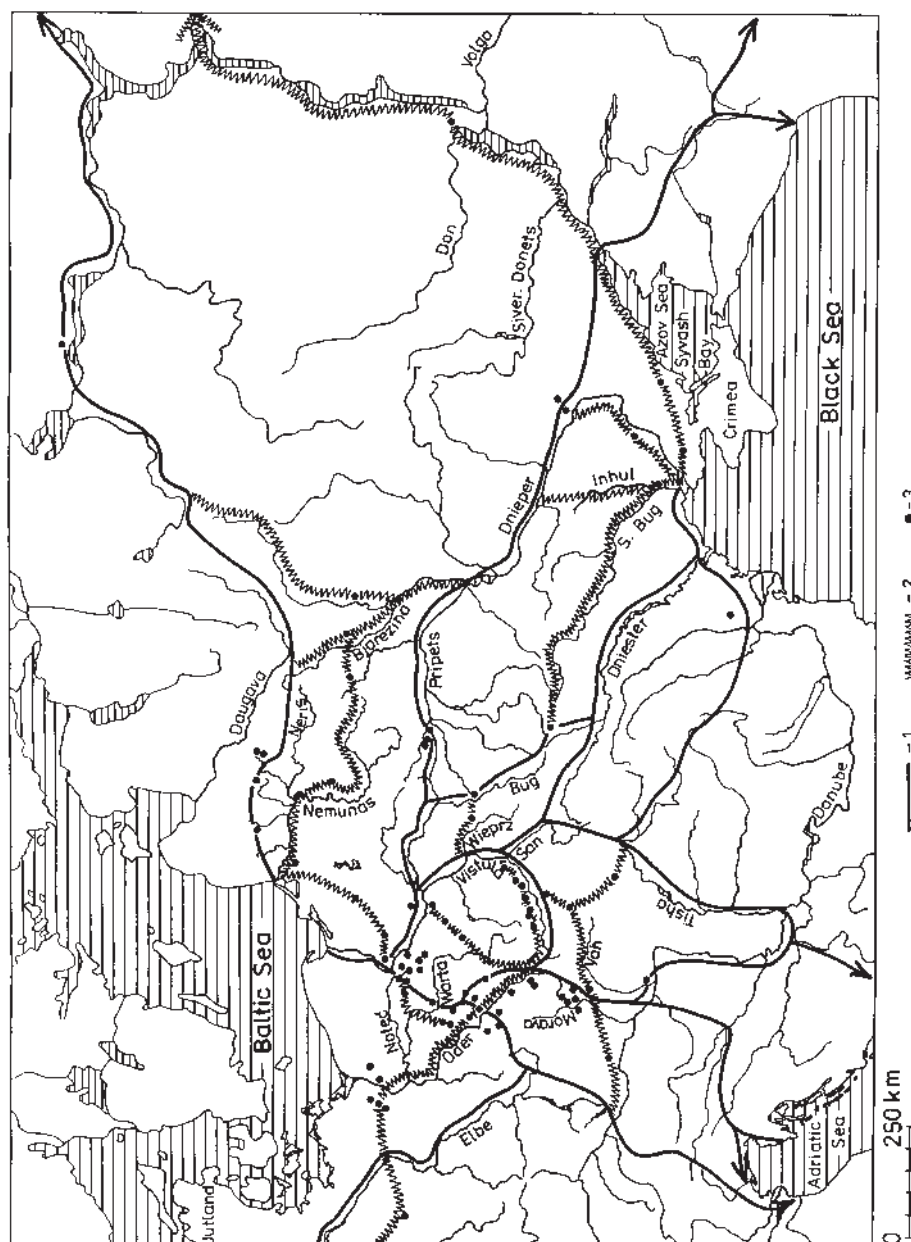


Fig. 22. Trails of long-distance trade in the 2nd millennium BC. 1 - according to Maria Gimbutas [1965]; 2 - corrections and supplements following from the analysis of fluted mace distribution; 3 - fluted maces

potamian region there are no forms analogical to fluted maces ('prototypes') [cf Taracha, *The mace...*, in this volume]. However, the already mentioned studies of the 'southern' stimulation in the CC development should prove to be a turning point.

In assessing the distribution of fluted maces, the model of 'Old-Babylonian' long distance trade routes was applied. But this distribution may be interpreted in more than one way. It can be assumed that among the components of the 'Near East impulse' that was reaching the CC territory, there was also the model of kin communities, specialised in long distance trade [Leemans 1950:7ff — *tamkarum*]. The rise of the local, Northern Pontic version of such communities (through co-optation of local populations) was supposedly stimulated by 'exchangeable goods': local natural resources of salt in the Syvash Bay (Fig. 22). These resources constituted an attractive commodity in the Russian Plain and have been well recognised since the Middle Ages [Kudriashov 1948:103ff]. However, the 'Syvash salt' and its 'commercial value' must have been discovered considerably earlier—in the early agricultural era, because salt was indispensable in crop processing and conservation. Salt played special role in breeding as well. Consequently, when the quasi-pastoral and pastoral communities appeared in this region (the Bronze Age), the demand for salt grew. It is highly likely that the 'Northern Pontic' reserves comprised resources not only from the Crimea base region, e.g. still only preliminarily analysed (V. Klochko's assessment) copper reserves from the Donbass region or other regions of the Black Sea Plate [Klochko, Manichev et al. 2000]. In this approach, the fluted maces were symbols of high rank — power in the emerging kin communities and their non-Pontic trails of distribution may be treated as signs of co-optation of particular segments of local societies. Probably, the segments should be identified with the communities of metallurgists-wizards-chiefs from the circle of UC influence [cf Koško 1979:172ff; Czebreszuk 2001:193ff]. When the circle disintegrated, the communities were forced to seek a new system of justifying their position (economic and ideological), i.e. to survive the threat of losing their identity. Such an interpretation may be justified by the already mentioned substitution of insignia: the 'ntice style' metal insignia were replaced by fluted maces.

It is difficult to assess the chronological brackets of the discussed 'trail', especially its individual variants. The assessment may be based on any of the following clues: distribution of particular types of maces (assuming that e.g. type B1 is the oldest as concerns evolution) and typo-chronology of bilateral 'imports' from the 2nd millennium BC ('eastern' in the Baltic drainage and 'western' in the Black Sea drainage) [cf among the well-recognised eastern 'imports': 'hammer pins' — Latynin 1967:14-41, 92; Artemenko 1967:80ff; Okulicz 1973:Fig. 45, 117, or elements of the Middle Dnieper culture in the Baltic littoral sphere — Machnik 1979:376, 379]. Regrettably, a detailed record and precise chronology of these phenomena have never been comprehensively studied.

Analysing the distribution of maces leads one to distinguish five potential variants of the 'trail'. Probably, they ran alongside water-courses or in connection with their drainages, which in the past were considered to be the main transportation routes (Fig. 22). Therefore, the 'trail' variants might have run as follows:

- a. Southern Bug — Bug — Wieprz — Vistula (or Vistula — Nemunas).
- b. Southern Bug — Bug — Vistula (or Vistula — Nemunas).
- c. Dnieper (or Inhul — Dnieper) — Pripets — Bug — Vistula (or Vistula — Nemunas).
- d. Dnieper (or Inhul — Dnieper) — Bjarezina — Nemunas.
- e. Dnieper (or Inhul — Dnieper) — Bjarezina — Neris — Nemunas.

If the above variants of the 'trail' course are compared with the environmental and cultural background, they may be grouped in two categories (also treated as stages of development):

- the 'Southern Bug variation' — expeditions leading through forest-free or considerably deforested areas (variants a-b) and
- the 'Dnieper variation' — expeditions leading partly through taiga (variants c-e).

The 'Southern Bug variation' connects the settlement and cultural communities having old agricultural traditions (Pontic steppe/forest-steppe or Central European Plain). That is why, it may be assumed that the earlier mentioned Eneolithic and early Bronze Age origins of the 'trail' directly stimulated the development of this variation. The fact that the Southern Bug variation of the 'trail' continued to be used also in the 2nd millennium BC is amply proved by the tumulus cemetery in Hordeevka (Vinnytsa Region), dated at 1400-1200 BC, abounding in amber artifacts (1502 items including beads of the Tiryns type) and bronze objects, with numerous east-Mediterranean and middle-European formal references [Berezanska, Klochko 1998; Klochko 1996; Ślusarska 2003]. On the other hand, the 'Dnieper variation' seems to have evolved later, with the emergence of agriculture in the taiga societies. This process started at the onset of 2nd millennium BC and involved mainly the penetration of this territory by the CWC. This conclusion may be confirmed by typological classification of fluted maces recorded in the taiga, i.e. in the area where the derivatives of the developmentally oldest type B1 dominate (Fig. 13).

Of key importance in the establishing of the 'Southern Bug variation' was-located on the borderline of the Vistula and Oder drainages-the mesoregion of Kujawy, identified on the Polish Lowlands as an enclave of the 'Danube cultures' [Koško 1989; 1991]. Most probably it was in this region that the said ('Mesopotamian-Pontic') models of long distance trade were adopted from the UC. One of the signs showing that the adoption took place was the already mentioned fact that metal UC-IC insignia were being substituted by stone fluted maces (ca. 1500 BC). Subsequently, the 'Kujawy' tradition was extended to the Oder drainage (later: Morava ⇔ Danube) and the middle and upper Vistula drainage (and later through the Raba,

Poprad or Wisłoka rivers-towards the Vah \Leftrightarrow Danube) [Górski 1999:Fig. 11; Makarowicz 1999:Fig. 1]. Societies of the late UC-IC and TC, as well as the TH and Madarovce/Otoman cultures blended fluted maces into the already existing system of meridional 'trails', which connected the cultural communities of the Aegean Sea, Adriatic Sea and Baltic Sea (Jutland, Sambia) [Bouzek 1966; Tasić 1973; Vladár 1973; Harding 1984; Czebreszuk 2001:200ff] (Fig. 22).

Apart from the above mentioned trails, fluted maces were undoubtedly used also on the Baltic-Ural and the Pontic-Ural routes (Fig. 22). However, only very few items (identified with the FC and SC — Fig. 16.) were found on these routes, particularly in the Volga drainage. Therefore, such occasional finds should incline one to be cautious in attempting to interpret more broadly this trend of using maces, i.e. on the trails of distribution of raw materials from the southern Ural metal deposits and of products from the metallurgical centres located along the Volga River.

The courses of the trails ('variants') outlined above, as well as stages of the 'trail' evolution require specification through a series of regional studies. The studies should not only aim at building a more detailed and exhaustive list of 'import' sources but also involve interdisciplinary research on:

- environment of the given variant of 'trail' (paleoecological studies) and
- historical and ethnologic evidence where and how that the borderline of western and eastern Europe was penetrated (retrospective studies).

CONCLUSIONS

Throughout this article the author has tried to answer the questions of where, when and in what context the fluted mace appeared. The outcomes of this research are not clear-cut. Without a shadow of doubt, fluted maces were produced and used on the territory between the Elbe and the Volga rivers (Fig. 11), generally between 2350-800 BC. However, the limiting dates for individual parts of the territory in question are considerably varied and at present often difficult to determine (Fig. 17).

The most contentious issue is the question of cultural context. Fluted maces appeared in the Northern Pontic region as a reflection of the Near East civilisational tradition, probably as a component of a long distance trade model (the Old-Babylonian merchant: *tamkarum*). What still needs to be found out is the form in which the traditions were applied outside the Northern Pontic steppe/forest-steppe, namely in the following regions: middle and upper Dnieper, Bjarezina, Neris, Nemunas, Vistula, Oder, Morava, Vah. It may be assumed that in the eastern territory,

i.e. between the Dnieper and the Vistula, the traditions initiated the linking of local exchange systems, i.e. the development of the so-called 'chain of commodity exchange' [current approach: Dąbrowski 1972:193]. In the western part, namely on the Oder and Morava, the Pontic impulses — in the region of Kujawy — encountered the systems of older long distance trade traditions (UC-IC), stabilised them at the time of the UC decline and extended the range of application to the middle and upper Vistula drainage [current approach: Koško 1979:200ff]. Further specification and confirmation of these hypotheses go beyond the scope of data provided by the sources analysed in this article. Therefore, it is necessary to look at them from a wider perspective, i.e. the study of the trade systems and trails on the borderlines of eastern and western Europe.

CATALOGUE 1

FLUTED MACES (VERTICALLY GROOVED) — LIST OF FINDS

[(a) — site, find classification; (b) — mace type; (c) — hole type: no hole, marked only, partial, full; (d) — flute number; (e) — mace dimensions: diameter \times height \times hole diameter in mm; (f) — material; (g) — environment-functional context (: settlement?, cemetery?, grave — grave?) and state of preservation (: 100%, 50% — i.e. ca. 50%); (h) — cultural context, chronology; (i) — principal source of information: collections — archives, literature, oral/written communication; (j) — Fig.].

PONTIC-CASPIAN ZONE — P:

- P1 a — Eggenburg, Austria, Niederösterreich Region; b — B2; c — full; d — 7; e — $\sim 65 \times ? \times \sim 16$?; f — ?; g — ?, 100%; h — ?; i — Much 1889:35, Fig. 9:8; j — Fig. 3:1
- P2 a — Guta, Belarus, Homel Region, Ragachov District; b — B3; c — full; d — ?; e — $66 \times 56 \times 21$ -19; f — ?; g — ?, 50%; h — ?; i — oral communication: M.N. Kryvaltsevich, J. Czebreszuk; Collection of Tourism Museum in Bobrujsk; j — Fig. 3:2
- P3 a — Hlinsko, Czech Republic, Severomoravsky Region, Prerov District; b — B1; c — full; d — 11; e — $\sim 71 \times \sim 57 \times \sim 19$ -16; f — ?; g — ?*, 100%; h — ?*; i — Pavelčík 1967: Tab.8:140 (*Baden culture settlement, phase I); Berounská 1987:55; written communication: M.Berounská i A. Lanting; j — Fig. 3:3
- P4 a — Horodnee (Horodno), Ukraine, Luts'k Region, Liubomir District; b — B1; c — full; d — 13; e — $72 \times 45 \times 31$ -27; f — diorite; g — ?, 100%; h — ?; i — MAK collection no. 741; archival information: I.K. Sveshnikov and oral communication: J. Górski; j — Fig. 3:4
- P5 a — Kalanchak, Ukraine, Zaporizhia Region; b — B1; c — full?; d — ?; e — $\sim 62 \times ? \times ?$; f — diorite; g — grave, 100%; h — CC, early phase; i — Bratchenko, Shaposhnikova 1985:412-413, Fig. 110:26 and oral communication: I.L. Serdyukova; j — Fig. 3:5
- P6 a — Kladniky, Czech Republic, Severomoravsky Region, Prerov District; b — B3?; c — full; d — 11?; e — $\sim 74 \times \sim 56 \times \sim 22$?; f — ?; g — ?, 100%; h — ?; i — Přikryl 1891:19,23; Berounská 1987:55; written communication: M. Berounská, A. Lanting; j — Fig. 3:6
- P7 a — Klichav, Belarus, Mahilev Region, Klichav District; b — B1; c — full; d — 10; e — ?; f — ?; g — ?, 100%; h — ?; i — Isaenko 1976:136, 76-77, Fig. 11:20; j — Fig. 3:7
- P8 a — Lotsmanska Kamenka*, Ukraine, Dnipropetrovsk Region; b — B3?; c — full?; d — 6?; e — $40 \times 45 \times ?$; f — granite; g — ?, 100%; h — ?; i — Catalogue 1893:25, no. 375; *as Nikolaevka: Popova 1955:119; j — Fig. 3:8
- P9 a — Mykhailivka, Ukraine, Dnipropetrovsk Region, District; b — ?; c — ?; d — ?; e — ?; f — ?; g — ?; h — ?; i — Popova 1955:168; j — no fig.

- P10 a – Mykhailivka, Ukraine, Zaporizhia Region, Vilniansk District; b – B1; c – full; d – ?; e – 62 x 64 x 20; f – ‘fine-grained crystalline dark-colour rock’; g – settlement, 50%; h – YC, late phase (*‘upper layer’ of site where pottery typical of CC was found as well); i – Lagodovska, Shaposhnikova, Makarevich 1962:141, Fig. 39:2; *Shaposhnikova 1971:332 and oral communication: O.G. Shaposhnikova; j – Fig. 3:9
- P11 a – Nemetice, Czech Republic, Severomoravsky Region, Vsetin District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Červinka 1908:90; Berounská 1987:55 and written communication; j – no fig.
- P12 a – Nesvady, Slovakia, Zapadoslovensky Region, Kamárno District*; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Lichardus 1960:856 (collections of Magyar Nemzeti Múzeum, Budapest; *wrongly assigned to Hurbanovo District); written communication M. Berounská; j – no fig.
- P13 a – Oganino, Russia, Kostroma Region; b – B3; c – full; d – 27; e – ~74 x ? x ~24; f – ?; g – settlement, 100%; h – ?; h – FC; i – Kraynov 1972:81, Fig. 31:5; j – Fig. 4:1
- P14 a – Pinsk, Belarus, Brest Region, Pinsk District; b – B3; c – full; d – ?; e – ?; f – ?; g – ?; 100%; h – ?; i – Isaenko 1970:Fig. 42:13; 1976:58, 76-77, Fig. 11:26 and oral communication M.N. Kryvaltschevich (collections of Pinsk Museum); j – Fig. 4:2
- P15 a – Shily, Ukraine, Ternopil Region, Zbarazh District; b – B1; c – full; d – 47; e – 85-82 x 60 x 28-20; f – ‘grey sandstone’; g – ?, 100%; h – ?; i – archival information: I.K. Svishnikov (collections of the Historical Museum in Lviv); j – Fig. 4:3
- P16 a – Slatinky, Czech Republic, Jihomoravsky Region, Prostějov District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Gottwald 1906:57; Berounská 1987:55 and written communication; j – no fig.
- P17 a – Stepan Razin, Russia, Volgograd Region, Lugo-Prolejsk District, kurgan 1, grave 18; b – B1; c – no hole; d – ?; e – ~68 x ~65 x -?; f – ?; g – grave, next to head, eastwards, 100%; h – ZC, early/developed phase; i – Merpert 1967:94, Fig. 7:1,95; j – Fig. 4:4
- P18 a – Taraklija (Svetlyj), Moldavia, Taraklija Region, kurgan 1, grave 2; b – B4; c – no hole; d – 10; e – 65 x 45 x ?; f – ‘grey sandstone’; g – grave, 100%; h – CC, late phase; i – Manzura 1984:110-112, Fig. 3:2; j – no fig.
- P19 a – Tršice, Czech Republic, Severomoravsky Region, Olomouc District; b – ?; c – marked only; d – ?; e – ~80 x ? x ?; f – ?; g – ?, 100%; h – ?; i – Berounská 1987:55 and written communication (collections of Přerou Museum); j – no fig.
- P20 a – Veletiny, Czech Republic, Jihomoravsky Region, Uherské Hradiště District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Kučera 1910:60-61; Berounská 1987:55 and written communication; j – no fig.

- P21 a – Volchansk, Ukraine, Kherson Region, kurgan 1, grave 40; b – B1; c – full; d – 12; e – 88 x 54 x 35-?; f – ?; g – grave, 100%; h – CC, early phase; i – oral communication: A.I. Kubyshev; j – Fig. 4:5 (grave-goods arrangement according to a hand drawing by A.I. Kubyshev)
- P22 a – ?, Slovakia, Vychodoslovensky Region, ‘District on the Hungarian border’; b – B1; c – full; d – 7; e – ?; f – ?; g – ?, 100%; h – ?; i – Lichardus 1960:843, Fig. 311:30, 856-857 (collections of the Vychodoslovénske Museum in Košice); j – Fig. 4:6
- P23 a – ?, Ukraine, Mykolaiv Region, unattached find of 2-3 maces; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – oral communication: I.T. Chernyakov; j – no fig.
- P24 see 23
- P25 see 23

ANNEX

- P26 a – Adyn, Belarus, Minsk Region, Cherven District; b – B1 (lub B1/B2); c – full; d – 12; e – 70 x 30 x 22-19; f – ? ‘red-coloured’, ‘hard’; g – ?, 100%; h – ?; i – Kryvaltsevich 2001 and written communication; j – Fig. 10:1
- P27 a – Druzhylavichy, Belarus, Brest Region, Ibarlaycki District; b – B3; c – full; d – 24; e – 60 x 44 x 17-?; f – ?; g – ?, 100%; h – ?; i – written communication M. Kryvaltsevich (collections of the Muzeum of the School in Druzhylavichy); j – Fig. 10:2
- P28 a – Druzhylavichy, Belarus, Brest Region, Ibarlaycki District; b – B3; c – full; d – ?; e – ?; f – ?; g – ?, 100%; h – ?; i – written communication M. Kryvaltsevich; j – no fig.

BALTIC ZONE — B:

- B1 a – Barczewo, Poland, Warmińsko-Mazurskie Region, Olsztyn District; b – B1; c – full; d – ?; e – ~85 x ~73 x ~28; f – ?; g – ?, 100%; h – ?; i – Šturms 1936:36, Fig. 9e; Okulicz 1973:172, Fig. 64g, 173; Dąbrowski 1997:77, 156; j – Fig. 5:1
- B2 a – Białcz, Poland, Wielkopolskie Region, Kościan District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Kostrzewski 1923a:241 (collections of exMTPN); j – no fig.
- B3 a – Borek, Poland, Świętokrzyskie Region, Busko Zdrój District; b – B1; c – full; d – 8; e – 82 x 74 x 32-?; f – ?; g – ?, 100%; h – ?; i – Antoniewicz 1928:Fig. 19:10; j – Fig. 5:3
- B4 a – Bychowo, Poland, Dolnośląskie Region, Milicz District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Richthofen 1926:103-104; j – no fig.
- B5 a – Dłużniewo, Poland, Mazowieckie Region, Płońsk District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Šturms 1936:37 (collections of exMEM); Dąbrowski 1997:77, 158; j – no fig.

- B6 a – Dusetos, Lithuania, Dusetos Region; b – B1; c – full; d – 7; e – 74 x 26 x ~18-?; f – ?; g – ?, 100%; h – ?; i – Lietuvos 1974:121, Catalogue 260:1, 100-Fig. 15:8; j – Fig. 5:4
- B7 a – Frydman, Poland, Małopolska Region, Nowy Targ District; b – B1; c – full; d – 8; e – 68 x 64 x 19-17; f – ?; g – ? ('near the Dunajec River*'), 100%; h – ?; i – Żaki 1967:60-61; *Gedl 1975:60; j – Fig. 5:2
- B8 a – Gorczenica, Poland, Kujawsko-Pomorskie Region, Brodnica District; b – B1; c – full; d – ?; e – ~75 x ~58 x ~20-?; f – ?; g – ?, 50%; h – ?; i – Dąbrowski 1997:77, Fig. 64:b,159 (collections of the Brodnica Museum); j – Fig. 5:5
- B9 a – Grochowiska Książę, Poland, Kujawsko-Pomorskie Region, Żnin District; b – B1; c – full; d – ?; e – 83 x 56 x 24-16; f – ?; g – ?, 50%; h – ?; i – Rajewski 1965:35 (collections of MAB); Horst 1981:81; j – Fig. 5:7
- B10 a – Güstow (Gutzkow), Germany, Macklenburg Region, Prenzlau District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Blume 1908:26, Fig. 23; Busse 1915:228-232; Horst 1981:81; j – no fig.
- B11 a – Hohenhameln, Germany, Niedersachsen Region, Peine District; b – B1; c – full; d – 8; e – 77 x 46 x 23-21; f – diorite (from the Harz Mtns.); g – ?, 100%; h – ?; i – Lampe 1963:57, Fig. 2:7; j – Fig. 5:6
- B12 a – Inowrocław-Mątwy, site 1, Poland, Kujawsko-Pomorskie Region, Inowrocław District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – IC, phase IIIa?; i – Żurek 1938; Koško 1979:Catalogue 1:89; 5:12; j – no fig.
- B13 a – Inowrocław-Mątwy (Tupadły), site 3, Poland, Kujawsko-Pomorskie Region, Inowrocław District; b – B1; c – marked only; d – 6; e – 68 x 60 x -; f – ?; g – ?, 100%; h – ?; i – collections of ZPP IP UAM no. 535; Koško 1979:Catalogue 5:13; j – Fig. 5:8
- B14 a – Jordanów, Poland, Dolnośląskie Region, Dzierżoniów District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Richthofen 1926:103-104; j – no fig.
- B15 a – Kietrz, site 1, Poland, Opole Region, Głubczyce District, grave 1129; b – B1; c – full; d – 8; e – 74 x 66 x 23-?; f – monzonite? ('igneous rock, of the gabbrosyenite type'); g – cemetery, secondary cremation grave of two women (?) aged *adultus* and *maturus*, 100%; h – LC, Kietrz IIc phase ('younger half of III period of the Bronze Age'); i – Gedl 1996:36-38, Fig. 1-2; j – Fig. 6:1
- B16 a – Kościelec Kujawski, site 17, Poland, Kujawsko-Pomorskie Region, Inowrocław District; b – B1; c – partial, d – 11; e – 74 x 60 x 23; f – fine-grained granite; g – ?, 100%; h – ?; i – collections of ZPP IP UAM no. 161; Koško 1979:Catalogue 5:8; Prinke, Skoczylas 1980:84; j – Fig. 6:2
- B17 a – Krusza Zamkowa, site 3, Poland, Kujawsko-Pomorskie Region, Inowrocław District; b – B1; c – full; d – ?; e – ~70 x 58 x 22-21; f – diorite; g – ?, 50%; h – ?; i – collections of W. Kaczorowski and oral communication: P. Chachlikowski i J.Skoczylas; j – Fig. 6:3

- B18 a – Kupiskis, Lithuania, Kupiskis Region; b – B1; c – full; d – ?; e – 87 x 30 x ?; f – ?; g – ?, 100%; h – ?; i – Lietuvos 1974:143, Catalogue 574:4; j – no fig.
- B19 a – Kuznocin, Poland, Mazowieckie Region, Sochaczew District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?, h – ?; i – Šturms 1936:37; j – no fig.
- B20 a – Laski, Poland, Wielkopolskie Region, Kępno District; b – B3; c – full; d – 12; e – 82 x 47 x 23-?; f – granite; g – cemetery?, 100%; h – LC? from the IV period of the Bronze Age; i – Wrzosek, Ćwirko-Godycki 1938:615, Fig. I:5,616; Kostrzewska 1953:247; j – Fig. 6:5
- B21 a – Lygšilis, Lithuania, Kelmes Region; b – B1; c – full; d – ?; e – 103-92 x 23 x ?; f – ?; g – ?, 100%; h – ?; i – Lietuvos 1974:147, Catalogue 633; j – no fig.
- B22 a – Łatanice, site ‘field in S.Kalisz’ Poland, Świętokrzyskie Region, Busko Zdrój District; b – B1; c – full; d – ?; e – ~72 x 59 x 23-16; f – ‘black stone’; g – ?, 50%; h – ?; i – MAK no. 4204; j – Fig. 6:4
- B23 a – Łubnice (Massel), Poland, Świętokrzyskie Region, Staszów District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Šturms 1936:37 (collections of exMEM); j – no fig.
- B24 a – Masłów, Poland, Dolnośląskie Region, Trzebnica District, grave 2; b – B1; c – full; d – ?; e – 72 x 32 x 24-?; f – serpentinite?; g – cemetery; h – TC ‘late phase’*; i – Seger 1912:9, 10, 13, Fig. 6, 7, 14-23, 26, 28, 31; Šturms 1936:37; *Gedl 1975:96 — ‘decline phase’; 1996 — ‘late phase’; j – 7:1
- B25 a – Maszewo, Poland, Zachodniopomorskie Region, Goleniów District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Šturms 1936:37; j – no fig.
- B26 a – Mydlów, Poland, Świętokrzyskie Region, Opatów District; b – B1; c – full; d – 6; e – 65 x 40 x 18-16; f – ?; g – ?, 100%; h – ?; i – Kowalski 1975:Fig. 3:d,411; j – Fig. 6:6
- B27 a – Niegibalice, Poland, Kujawsko-Pomorskie Region, Radziejów District, ‘two items’?*; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Wawrzyniecki 1913; Kostrzewski 1923a:241; Jażdżewski 1936:286 — *mentions a single mace; j – no fig.
- B28 a – Nielązkowo, Poland, Wielkopolskie Region, Kościan district; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Šturms 1936:37; j – no fig.
- B29 a – Ojców, site of Ciemna-Obrzysko Wielkie Cave, Poland, Małopolskie Region, Olkusz District; b – B1; c – full; d – ?; e – 76 x 61 x 25-23; f – diorite; g – settlement? (cave encampment?), 50%; h – ?; i – collections of MAK no. 839 and oral communication: J. Górski; j – Fig. 8:1
- B30 a – Orany (Varena), Lithuania, Alytus Region; b – B2; c – full; d – 8; e – ?; f – ?; g – ?, 100%; h – ?; i – Szukiewicz 1904:58, Tab.3:9; Antoniewicz 1930:135, Fig. 12; j – Fig. 8:3

- B31 a – Ostrowo nad Gopłem, Poland, Kujawsko-Pomorskie Region, Inowrocław District; b – B1; c – full; d – 15; e – $\sim 60 \times 43 \times \sim 16$ -%; f – ?; g – ?, 100%; h – ?; i – Kostrzewski 1923a:241 — collections of the Pasztalski Family; MAP Archives no. 4141; j – Fig. 7:2
- B32 a – Prenzlau, Germany, Mecklenburg Region, Prenzlau District; b – B1; c – partial; d – 12; e – $74 \times 58 \times 22$ -18; f – ?; g – ?, 100%; h – ?; i – ZFE 1882:112; Horst 1981:Fig. 1:a; j – Fig. 8:2
- B33 a – Prenzlau, Germany, Mecklenburg Region, Prenzlau District; b – B1; c – marked only-partial; d – 9; e – $64 \times 50 \times 16$ -%; f – ?; g – ?, 100%; h – ?; i – ZFE 1882:112; Horst 1980:Fig. B19:6; 1981:Fig. 1:b; j – Fig. 7:3
- B34 a – Przedzrowice, Poland, Dolnośląskie Region, Wrocław District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Richthofen 1926:103-104; j – no fig.
- B35 a – Puczniew, site 'J. Staszek's field' Poland, Łódzkie Region, Pabianice District; b – B1; c – full; d – ?; e – $67 \times 51 \times 29$ -18; f – grey granite; g – ?, 50%; h – ?; i – Chmielewska, Góra 1987; j – Fig. 7:4
- B36 a – Smroków, Poland, Małopolskie Region, Miechów District; b – B1; c – full; d – ?; e – $\sim 66 \times 52 \times 28$ -23; f – diorite; g – ?, 50%; h – ?; i – collections of MAK no. 8931 and oral communication: J. Górski; j – Fig. 8:4
- B37 a – Sokolniki, Poland, Opolskie Region, Opole District; b – B1; c – full; d – 6; e – $60 \times 55 \times \dots$; f – ?; g – ?, 100%; h – ?; i – Gedl 1964:42, Fig. 12:9; 1996:41, Fig. 6; j – Fig. 8:5
- B38 a – Sulmierzyce, Poland, Wielkopolskie Region, Krotoszyn District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Kostrzewski 1928b:227; collections of MAP no. 1924:107a; j – no fig.
- B39 a – Sumin, Poland, Lubelskie Region, Chełm District; b – B1; c – full; d – ?; e – $49 \times 51 \times 20$ -18; f – 'grey rock'; g – ?, 50%; h – ?; i – Skibiński 1964:106, Fig. 5; collections of Museum in Chełm; j – Fig. 8:6
- B40 a – Vielikuskesk, Lithuania, Zarasu Region; b – B4; c – marked only?; d – 8; e – $67 \times 53 \times \sim 18$ -%; f – ?; g – settlement (fortified?), 100%; h – 'Bronze Age'; i – Lietuvos 1974:194, Catalogue 1321:4,100, Fig. 15:5; j – Fig. 8:7
- B41 a – Wietrzychowice, site 1, Poland, Kujawsko-Pomorskie Region, Włocławek District; b – B1; c – marked only; d – 11; e – $59 \times 49 \times 18$; f – granite; g – grave?, 100%; h – IC, phase IIIa?*; i – Makiewicz 1969:26, Fig. 2, 28; Jadczykowa 1970:137, Fig. 4 (as FBC); *Koško 1979: Catalogue 1:172
- B42 a – Wissriten (current name of locality?), Russia, Kaliningrad Region, Polesk District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Okulicz 1973:173-174 (collections of former Museum in Königsberg); j – no fig.
- B43 a – Wronin, Poland, Opolskie Region, Kędzierzyn-Koźle District; b – B1; c – full; d – 5; e – $\sim 42 \times ? \times \sim 24$ -%; f – ?; g – ?, 100%; h – ?; i – Mertins 1904:23, j – Fig. 9:2

- B44 a – Wygoda, Poland, Łódzkie Region, Łowicz District; b – ?; c – ?; d – ?; e – ?; f – ?; g – settlement? — ‘on a dune’, 50%; h – ?; i – Wykaz 1939:69; collections of PMA; j – no fig.
- B45 a – Wymysłowo, Poland, Wielkopolskie Region, Gostyń District; b – B2; c – marked only; d – 7; e – 66 x 54 x ?; f – grey granite; g – grave?, 100%; h – TC, late phase or LC, early phase?; i – collections of MAP no. 1950:215; Jasnosz 1975:90, 92, 93-Fig. 14; Gedl 1975:60; j – Fig. 9:4
- B46 a – Zelgno, Poland, Kujawsko-Pomorskie Region, Toruń District; b – B1; c – no hole, d – 14; e – 76 x 61 x ?...; f – fine-grained granite; g – ?, 100%; h – ?; i – collections of MOT no. MT/A/EK/86; oral communication: S. Kukawka, J. Skoczylas, B. Wawrzykowska (drawing documentation); j – Fig. 9:3
- B47 a – Żeliszew, Poland, Zachodniopomorskie Region, Gryfino District; b – ?; c – ?; d – ?; e – ?; f – ?; g – ?; h – ?; i – Kunkel 1936:396; Horst 1981:81; j – no fig.
- B48 a – ?, Poland, Dolnośląskie Region; b – ?; c – ?; d – ‘over ten’; e – ?; f – serpentinite; g – ?; h – ?; i – collections of MAW; Koško 1979:Catalogue 5:32; j – no fig.
- B49 a – ?, Poland, Kujawsko-Pomorskie Region; b – B1; c – ?; d – 14; e – 74 x 62 x 21; f – ?; g – ?, 100%; h – ?; i – collections of MK-I no. 431; Koško 1979:Catalogue 5:28; j – no fig.
- B50 a – ?, Poland, Kujawsko-Pomorskie Region; b – B1; c – ?; d – 8; e – 71 x 61 x 22-20; f – ?; g – ?; h – ?; i – collections of MK-I no. 432; Koško 1979:Catalogue 5:29; j – no fig.
- B51 a – ?, Poland, Kujawsko-Pomorskie Region; b – B3; c – full; d – 6 x 2?; e – ?; f – ?; g – ?, 50%; h – ?; i – collections of MLW; Koško 1979:Catalogue 5:31; j – no fig.
- B52 a – ?, Poland, Małopolskie Region; b – B1; c – full; d – ?; e – 60 x 40 x 16-?; f – diorite; g – ?, 50%; h – ?; i – collections of MAK no. 955 (former Dydyński collection —cf MAK Archives) and oral communication: J. Górski; j – Fig. 9:5
- B53 a – ?, Poland, Małopolska Region; b – B1; c – partial?; d – ?; e – 66 x 55 x 22-17?; f – quartz; g – ?, 50%; h – ?; i – collections of MAK and oral communication: J. Górski; j – Fig. 9:7
- B54 a – ?, Poland, Wielkopolskie Region; b – B2; c – marked only?; d – 10; e – ~66 x ? x ~25; f – ?; g – ?, 100%; h – ?; i – Kostrzewski 1923a:28, Fig. 65; j – Fig. 9:6

ANNEX

- B55 a – Bronocice, Poland, Małopolska Region, Kazimierza Wielka District; b – B1; c – full; d – ? (‘around 10’); e – 51 x 44 x 18; f – ?; g – ?, 50%; h – ?; i – oral communication: P. Włodarczak; j – no fig.

B56 a – Brzezina (Pakosławka*, Grabownica**), Poland, Dolnośląskie Region, Milicz District; b – B1; c – full; d – ?; e – ?; f – ?; g – ?, 50%; h – ?; i – *Gedl 1975:120; **Lasak 1996:30, no. 330; 2001:109 and correcting oral communication; j – no fig.

ABBREVIATIONS OF CULTURE GROUPS:

CC — Catacomb culture
 FBC — Funnel Beaker culture
 FC — Fatyanovo culture
 IC — Ivno culture
 LC — Lusatian culture
 TC — Trzciniec culture/Trzciniec Horizon
 YC — Yamnaya culture
 ZC — Srubnaya culture

ABBREVIATIONS OF MUSEUM & INSTITUTIONAL NAMES:

exMEM — (former) Muzeum Erazma Majewskiego w Warszawie
 exMTPN — (former) Muzeum Towarzystwa Przyjaciół Nauk w Poznaniu
 MAB — Muzeum Archeologiczne w Biskupinie
 MAK — Muzeum Archeologiczne w Krakowie
 MAP — Muzeum Archeologiczne w Poznaniu
 MAW — Muzeum Archeologiczne we Wrocławiu
 MK-I — Muzeum Kujawskie w Inowrocławiu
 MLW — Muzeum im. Leona Wyczółkowskiego w Bydgoszczy
 MOT — Muzeum Okręgowe w Toruniu
 PMA — Państwowe Muzeum Archeologiczne w Warszawie
 ZPP IP UAM — Zakład Prahistorii Polski Instytutu Prahistorii Uniwersytetu im. Adama Mickiewicza w Poznaniu

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MESOPOTAMIA, ANATOLIA AND THE CIRCUMPONTIC REGION IN THE EARLY BRONZE AGE

The Early Bronze Age in Anatolia is divided into the following phases [Yakar 1984:62, 73; 1985:25]:

EB I — the proto-urban period (3800-2800 BC)

EB II — the early-urban period (2800-2400/2300 BC)

EB III — the period of emerging dynasties (2400/2300-2000/1900 BC)

The transition of knowledge, ideas and patterns of technology seems to be crucial for the development of present-day societies and economies. However, it was equally important for the societies of the past, even during the earliest periods of human civilisation. In the present survey we shall study the development of Anatolia in the 3rd millennium BC and we will try to find out to what degree the inhabitants of that region imported ideas and technologies from the more developed cultures of Mesopotamia, and how this process enabled the transfer of those achievements into further areas of the Aegean and the Circumpontic regions [see Koško, Fluted maces. . . , in this volume].

1. EARLIEST CONTACTS

Ancient Anatolia and Mesopotamia were two neighbouring regions which differed substantially from each other. Mesopotamia had better natural conditions for the development of agriculture but it always lacked natural resources such as stone, timber and ores, which were necessary for the production of tools and decorations as well as building activities [Mellaart 1982:7]. These materials could be found in the surrounding mountain regions of the Zagros, Lebanon and Anatolia, coastal areas around the Persian Gulf, and more distant countries of Central Asia and India [Potts 1997:100]. Thus, Mesopotamia had to establish relations with these re-

gions and the history of the country 'between the rivers' is to some degree a story of contacts with them. Anatolia was one of the areas abounding in resources necessary for the Mesopotamian cultures, and it was conveniently located, since the Euphrates, which served as an important trade route from a very early period, could be used for transporting raw materials southwards in ships and barges. Importantly for trade, this mode of transport was cheap and relatively safe [Mellaart 1982:10].

It is accepted by the majority of scholars that Anatolia was the source of various raw materials for the neighbouring areas from very early times. Among these one should mention obsidian, which was used for making tools already in the mid and late Neolithic in Syria, Palestine and Mesopotamia [Bieliński 1985:268, 400-401]. Thus the import of obsidian from Anatolia to Southern Iraq in the mid Neolithic period could have been the first tie connecting the two distant areas. Other raw materials were brought to the cities situated on the coast of the Persian Gulf from Iran, Oman and Central Asia. The export of obsidian from Anatolia was a major stimulus for the development of Çayönü Tepesi, an important town in the Upper Euphrates valley, as a trade centre. Excavations have proved that this town might have influenced smaller sites in Syria and Northern Mesopotamia. It is also worth mentioning that tokens (small clay artefacts used for record keeping in the period before the invention of writing) have been found at that site. Such objects have not been unearthed in other parts of Anatolia, which may indicate that Çayönü was really a foreign settlement in that region which never fully merged with the local environment [Schmandt-Besserat 1995:2099]. Close relations between Eastern Anatolia, Northern Syria and Northwestern Mesopotamia are well illustrated by pottery finds, which suggests the dominant position of Anatolian craftsmen in the 5th millennium BC [Bieliński 1985:246]. This contact remained strong although the Anatolian sources of stone for Mesopotamia were later supplanted by Halafian tradesmen of Northern Mesopotamia. On the other hand, in the 5th millennium BC elements typical for the South Mesopotamian Ubaid culture appear in the north, where the existence of Ubaid settlements is suspected [Esin 1989:137]. This suggests some kind of competition on trade routes — e.g. in some cases defensive walls surround the Ubaid settlements, which might suggest enmity between the local population and the newcomers [Bieliński 1991: 52ff.].

2. CONTACTS IN THE EB I

In the second half of the 4th millennium BC (the late Uruk period in Southern Mesopotamia) settlements showing many material culture traits typical of Sumer appear in southeastern Anatolia. On this basis it is assumed that there were

South Mesopotamian colonies in the Upper Euphrates valley at that time [Yener 2000:44ff., Leick 2001:34ff]¹. This is proved by the fact that while the Uruk colonies existed wheel-made pottery typical of Uruk settlements appears all over the region, and after they had collapsed hand-made vessels were produced instead. The number of these settlements varied from 7 to 12; the most important among them were Tepecik, Norçuntepe, Malatya and Hassek Höyük [Yakar 1984:68; Hauptmann 1976:9-20; Mellink 1982:563ff.]. The purpose of this colonizing activity was of course to provide raw materials for Mesopotamian cities, especially for Uruk, which developed into a kind of early metropolis, and Anatolia continued to be the source of materials such as copper, silver and alabaster throughout that period [Yener 2000:72ff.; Lloyd 1967:40ff.]. As far as timber is concerned, analyses prove that all of the common wood employed in the temples and palaces of the 4th millennium BC and later must have been imported, presumably from the Iranian highlands, but also from Lebanon and Anatolia [Potts 1997:109]. However, excavations in the Upper Tigris valley (ancient Assyria) have demonstrated that this region also had contacts with southeastern Anatolia in the 4th millennium BC, which has been supposed but never proved until now². Finally, it is worth mentioning that in the light of archaeological excavations the Uruk settlements in contemporary Turkey were not anything extraordinary, as similar settlements can be also found in western Iran, and Syria. Mellaart suggests that Uruk-type pottery and cylinder seals found in late Gerzean layers in Egypt may prove the existence of South Mesopotamian settlements in the Nile valley too [Mellaart 1982:8]. Many similarities dated to the Uruk and Jemdet Nasr periods have also been detected in Palestine [Albright 1964:92-95].

The existence of southern settlements in Anatolia had a great impact on the development of local communities. New technics of pottery-making brought here from the south were very quickly accepted in the East Anatolian background [Mellaart 1982: 9ff.]. The same is true of metalworking. New technologies brought from Mesopotamia were developed here and centres such as Malatya became local schools of metalwork [Yakar 1984:68; Palmieri 1993:575ff.]. According to Yakar that was the main advantage of the existence of Uruk colonies in eastern Anatolia, which acted as places where the transfer of technologies to the west took place [Yakar 1984:71]. The emergence of tin-bronze products in Anatolia are supposed to be traces of this early influence. The Mesopotamian pattern brought to Asia Minor was disseminated further westwards, and according to some scholars it strongly influenced the process of urbanization in Anatolia in the 3rd millennium BC [Yakar 1984:62ff.; Palmieri 1985:208].

In the Jemdet Nasr period the functioning of the Mesopotamian colonies in Anatolia was interrupted and in the first half of the 3rd millennium BC contacts

¹ Mellaart states that Ubaid settlements from the south reached Adiyaman, Malatya and Keban before the Uruk age, which means that this was merely a continuation of the previous situation. Cf Mellaart 1982:7ff.

² Excavations in Norçuntepe have shown that it had trade relations with Tepe Gawra on the Upper Tigris. Cf Mellaart 1982:9.

in both directions became considerably weaker. This resulted not only in the disappearance of Mesopotamian colonies in Anatolia but also in the decline of the Uruk culture. Another factor of disturbance was the advent of new population into the Upper Euphrates valley, which took place a little later. However, some lines of contact survived and archaeological findings prove that objects made of arsenical bronze and non-alloyed copper appear, albeit rarely, through the Early Dynastic periods, e.g. in the royal tombs of Ur [Yakar 1985:37; Leick 2001:113]. At that time southeastern Anatolia was inundated by Syrian products continuing earlier Mesopotamian traditions and patterns. On the other hand, that region shows strong influences from Alisar in Central Anatolia, which proves the development of local production. Syrian ware prevails in Keban, Elaziğ and Cilicia, which suggests that Syrian settlements may have developed in place of previous Uruk sites at that time [Mellaart 1982:10].

3. THE DEVELOPMENT OF ANATOLIA IN THE EB II AND III PERIODS, AND CONTACTS WITH CONTEMPORARY MESOPOTAMIA

Studying the development of Anatolia in the 3rd millennium BC one should remember that Anatolia was never monolithic, and that already in the Early Bronze I it was divided into four main regions that differed from each other as regards types of pottery, tools and other products found in the settlements of that period. Those regions were, first, western Anatolia with Troy and Beycesultan as its main towns; second, the central part with Çatal Höyük, Hacilar and Asikli Höyük and towns situated in the North Euphrates valley; third, Çayönü Tepesi and Arslantepe (Malatya) which had the closest relations with Syria and Northern Mesopotamia [Bieleński 1985:246]; and fourth, Cilicia with Mersin and Tarsus as its main centres. In the 3rd millennium BC these regions developed their own peculiar styles which resulted presumably from the contacts with other regions.

In the beginning of EB II, which was contemporary with ED I, a certain decline in the main spheres of production in Anatolia can be seen. This could have been the result of the advent of a new, more primitive population from the east. The fact that a remarkable change in pottery production took place (wheel-made pottery being replaced by hand-made vessels) may suggest that the influence of a new population unfamiliar with the potter's wheel became absolutely prevailing [Mellaart 1982:11]. Mesopotamian influence was replaced by Transcaucasian elements. The new settlements became so strong that they also pushed Central Anatolian influence away from the Upper Euphrates valley. However, soon afterwards a new local style was invented and began to appear in settlements down the Euphrates. There it

was mixed with the Syrian 'Mesopotamian' pottery, which also continued to be produced.

These changes reflect the fact that the development of economy and West Anatolian settlements in the 3rd millennium BC was strongly influenced by several ethnopolitical events. This is true of the shifts in the following phases of EB I, II and III. The end of each of them is marked by the destruction of previous settlements. Thus, in the beginning of the 3rd millennium BC, most of the EB I settlements in Western Anatolia were destroyed and their population fled into the surrounding regions [Mellaart 1999:384]. This was caused by a new population wave that came from the northwest. Note the contemporaneous start of a period of agriculture in Thessaly and Greece, which does not seem to have been the result of a local evolution [Mellaart 1999:383]. Apart from Troy I and Beycesultan XVIIa, which are most significant during that period, a group of smaller settlements were also destroyed, which proves that the collapse was not a local event. What is significant, most of those settlements were not occupied during the following EB II (2800-2400/2300 BC) [Thermi, Bayrakli, Helvacikoy-Höyücek and Borkoy-Höyücek; cf Mellaart 1999:383]. In many cases the new population established new towns or occupied old ones; among the latter one should mention again Troy and Beycesultan. Those towns developed quickly and together with Alaça, Alisar, Kültepe and Tarsus placed in Central and Southern Anatolia are now believed to have become seats of political authority, possibly powerful city-states already in that early period [Mellaart 1999:386].

The existence of monarchy-type authority or at least of an oligarchy is suggested by the finds of tombs containing valuable metalware, jewels and splendid pottery. Those objects show some influence of Mesopotamian luxury ware and they may have been imports from the south, or at least they represent southern technological influence [Mellaart 1982:9]. It is highly possible that the people buried in those graves belonged to the ruling class or even to royal families. Such tombs were found in Alaça, Bitik, Alisar and other places [Yakar 1984:77]. The seat of a local principedom may have been situated also in Koçumbeli [Alkim 1968:121ff.]. As B. Alkim states, also in Alaça in layers 8-5 13 shaft graves contemporary with Troy II have been found. Some of the tombs were reused [Alkim 1968:124-5]. In some of those towns archaeologists have found remnants of buildings that may have been palaces of rulers. This points to the durability of the institution of monarchy and to its wealth.

The existence of such an upper social class accelerated the establishment of contacts with more developed regions of the Near East. This was the reason of the occurrence of objects of luxury that were either brought from Mesopotamia to Anatolia or cast in local workshops in imitation of foreign patterns is well illustrated by the similarity of daggers found at Alaça in Northern Anatolia and Ur [Bittel 1945:28; Yakar 1985:34; Mellaart 1982:12]. As far as daggers are concerned, one

can assume that they were a special kind of weaponry attributed to a special social class. Artifacts produced of precious metals or decorated could easily have become objects of long-distance trade and models imitated by one culture after another. That is why they were similar in areas as far apart as Ur and Anatolia. That is perhaps the reason why Anatolian-type daggers and axes are found in the Sofievka graves in the Northwestern Black Sea region [Klochko 1995:238ff.] and Krasnovka tomb of the Donets culture [Klochko 2001:101-103; Müller-Karpe 1994:209, PL. 42-43]. Interesting conclusions concerning interregional relations and the importance of military aristocracy may come from the analyses of stelae from the EB III, found in eastern Anatolia and Syria. They may depict a military aristocracy, which is suggested by images of daggers in their clothing [Kohlmeyer 1995: 2641].

There are some traces of indirect contacts with Mesopotamia during that time, e.g. ED II or ED IIIa Syrian-looking jewellery has been found in a grave at Kaneš, dated before 2500 BC [Mellaart 1982:12]. The economic and demographic strength of those early states is proved by topographic studies, which show that Central Anatolia as well as Cilicia during the Early Bronze Age II and III were densely populated areas that could produce their wealth, develop their political systems and maintain their status as a political units [Alkim 1968:82ff., 126; Lloyd 1967:38-41]. During the four centuries of the EB II Anatolia experienced a rapid economic and demographic rise. The number of towns and villages exceeded four hundred, with the main centres located in Western, Central and Eastern Anatolia [Mellaart 1999:406]. As a result, closer connections must have been maintained between Anatolia and the heartland of the contemporaneous Near Eastern civilisation, as proved by the finds of Anatolian arsenical bronze discovered in the royal tombs at Ur, dated to the 26th century BC [Leick 2001: 113]. Another important item is the idol head from Kaneš discovered at Mari (ED III). Other examples of interrelations are numerous parallels in weaponry, ceramics and architecture [Mellaart 1982:12].

However, the Transcaucasian population was not the only wave that appeared on the outskirts of Anatolia; another one reached the western borders of the region at that time. According to Mellaart this population had Indo-European affiliations, which would explain the similarity of material culture between the Aegean and western Asia Minor. The scholar argues that the settlers were skilled metalworkers and they considerably influenced the local metal industry, which shows many differences with regard to Central and Southeastern Anatolia, influenced by the Transcaucasian regions [Yakar 1984:71]. Recent archaeological excavations have proved that the flow of a Southeast European population into Anatolia began already in the early proto-urban period. In the course of time, elements of West and North Pontic cultures become gradually more apparent in Western, Central and Northern Anatolia [Karanovo, Krivodol-Salcuta, Kodjadermen-Gumelnița, Cucuteni-Tripolye — Teodorova 1979: 66ff., Yakar 1984: 63.]. As a result of all these migrations, Anatolia was even less homogenous in the EB II period than it had been previously, as

far as material culture is concerned. This is best proved by the emergence of new burial customs, especially in the east, which is surely evidence of diversification in the sphere of national identity and beliefs³.

Another important change took place at the transition from EB II to EB III, which occurred ca. 2400-2300 BC. This time the scope of destruction was much more extensive. Most of the big towns, e.g. Troy II, Beycesultan, Kusura B, Tarsus, Ahlatbiel, Polathi I and Poliochni V, were sacked, burnt and depopulated. Hundreds of other places were either burnt down or abandoned by the inhabitants [Mellaart 1999:407; Yakar 1985:26]. This seems to prove that the region was again affected by a strong wave of migrating tribes. However, according to Yakar there may have been other reasons for these events, such as inter-regional rivalry between the city-states that had exercised power in the preceding period, or natural catastrophes [Yakar 1985:25; 1981:106ff.; Mellink 1989:321]. Taking into consideration the first factor, one could find a parallel for this process in the South Mesopotamian Early Dynastic period, with dynasty-founding and struggle for hegemony all across the region. However, fight for hegemony would not have brought about the destruction of all the important centres, and some of them should have survived to begin the existence of Anatolia unified under the authority of one superpower, which did not happen. J. Yakar accepts at face value the reports of the Akkadian kings' campaigns against the Anatolian princes, which are however being much disputed currently [Yakar 1985:25; Liverani 1993].

It is also important that the majority of settlements destroyed at the end of EB II and the beginning of EB III ceased to be used, hence many regions were no longer cultivated but came to be utilised as grazing land by pastoral nomads [Mellaart 1999:408]. It is hardly thinkable that the winners in the wars should have preferred to stay out of the cities just out of their own accord. It is thus possible that a remarkable climatic change took place at that time, disabling the use of land for agriculture. Some scholars believe that the pastoral chieftains who governed the population in the EB III were in fact local rulers, and that they were buried in the rich tombs of that time [Yakar 1985:30]. This, however, is contradicted by the results of archaeological excavations, which have unearthed rich cities of that period with defensive walls and palaces suggesting that they were seats of local power [Yakar 1984:77].

Fortunately, thanks to archaeological data it is possible to infer where the new people who caused the destructions of the period of 2400-2300 BC came from. It is striking that the prevailing majority of new settlements and those which remained after the disastrous invasion represent a material culture in many features identical with Troy II, which was in turn typical of the West Anatolian EB II culture [Mellaart 1999:407ff.; Klochko, Pustovalov 1994:206]. Thus, new settlement did not develop

³ In this respect one can observe the emergence of new Kura-Arax customs of eastern origin in Northern and Central Anatolia — Kavak, Tekeköy, İkiztepe, Alaça and Kültepe. Cf Yakar 1985:29.

an entirely new culture but to some degree continued former traditions of western Anatolia. The material culture of the new population is also similar to that of the Proto-Helladic population of the Aegean in the second half of the 3rd millennium BC [Yakar 1985:26]. According to Mellaart the people in question were the Luvians of the historic ages, the first Indo-European wave in the Ancient Near East. The connection of this invasion with Southeastern Europe, the North Pontic region, the Balkans and the Aegean is clear in the light of the fact that the destructions caused by a number of moving tribes at that time left a trail over a vast territory from the Lower Danube to the frontiers of Syria [Mellaart 1999:408-410].

At the same time, a new wave of population appears in eastern Anatolia. Some features of their culture are similar to the cultures of Southern Russia and the Transcaucasian regions. New settlements appear in the Upper Euphrates valley; they can be attributed to the Proto-Hurrites. According to Yakar, the new settlers came from Transcaucasia and belonged to a chain of tribes moving westwards from the area of Lake Van to the borders of Cilicia, which resisted this immigration [Yakar 1984:78ff., Mellink 1989:326]. As for Anatolian-Mesopotamian relations, one can assume that this wave, like the previous one, temporarily wiped out Mesopotamian influence on Asia Minor and weakened the connections between the two regions.

However, it was only briefly that the contacts between the south and the north were interrupted. Lively contacts between Anatolia and Mesopotamia were revived in the period of the great warrior-kings of the Akkadian dynasty [Yener 2000:44ff.; Kelly-Buccellati 1990:24; Yakar 1984:71]. This was surely made possible not only by their foreign policy but also by the arrival in Southern Mesopotamia of some groups who had maintained more intensive contacts with the north of the country and Syria and possibly with Southeastern Anatolia in the preceding period. This population knew the trade routes of the north and their kings wanted to preserve them or even to gain control over them. In the late 3rd millennium BC Anatolian towns again engaged in trading activities with the southern regions: Palestine through Syria and Southern Mesopotamia through Syria, Mari and Aššur. Apart from metal objects of luxury which were mentioned earlier, textiles were also imported by Anatolia. That trade must have been of great importance and profitability, as rivalry over the trade routes in the northern regions is thought to have caused wars between the local kingdoms of Ebla, Mari and Aššur [Mellaart 1982:12; Matthiae 1982:111-124]. Also Sargon's and Naram-Sin's activities are supposed to have been focussed on gaining the control of those routes⁴.

The historical background of these ties was the policies of the Akkadian kings, Sargon and Naram-Sin, ruling from the 24th to the 22nd centuries BC. They are said to have made incursions into the northern regions in reports still believed to be true by many scholars. Sargon says he went as far as the Silver Mountain

⁴ This is accepted until now by many scholars e.g. Leick 2001, Yener 2000, Yakar 1985, Sallaberger and Westenholz 1999; although it is supposed to be a historical fiction of the next generations. Cf. Liverani 1993:53-55.

which is usually identified with the silver-mining regions of Southeastern Anatolia; and Naram-Sin says he conquered towns situated at the foothills of the Amanus in Southern Turkey [Sallaberger, Westenholz 1999:38, 47]. The opposite view was presented by M. Liverani, who claims that Sargon never reached regions beyond Tuttul at the mouth of the Balih [Liverani 1993:53-55].

However, there may be a kernel of historical reality from the end of the 3rd millennium BC hidden in the story of 'Sargon the king of battle', in which the king of Akkad attacks a city in Anatolia. An interesting aspect of the legend is that the reason for the campaign against Purushanda (identified with Achem Höyük) is an economic one. Sargon is encouraged by merchants and the goddess Ištar to attack the distant town. The result of the campaign is also economic: the fabled king brings large booties from Anatolia to Akkad [Liverani 1993: 54].

More reliable information can be found in texts referring to the activity of Naram-Sin, Sargon's grandson, in northern Syria⁵. Fortunately, his activity in that region is confirmed by archaeological evidence. Naram-Sin, too, had his achievements engraved on stone stelae and on the rocks of border regions, which now show the extent of his state. A very important rock-carving has been found in the Upper Tigris region near modern Dyarbakir, which proves that the king reached the frontiers of Anatolia. This is also clear in the light of Mellink's analysis of one of Naram-Sin's stelae found at Hai in Southern Iraq, which shows people bearing Anatolian headdress, with Syrian or Anatolian-looking faces [Yakar 1985:37]. This means that in the 23rd century BC Anatolia was under the direct influence of a state that promoted South Mesopotamian culture. The influence of South Mesopotamian patterns was of a permanent nature at that time, as Naram-Sin is famous for his building activity in northern Mesopotamia and in Syria. Its most important manifestation was the royal palace at Tell Brak in the Upper Habur valley [Kuhrt 1998:48-50]. An important administrative and economic centre that developed in that place must have strongly influenced the adjacent parts of Anatolia. Another similar case was with the Armanum fortress in northern Syria [Oppenheim 1969:268], which also must have functioned as a place where ideas and technologies were exchanged.

One can assume that the periods of Early Bronze II and III in Anatolia were a time of outstanding prosperity and development. Places of particular importance in EB III in the eastern and central part of the region were reputed centres of production of bronze tools and precious metals like silver and gold. Objects such as jewels and adornments can be found in the local environment; they were put in graves with bodies of chieftains or princes; but as the local market was too small, the production developed to meet the demand of foreign importers [Yener 2000:124ff.]. This was the case in the southeastern part of Anatolia. There are considerable deposits of copper ores there, which helped to develop metal workshops. Hence, Anatolian

⁵ It says that the king of Akkad built a fortress there. Cf Oppenheim 1969:268.

products appear in some quantities in most of the bordering countries. Anatolian copper in Mesopotamia can be easily distinguished as it was processed in a special way. It is commonly known that copper from the Asia Minor mines contains an admixture of arsenic, and a special process must be applied to purify it [Potts 1997:168]. Texts from the 2nd millennium, especially Old Assyrian trading reports, call it *fine copper* [*werûm dammuqum*, Larsen 1996:34]. Also in Old Babylonian documents products from good and bad copper are distinguished [*werûm dummuqum*, von Soden 1974: 176]; these terms probably refer to Old Assyrian pure and impure copper. Mesopotamia was a major importer of ores and metalware manufactured in the central part of Asia Minor. Tin and silver were brought to the whole of Mesopotamia from Anatolia, which had its own large deposits, the likes of which did not exist elsewhere in the Fertile Crescent (Cyprus and Anatolia had the richest deposits of both metals) [Muhly 1997:8ff.]. Imports of that type are found in Cilicia and Malatya as far as Troy III, where a Syrian metal jar in Pre-Akkadian style was discovered. The development of cities and workshops in the following period proves that Anatolia again enjoyed a period of prosperity resulting from contacts with the surrounding countries. There is no doubt that the splendid art and pottery of Central Anatolia in the 23rd and 22nd centuries BC prove the existence of a well-developed country [Kilim 1968:124].

The development of eastern Anatolian metalworking is clearer when one compares the metal products found in western Anatolia with those originating in the regions of Malatya, northern Mesopotamia, and Syria. Tools manufactured in the east are of better quality and more sophisticated design, which is the result of the fact that the quality and artistic patterns came from Mesopotamia and Syria. It has been established with a degree of accuracy that, as far as metalware is concerned, good-quality luxury objects found in Anatolia were often exports from Mesopotamia [Yakar 1985:37; Moorey 1982:36]. Other needs were satisfied by the local production, which was quite remarkable. According to Moorey, in the late 3rd millennium BC Southern Mesopotamia produced less metal than Anatolia and thus it had to import metal bars from the north [Moorey 1982:32]. It appears from both written records and archaeological discoveries that trade in both directions flourished into the Ur III period [Kelly-Buccellati 1990:125], although according to Limet the kings of Ur may have decided to strengthen their economic relations with the south [Limet 1960:85-99]. This is contradicted by the fates of a Mesopotamian seal primarily belonging to Lukalla, an important official of Umma in the Ur III administration. This object unexpectedly turned up at Kültepe, where it was secondarily used by local merchants [Waetzoldt 1990:48].

Anatolia supplied ores of metals such as copper for many regions of Western Asia. It is generally accepted that South Anatolian mines at Ergani Maden were among the major sources of the copper found at Shanidar, Maghzalijah and Yarim Tepe. There were important copper mines in northern Anatolia, exploiting the abun-

dant deposits of copper ores found along the Black Sea coast [Kelly-Buccellati 1990:119]. Workshops situated in the north must have had a reputation for making quality weapons, including long swords, and luxury products ornamented with precious stones, found sporadically in Central Anatolia [Yakar 1985: 35]. However, the most important Anatolian centres of copper processing were situated in the Upper Euphrates valley, in the region of Malatya (Arslantepe) in Eastern Turkey [Kelly-Buccellati 1990:121; Palmieri 1993:578ff.].

As regards tin, it may also have been imported from Afghanistan in the form of lapis lazuli, but silver was surely obtained mainly from the area of Turkey, as abundant deposits are found in the northern and western parts of Asia Minor (Fig. 1). Lead analyses of silverware show that at least some of the silver objects from huge tracts of Western Asia, from Troy through Northern Mesopotamia and further south (Hafadja, Tello), derive from ores situated in the Eastern Taurus range [Muhly 1997:10]. Recent analyses prove that those deposits were exploited from the Early Bronze age I (3800-2800 BC) until the Ottoman times. Silver originating from Anatolia was often processed in Mesopotamia and some characteristic objects were cast in it, e.g. the silver quadruple-spiral beads that were exported even as far as Oman [Muhly 1997:10]. Objects made of Anatolian gold and silver found in deposits in the western part of the country can be found in tombs around western Mesopotamia (Mari), Anatolia (Karum Kaneš, Alaça) and the Aegean (Crete and Mycaene). Recent analyses prove that they were introduced by the Indo-European population that is also supposed to have brought tin-bronze technology to Anatolia [Yakar 1985:32, 36; Bilgi 1981:189]. The Aegean region (Troy, the Cyclades) is another place where arsenical-bronze ware can be found in considerable quantities [Yakar 1985: 28]. However, objects cast in this metal in Anatolia may have been exported to the Greek islands too, as single items are found there and in Southern Ukraine, where arsenical bronze does not occur typically [Klochko 2001:83; Larsen 1996:47ff.; Yakar 1985:28].

By the end of the 3rd millennium BC, the copper and bronze trade was well developed throughout the Fertile Crescent region. It seems, however, that trade contacts consisted mostly in short-distance connections and tradesmen from Anatolia delivered their metal products only as far as the northern cities of the Syrian plains, whence they were taken forth by the Mesopotamian tradesmen [Kelly-Buccellati 1990:122]. As for copper, there were undoubtedly other sources, presumably in the West Zagros, near Tell Maghzalijah and Oman [Potts 1997:165]. Copper brought to Mesopotamia from the south and east was better quality and more important objects were cast in it, judging from archaeological findings — e.g. the large-scale statue carrying an inscription of Naram-Sin and the famous mask of Sargon found at Nineveh [Muhly 1997:10].

The largest deposits of copper ores occur in the northern and northeastern parts of Anatolia and on the Black Sea coast, which might have been of crucial

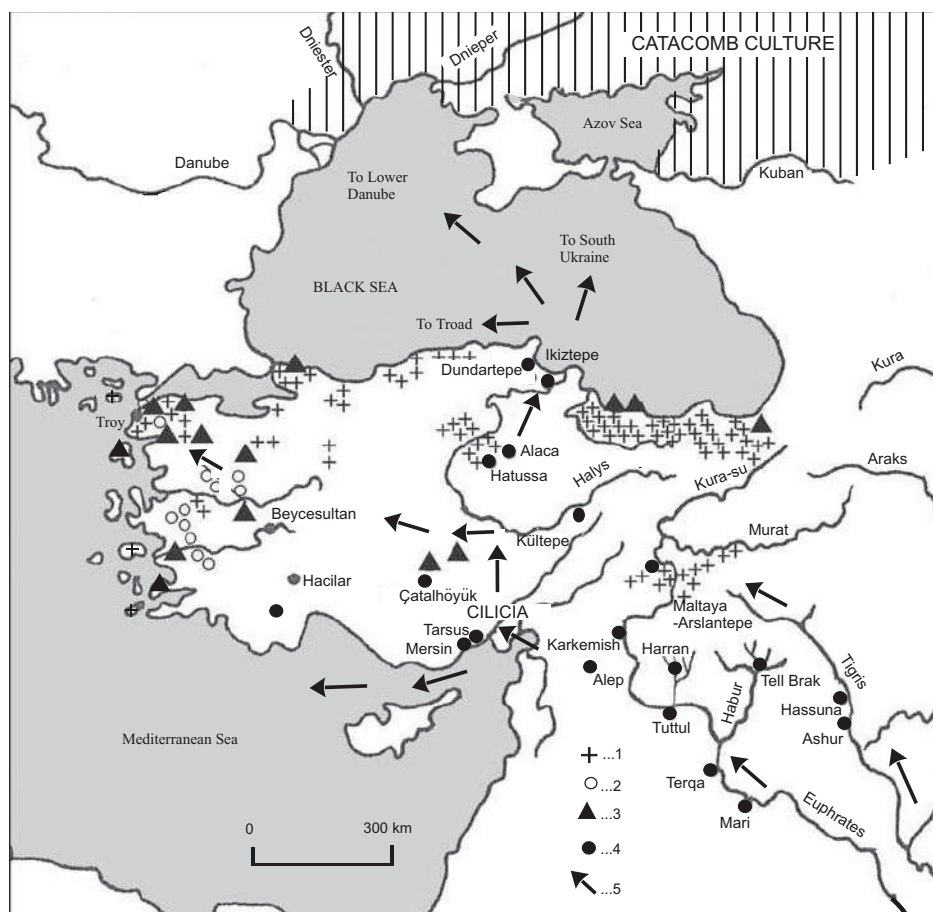


Fig. 1. Anatolia in the 3rd millennium BC and its external contacts. Legend: 1 - copper; 2 - silver; 3 - gold; 4 - ancient sites; 5 - directions of diffusion

importance for the export of metal technology across the sea. Nevertheless, archaeological evidence proves that towns situated at the mouths of the Halys and of other rivers were unable to expand because of their inconvenient location in a mountainous area. The mountains also cut them off partially from the rich towns of the south; the population, therefore, was not numerous and settlements like Samsun-Dündartepe, Tekeköy and Lavak were small and few [Alkim 1968:128]. However, the inhabitants of that region specialised from a very early date in the mining of ores and processing of metals, reaching an advanced technological level during the EB II and III [Kohlmeyer 1995:2642]. This enabled the development of the region, which

at the early stages of its history came into contact with other coastal regions — Troy I and II, Bulgaria, and possibly Ukraine. This is proved by the finds, at northerly sites, of metal objects revealing characteristic techniques of metal manufacturing, which may have been brought there aboard primitive ships traversing the Black and Aegean Seas. It is possible that some objects were exported directly to the North Pontic regions [Klochko 1995:238]. Similar metal-processing methods found in metal workshops all along the Black Sea coast provide an interesting indication of the dispersal of metallurgical know-how. Similar technologies of metal production are attested in some places in Anatolia and Bulgaria (Ai Bunar), and further west in Yugoslavia [Rudna Gloga; Yener 2000: 89]. One must thus reckon with the possibility of close relations between the diverse Circumpontic regions, many of which had important deposits of ores and developed similar techniques of metal casting. This is a matter for further studies, but one can already suggest that Anatolia was the core part of that zone and the source of patterns imitated in the other parts.

As regards the routes of exchange across the Black Sea, the river Halys may have played a significant role in this process. The important town of Zalpa (modern İkiztepe), known later from the Hittite period but dating back at least to the 3rd millennium BC, was situated at the mouth of the river. The route ran southwards from there and reached Alaça Höyük by land, because the river was not navigable. One should mention that in the EB II and III levels at Alaça several important finds have been made, e.g. a town with defensive walls, princely graves, and fine quality alabaster figurines of idols; such evidence testifies to the development of the region [Kohlmeyer 1995:2642]. Finally, the route reached Hattusa in Central Anatolia, which was also an important centre of production and trade in the 3rd millennium BC. However, the insufficient scope of excavations in the north does not allow to determine the intensiveness of contacts. It can be assumed that the northern region was not entirely separated from the other parts of Anatolia. We know that at the turn of the 2nd millennium BC many forms of metalwork from Northern Syria/Mesopotamia and even from the southernmost parts of Mesopotamia can be traced to northern Anatolia as a result of long-distance trade⁶.

One of the most important regions of Anatolia in the 3rd millennium BC was Cilicia. Its location close to the Syrian coast enabled foreign political contacts and trade by sea from very early times. In the EB II and III Cilicia had many connections with the neighbouring regions. This is proved by the finds of Cilician products in foreign lands and, conversely, of foreign merchandise in Southern Turkey. The contacts were mainly with Syria and Mesopotamia. North Mesopotamian pottery and Syrian bottles were found in Cilician towns; in EB II this represents influence from the Fertile Crescent (ED II) in general — e.g. a Syrian silver bottle from ED II has been found at Eskiyağa [Cf Mellaart 1982:12].

⁶ This concerns spearheads, shaft-hole axes and other bronze and silver objects such as the animal figurines found at Alaça Höyük, Hasanöğlan and Horoztepe. Cf Yakar 1985:33, Kohlmeyer 1995:2643, Bilgi 1990:119-129.

As far as Syrian bottles are concerned, one should remember that apart from any possible influence in pottery style they testify to the import of luxury ware (perfumes and oils) into Anatolia, since the bottles themselves were not valuable objects.

On the other hand, Cilician products are found in distant countries, for example a vase discovered in an Egyptian tomb dated to the 4th Dynasty. As regards other directions, pottery of a type appearing in great numbers in Tarsus is also frequent in Troy (layers II-IV) and in many other locations in the west [Alkim 1968:83ff.]. As for urban architecture, walls and tombs representing patterns similar to those found in Cilicia appear in various places in Eastern Anatolia, such as Tilmen and Gedikli, which suggests Mesopotamian influence [Alkim 1968:94-97]. Sometimes excavations offer glimpses of political history, as in the case of Tarsus, situated at the gates of Cilicia on an important route from the south and east to the north. Archaeologists have proved that its ramparts were twice destroyed and burnt down by enemies, and twice rebuilt. This means that the political situation was at times very unstable, and that the country was raided by the armed forces of local rulers.

One could furthermore say that Anatolia in its entirety was in a sense a route via which the exchange of technologies and ideas took place. This is why regions surrounding Anatolia share various similarities with it, as well as showing a degree of convergence with Mesopotamia. This can be seen in Troy, the most important and the most famous centre on the western periphery of Anatolia, where levels II-V correspond to EB II/III. In the 3rd millennium the culture of Troy shows many connections with Central Anatolia in its architectural design and the construction of walls and megarons. In fact, their style is unmistakably Anatolian. It is generally accepted that this kind of architecture spread westwards from Central Asia Minor into the Aegean region [MacKendrick 1962:22]. From Troy and the Aegean, this model of town-building reached the territories of Southeastern Europe as far as the Lower Danube [MacKendrick 1962:28]. Eastern influence in Troy is also exemplified by smaller items, such as jewels, beads, pins and objects connected with the spiritual life of the population. The presence of small nude figurines of the mother-goddess is also quite significant, being typical of the whole Anatolian Plain and the Proto-Helladic culture of the Aegean [MacKendrick 1962:19].

One should remember that the numerous regions situated on the coasts of the East Mediterranean and the adjacent seas were in a convenient situation, being linked by maritime routes used by traders from very early times. This is best proved by texts and archaeological discoveries. The story of Wen Amun and a Ugaritic text prove that in the second half of the 2nd millennium BC there was some kind of international maritime law. [Wachsmann 1997:508].

The earliest records of seafaring date back to the 3rd millennium BC, and they tell of Egyptian naval expeditions which were surely launched with economic aims in mind. A record of such an event is found in Un'i's pseudo-autobiography

found in his tomb, dated to the 6th Dynasty of Egypt [Wilson 1969:227ff]. At the same time seagoing ships were no doubt used all over the East Mediterranean, as shown on pottery drawings from Syria [MacKendrick 1962:19]. However, the most revealing evidence comes from the 2nd millennium BC and later, in the form of ancient shipwrecks found in recent decades near the coasts of Turkey, Greece and the Levant. One of the most famous is the discovery near Uluburun in Western Turkey. The objects discovered aboard the ship are quite astonishing. Among items of local origin there are some pieces of Baltic amber, a Balkan axe or mace-head and some Italian swords [Pulak, Bass 1997:266ff.]. Such a variety of items coming from very distant regions and found in one place proves that even at that time the horizons of trade were very wide and the exchange of technologies across the Aegean or Black Seas was hardly a problem. The role of maritime contacts is easy to see in the similarities between the coastal towns of the Western and Southern Anatolia such as Troy and Tarsus; there jointly differed more from inland centres, even those that were geographically closer to them [MacKendrick 1962:24; Mellink 1989:323ff.].

The circulation of new technologies and tools was unrestricted and it is certain that some metallurgical methods and other inventions, such as the potter's wheel, reached Western Anatolia as far as the Troad, to spread further across the Aegean. Also several finds of a tin-bronze alloy in contemporaneous Troy can be attributed to Central Anatolian workshops [Yakar 1979:55f; 1985:28].

4. ANATOLIA BETWEEN THE SOUTH AND THE NORTH: CONCLUSIONS

It can be assumed that as regards the most important aspects of the economic (and also, most probably, the political) development of Asia Minor in the Early Bronze II and III, Anatolia was not a periphery of Mesopotamia but, having absorbed Mesopotamian elements, developed a culture of its own and enabled the further dispersal of this cultural pattern. This proves that in the 3rd millennium BC, during which an archaeologically observable boom in the use of metals took place, Anatolia played a very important role in the exploitation and processing of ores [Muhly 1997:8]. It was in fact one of the most important centres of metal production in the Near East. The political history of that region in the 3rd millennium BC is not known for want of any written documents, but archeological excavations have unearthed settlements whose nature proves that some of the towns were seats of political authority; there is also evidence of foreign incursions and internal disturbances.

Contacts between Anatolia and Mesopotamia were not always maintained directly by long trade routes, as was the case in the Uruk period. This concerns especially the periods of EB II and EB III, when influences diffused gradually, with a number of intermediary regions being involved in mutual relations and trade [Kohl 1987:15]. As for contacts with Mesopotamia proper, it was especially Eastern Anatolia (the area of Malatya) that maintained the closest relations with the south. In the south it bordered Northern Syria and the Upper Tigris valley, which were strongly connected with Central Mesopotamia and it was only from there that the lines of contact reached the south. However, there is some evidence of direct contacts, albeit rare, between the distant regions of Anatolia and Babylonia in the 3rd millennium BC.

In the 3rd millennium BC Anatolia was famous for its silver production, which determined the character of its contacts with the neighbouring regions at that time. No wonder then that Sargon and Naram-Sin, the great conquerors of that period, may have wanted to annex it into their state [Potts 1997:174; Yener 2000:44ff.]. At any rate, Anatolia was strongly influenced by Mesopotamia, as is evident from the similarity of luxury goods and other items brought directly by tradesmen. It is especially weaponry that can be used as evidence of such exchange [see Koško, Fluted maces. . ., in this volume]. The use of such objects is indicative of the character of the society in question or at least of its élite.

Anatolia also mediated influence between the areas to the south and to the north and west of it. The main routes went from the east (the Upper Euphrates valley) or from the south (Cilicia) to the Central Anatolian Plain. They continued northwards to the mouth of Halys and from there across the Black Sea to the mouths of the Dnieper or the Danube, or along the northern coast of Anatolia to the Troad. There was also a trade route going west from Central Anatolia via Beycesultan. It reached the western Anatolian coast and then continued across the Aegean Sea into the Balkans. Cilicia offered another possibility of external contacts — a direct sea route from Tarsus along the southern coast, reaching as far as the Troad.

The correctness of these reconstructed routes is confirmed by numerous similarities linking the regions of the entire neighbouring areas of Western Asia and Southeastern Europe. Such analogies are less numerous in the northern and western Circumpontic regions, but this may be the consequence of insufficient archaeological exploration, or of the fact that most of the analyses are focussed on a single region and lack a broader context. Only some of the most obviously analogous artifacts that appear in the Mesopotamian/Anatolian and Southeastern European areas are explicitly described as imports or examples of Near Eastern influence. One should mention the weapons of the Donets culture [axes found in Krasnovka, Novazovska, Nikopol, Mikhailivka] in the east and of the Corded Ware culture [Munczyn, Bilousivka, Smolyhov, Mezhyhorka] in the west of Ukraine [Klochko 2001:101-103,

127]. The fact that some have been recognised as such is a mark of progress, insufficient to be sure, but promising exciting results for future research. It must be added that such attempts, the results of which will certainly prove revealing, should be continued in order to improve our understanding the sources of the East European cultures and to assess the regional influence of the more advanced cultures of Mesopotamia.

Translated by Piotr Gąsiorowski

ABBREVIATIONS

AJA	– American Journal of Archaeology, New York
AnOr	– Analecta Orientalia, Rome
AnSt	– Anatolian Studies, London
BPS	– Baltic-Pontic Studies, Poznań
ČVSMO	– Časopis Vlasteneckého spolku 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'assyriologie 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

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