Univerza v Ljubljani
Filozofska fakulteta
Oddelek za arheologijo

Documenta Praehistorica XXXII

Neolithic studies

Založba ZRC

Univerza v Ljubljani
Filozofska Fakulteta
Oddelek za Arheologijo

Documenta Praehistorica XXXII

Editor
Mihael Budja

12th Neolithic studieS

ISSN 1408-967X

Ljubljana 2005

DOCUMENTA PRAEHISTORICA XXXII

12. NEOLITSKE ŠTUDIJE / 12th NEOLITHIC STUDIES

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Jezikovni pregled/English advisor: Philip James Burt

DTP: Cambio d.o.o., Ljubljana

Tisk/Printed by: Tiskarna Hren, Ljubljana

Naklada/Number printed: 750 izvodov

Natisnjeno s podporo Javne agencije za raziskovalno dejavnost Republike Slovenije.

The *Documenta Praehistorica* is edited at the Department of Archaeology,
Faculty of Arts, University of Ljubljana.

The *Documenta Praehistorica* website provides a free access to all the articles published since 2001.
Find us at *http://arheologija.ff.uni-lj.si/documenta/*

Documenta Praehistorica je vključena v naslednje izbrane indekse:
cobiss; Sachkatalog der Publikationen zur Altertumskunde - DAI- Germania ISBN 3-8053-1660-7;
DYABOLA, Sachkatalog der Bibliothek der Röm.-germ. Kommission Mainz - http://www.db.dyabola.de/;
copac http://www.copac.ac.uk/; opac http://www-opac.bib-bvb.de/

The 12th Neolithic Studies anthology comprises selected papers presented at the eleventh international Neolithic Seminar – 'Symbols and Symbolism' that took place at the Department of Archaeology, University of Ljubljana in November 2004, and papers focused on the Neolithisation processes in Eurasia.

From: Srejović M. & Babović L. 1983. Umetnost Lepenskog Vira, Beograd.

Contents

UDK 903.2(4/5)"633/634":001.4
Documenta Praehistorica XXXII (2005)

The concept of "Neolithic package": considering its meaning and applicability

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ABSTRACT – *In this paper, one of the most frequently used terms in Neolithic studies, e.g. the so-called "Neolithic package", will be discussed. Apart from providing a brief historical background of the term and how it was used since the 80's, the text will concentrate on a plausible definition and the possible contents of the package which can be observed as a common set of objects in Southwest Asia, Anatolia and Southeast Europe. It will be argued that the use of this concept has both advantages and disadvantages. Although the term provides a macro level look to the large geography mentioned above, that was obviously closely interconnected in the course of 7th and 6th millenia BC, the term should be implemented cautiously at regions where the elements of the package do not seem to be fully integrated into the life of the groups.*

IZVLEČEK – *V članku razpravljamo o enem izmed najbolj pogostih terminov v neolitskih študijah, tako imenovanem "neolitskem paketu". Opisali bomo kratko zgodovinsko ozadje in uporabo izraza do 80-ih, skoncentrirali se bomo tudi na verjetno definicijo in možne vsebine »paketa«, ki jih lahko opazujemo kot običajen zbir predmetov v Jugozahodni Aziji, Anatoliji in Jugovzhodni Evropi. Dokazali bomo, da ima uporaba tega koncepta tako prednosti, kot pomanjkljivosti. Čeprav termin na medregionalnem nivoju omogoča pregled na širokem geografskem območju, ki je bilo tesno medsebojno povezano v času sedmega in šestega tisočletja pr.n.št., ga je potrebno previdno dopolniti na območjih, kjer elementi »paketa« niso bili popolnoma vključeni v življenje prebivalcev.*

KEY WORDS – *Neolithic; terminology; Anatolia; Southeast Europe; Neolithic package*

INTRODUCTION

The definition of the term "Neolithic" and the nature of Neolithization are among the most debated issues among prehistorians who work in SW Asia and Europe[1]. The word "Neolithic", first employed as a technological term, has become oriented towards subsistence, which is considered by some scholars as inadequate, because these approaches undermined the assumption that the technological as well as economic developments that took place during the Neolithic were socially constructed. As Thomas puts it, "what is important is not what is produced, so much as how it is produced" (*Thomas 1991.11*). Today there is more recognition that the word "Neolithic" implies more than technological developments, the appearance of domesticated plants and animals, or sedentarism (*Hodder 1990; Thomas 1991; Whittle 1996; Zvelebil 1998; Özdoğan 2001; Perlès 2001*). Now the term is generally accepted to encompass technological, economic, social and ideological aspects as a whole, thus "the Neolithic way of life".

1 Throughout the paper, I have tried to omit the use of chronological terms like Early Neolithic, Late Neolithic or Early Chalcolithic. One reason for this is that it would make the text diffucult to read, due to different chronological systems that are implemented in the regions that are discussed in the text. Secondly, because these terms have hardly any definitions and are mostly arbitrary. However, when it was necessary, a footnote is included to make it clear to which chronology is referred.

Parallel to the changing parameters of the "Neolithic", Neolithization models also became less simplistic and reductionist. Among scholars, however, the impact of diffusionist and anti-diffusionist models are strongly felt, a viewpoint which, unfortunately, only limits our understanding of the period and the questions it raises.

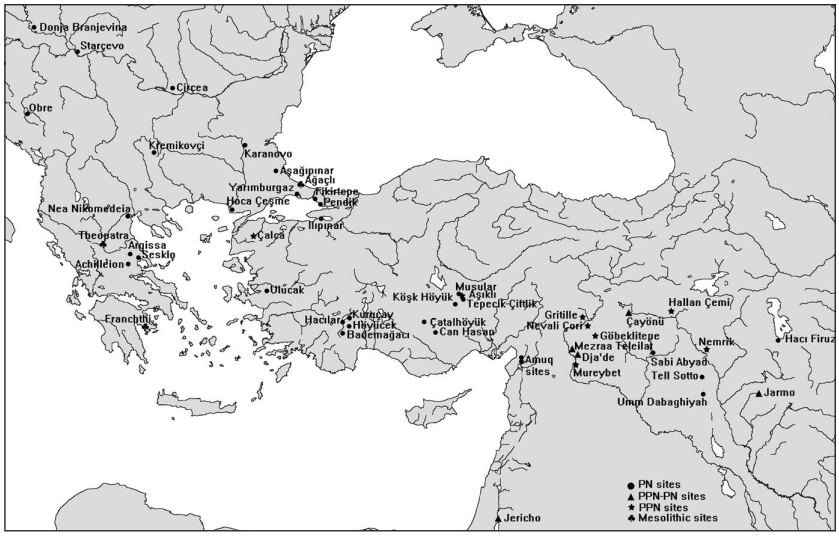


Fig. 1. Sites mentioned in text.

Within these discussions, a frequently mentioned concept is the so-called "Neolithic package", which is used to refer the material culture of the period as a whole, since Neolithic assemblages from South-west Asia, Anatolia[2] and South-east Europe yielded almost identical finds, and these objects tend to occur together repeatedly in this vast geographical region. Yet there is no consensus about what this term means and how it could be used. Moreover, the contents of this "package" are not clearly defined. The aim of this paper is to try to promote a common understanding of the term and discuss whether it has anything to offer for researchers working on the SW Asian, Anatolian and SE European Neolithic. Our own perception and interpretations are also included in the text with regards to the possible usages and implications of the term.

THE USE OF THE TERM

The tendency to group Neolithic assemblages as one entity in order to distinguish them from other periods can be observed since the late 19th century, and in more obvious form in the writings of Childe (*Pluccienik 1998; Price 2000.4*; see for example *Childe 1929*). However, the term "Neolithic package" sees its early use among British archaeologists in the early 70's, at a time when archaeology "lost its innocence" (*Clarke 1973*), but gained systemic approaches. The term was originally applied in order to oppose the idea that certain Neolithic features such as domesticated animals or monumental architecture arrived in prehistoric Britain as independent elements, emphasising their functional relatedness[3].

The concept was heavily criticised in the early 90s by Thomas in 'Rethinking the Neolithic' (*Thomas 1991*) on the ground that the term prevent obscures the diversity within the Neolithic[4]. Outside the discussion circles of the British Neolithic, the term has been used and/or criticised occasionaly since the 80's (*Whitehouse 1986; Zvelebil 1989; Chapman and Müller 1990*) but primarily since the second half of the 90s (see for example *Pluccienik 1998; Budja 1999; Price 2000; Tringham 2000; Zvelebil and Lillie 2000; Kotsakis 2001; Gehlen and Schön 2003*). Despite its frequent usage (which is mainly verbal), there is no clear definition offered for this term, probably because it is self-explanatory. But is it really? An exception appears at Whitehouse's article (1986) where the term is defined to be "farming economy, village settlement, pottery, gorund stone and obsidian" whereas Zvelebil described it as "pottery, cultigens and domesticates" (Zvelebil 1989.380). An internet search revealed, apart from package tours to Turkey, that this term has been used of Beaker Culture, LBK settlements, Mediterranean Early Neolithic, Egyptian Neolithic, Irish Neolithic, Southeast European Early Neolithic, even for Southeast Asian Neolithic (apparently exported there by Western archaeologists), since certain common elements could be found in these areas. Despite all the critiques and changing perspectives in archaeological thought, the continuing use of this term indicates that there is actually a need for such a concept to enable prehistorians to evaluate and contextualise Neolithic assemblages as related components

2 In this paper, "Anatolia" refers to Central, Western and Northwestern Anatolia, excluding Southeastern, Eastern and Northern parts.
3 I am grateful to Prof. A. Sherratt for explaining to me how and why the term came into use.
4 A discussion on "British Neolithic package" has been recently re-opened (see *Schulting 2000 and Thomas 2003*).

without isolating or overemphasising some of the find groups. It would also promote a view that sees the Neolithic phenomena as a whole, in order not to let the strong tendency towards regionalization and specialization blur the "big picture". However, as we will see, the use of the term entails some weaknesses which make us question if this set of traits was really a "package" in the strict sense of the word, or if we should consider a more flexible concept.

THE "NEOLITHIC PACKAGES" OF SOUTHWEST ASIA, ANATOLIA AND SOUTHEAST EUROPE

Although the concept of "Neolithic package" to most people implies only domesticates, in this paper we concentrate on artefacts, which are usually treated in the small finds sections. We argue that these objects constitute parts of a meaningful whole, e.g. the material culture of a certain period and geography, and for this reason, are found repeatedly in the same contexts.

What elements repeatedly occur within Neolithic contexts? Although they are very well known, for clarity, they must be enumerated named here. Three categories are obtained if the objects are divided according to raw materials. *Clay* objects comprise steatopygous and cylindrical female figurines, male figurines, animal figurines, red slipped and/or painted pottery and "offering tables". Objects made of *various types of stone* comprise M-shaped amulets, marble/stone bracelets, well-made beads, celts and well-made stone bowls, all of which are usually manufactured with a special sort of stone such as nephrite, serpentine or marble. Other stone objects are phalli, grooved stones and chipped discs. Among the *bone* objects there are polishers, "belt hooks" and spatulae. Pintaderas and sling missiles are either of stone or clay whereas "ear plugs" could be made from stone, bone or clay.

Another classification of these objects would be according to their function. However, in most cases this is unclear. Even the function of sling missiles is open to debate (see *Perlès 2001.228–231*), not to mention the pintaderas, "offering tables", or figurines (see for example *Makkay 1984; Sherratt 1997 [1991]; Talalay 1993*). Nevertheless, these elements can be tentatively divided into several functional categories as technological, prestigious, prestigious/technological, and symbolic items. For example, chipped discs or grooved stones could be used purely as tools, whereas celts or decorated bone spatulae would be used as tools which implicitly reflect social status within a group. Prestigious items would include marble bracelets and well-made beads, since their raw materials would have been brought from a certain distance and/or were made by a specialised craftsman. Pintaderas or M-shaped amulettes are also considered to reflect social status or group identity; however they could well have been used in rituals, or simply as decorative elements (*Makkay 1984; Hansen 2003*). Phallic symbols, figurines and "offering tables" are elements that can be associated with rituals, although contextual and ethnographic data present many contradictory cases (*Talalay 1993; Schwarzberg 2003*).

It is important to mention here is that these elements are not all-inclusive. There is no ultimate list for the "Neolithic package". Certain repeated architectural elements or chipped stones can be added, if they can be found in these regions. As Perlès suggests, "selectivity" is also another issue that should be studied in detail in order to find certain routes of some objects, or choices that different groups made (*Perlès 2001*).

As to the so-called "agricultural package" – emmer wheat, einkorn wheat, hulled barley, lentil, chick pea, bitter vetch and flax, which have been labelled as "founder crops" should be added, since they too seem to occur together in this vast region (*Zohary and Hopf 1993*). These earliest domesticated plants are known from PPNA and Early PPNB sites from the Levantine Corridor and SE Anatolia, and were brought to Central Anatolia and Cyprus in their domesticated forms in PPN (*Asouti and Fairbairn 2002; Colledge et. al. 2004*). As for animals, domesticated sheep and goats are good candidates for the "package", which again seem to have been domesticated either in SE Anatolia or in Levantine Corridor (*Martin et. al. 2002*). However, it should be emphasised that the assumption that all these domesticates co-occurred is a very generalised statement. It is apparent that subsistence strategies are affected both by environmental conditions and group preferences, which led many settlements under discussion to reveal various combinations of subsistence strategies, not only in comparison to other sites, but also within the sequence of a site itself.

Having named regularly occurring objects and mentioned the "agricultural package", it seems now possible to define the term as "the sum of traits that appear repeatedly in the Neolithic assemblages of SW Asia, Anatolia and SE Europe".

There is no need to say that the existence of repeating traits in these areas was not a coincidence. The East-West orientation of this geographical region, which offered similar climatic and environmental conditions, is probably one of the main factors that caused "Neolithic way of life" to occur more or less in the same form[5]. This is not to imply that SW Asia, Anatolia and SE Europe consisted of homogeneous cultures, but one should remember that outside this "world" elements of the "Neolithic package" are not seen at all, or are found sporadically. For this reason, the existence of pintaderas in the Iberian peninsula, or female figurines at LBK settlements, does not mean that this particular "package" was there. For instance, the Mediterranean Neolithic seems to consist of a different set of repeated features which point towards different conditions and ways in which the Neolithic way of life occurred and developed (*Korfmann 1988; Budja 1999*). The significant issue about each package that can be defined is that the contents belong to a certain period and space, as can be observed in the archaeological record. A detailed examination of the material remains with this viewpoint would offer new insights into problems related to Neolithization processes. However, there are three main factors which prevent scholars from attempting to investigate this issue. Firstly, SW Asia, Anatolia and SE Europe cover such enormous areas that few scholars can fully master them. Secondly, in these regions archaeology as a discipline was constructed on considerably different understandings and objectives (*Trigger 1989; Özdoğan 1995; 1996*). Cultural and chronological synchronizations between SW Asia and SE Europe especially are still in their beginnings because of limited communication between scholars. The low number of problem-oriented prehistoric investigations in Anatolia (particularly in Western Anatolia) is another significant factor that retards the opening of communications. Thus, in this part of the world, the "Neolithic package" and its broad distribution is either not recognised or considered oversimplified.

It should also be noted that it is not the intention here to suggest that Neolithic was a package. Within the "Neolithic way of life", "Neolithic package" should be perceived as a material reflection of the Neolithic mentality, rather than "the Neolithic" itself; something to begin with, not something to conclude on. In other words, the Neolithic package would be the medium with which one can approach the spirit of the period, depending on the assump-

App. cal. Dates	10 000- 9000	9000-7500	7500-7000	7000-6500	6500-6000
Objects/ Period	PPNA	PPNB	Late PPNB	Early PN	Late PN
Female Figurines	X				
Male Figurines	X				
Marble/Stone Bracelets	X				
Well-made beads	X*				
Imported Shells	X				
Well-made Stone Bowls	X				
Bone "belt hooks"	X*				
Bone Spatulae	X				
Celts	X*				
Grooved Stones	X				
Pintaderas		X(?)			
Animal Figurines			X*		
Bone polishers			X		
Chipped Discs			X		
Phalli			X		
"Offering Tables"				X	
"Ear Plugs"				X	
Sling Missiles					X
Red slipped/Painted Pottery					X
"M" Shaped Amulettes				X(?)	

Tab. 1. Table showing the earliest occurrences of "Neolithic package" elements in SW Asia. [*] means that these elements appear in Central Anatolia also in the PPN period. It should be noted that the "offering tables" are not seen in SW Asia, but in Anatolia and SE Europe.

5 An inspiring chapter on the orientation of the continents and its consequences can be found in Diamond (*1997*).

tion that the mentality found its reflection in material culture.

TRACING THE "PACKAGE"

A brief survey of Pre-Pottery Neolithic (PPN) sites in SW Asia and Central Anatolia would reveal that most of the elements of the Neolithic package were present since PPNA and PPNB (see Tab. 1). 14 of the 21 elements enumerated above seem to have occurred already in PPN, a period of "intensive foragers" in SE Anatolia, rather than agro-pastoral societies (*Sherratt 2004*), whereas the rest occur firstly in the Pottery Neolithic (PN) period. Female figurines, male figurines, well-made beads, grooved stones, bone spatulae, celts, well-made stone bowls and bone "belt hooks" are among the elements that existed in PPNA levels of Çayönü, Hallan Çemi, Jericho and Mureybet III, which are dated around 10 000–9500 cal. BC (*Özdoğan A. 1999; Rosenberg 1999*). These elements are also known from PPNB sites such as Göbeklitepe and Nevali Çori where, for example, hundreds of male and female figurines have been uncovered (*Hauptmann 1999*). Similarly, animal figurines, bone polishers, chipped discs, and phalli first appeared in the late PPNB period, as can be observed from sites at Çayönü, D'jade, Nemrik, Mezraa Teleilat, and Gritille (*Özdoğan A. 1999; Coqueugniot 2000; Kozłowski 1989; Karul et. al. 2000; Voigt 1988 respectively*). These elements continue to be seen in the same area at PN settlements at Hacı Firuz, Umm Dabaghiyah, Tell Sotto or Tell Sabi Abyad.

A number of "Neolithic package" elements occurred in Central Anatolia also during the PPN, c. between 8500–7500 cal. BC, where the site of Aşıklı yielded animal figurines, well-made beads, bone "belt hooks" and celts (*Esin and Harmankaya 1999*). On the other hand, the earliest figurines from Central Anatolia are known from Çatalhöyük X, which is dated around 7000 cal. BC, whereas pintaderas, sling missiles and marble/stone bracelets occur only from level VI onwards, ca. 6600 cal. BC, at the same site (*Mellaart, 1967; Ünlüsoy 2002*). Bone spatulae, chipped discs, and bone polishers also appear in Central Anatolia with the PN period, and continue into the Early Chalcolithic, as evidenced from sites at Çatalhöyük, Köşk Höyük, Tepecik-Çiftlik, and Musular (*Mellaart 1967; Öztan 2003; Bıçakçı 2001; Özbaşaran 2000*). These indicate that NP elements occurred in Central Anatolia at least a thousand year after than they occurred in SW Asia.

Outside these areas, e.g. Levant, Northern Syria, Northern Iraq, SE Anatolia and Central Anatolia, during the 10th, 9th and 8th millennia BC, as far as it is known there were scantily distributed semi-sedentary or mobile hunter-gatherer groups with a completely different material culture. This leaves us with (at least) two regions in which the earliest NP elements are identified. These are the so-called "Fertile Crescent" on the one hand, and Central Anatolia on the other, both of which have been designated as "core regions" (*Özdoğan 1997*) in which the Neolithic way of life and its mentality were structured. The Neolithic package occurs outside these areas c. from 7100 BC onwards (as can be observed in early levels of Bademağacı) in Western Anatolia and Thessaly, as well as in Bulgaria, at least from 6500 BC onwards and in Northwestern Anatolia probably from 6100 BC onwards or slightly earlier (*Duru 2003; Özdoğan 1998; Perlés 2001; Todorova 1995; Özdoğan 1999; Roodenberg 1999 respectively*).

The increase in the number of settlements in West Anatolia and Southeastern Europe in the course of the 7th and 6th millennia BC can hardly be explained only by population increase, where few Mesolithic settlements were identified and fewer have uninterrupted sequences from the Mesolithic to Neolithic[6]. Newly founded sites between 6500– 6000 BC, like Tepecik-Çiftlik and Köşk Höyük in the Niğde area, Höyücek, Hacılar and Kuruçay in the Lake District, Ilıpınar in the İznik area, Hoca Çeşme and Aşağıpınar in Turkish Thrace are only a few instances where fully-developed villages with a Neolithic package are attested. The packages that occur in the Neolithic sites of Western Anatolia and Turkish Thrace are almost identical to those in SW Asia and Central Anatolia, suggesting that interaction mechanisms such as trade or exchanges of ideas are insufficient to cause this high degree of similarity. The fact that the some elements of the "package" (not all) appeared from the earliest levels of most of the settlements suggests that there were movements of people, rather than random movements of goods and ideas.

6 We are well aware of the fact that in several locations in Anatolia and Southeast Europe, including Thessaly, Mesolithic settlements have been identified. Although they prove existence of Mesolithic groups in these areas, they either lack the transitional phase between Mesolithic and Neolithic or these phases present no gradual development (*Perlés 1986; Thissen 2000; Gkiasta et. al., 2003*).

THE SAME "PACKAGE" EVERYWHERE AND AT THE SAME TIME?

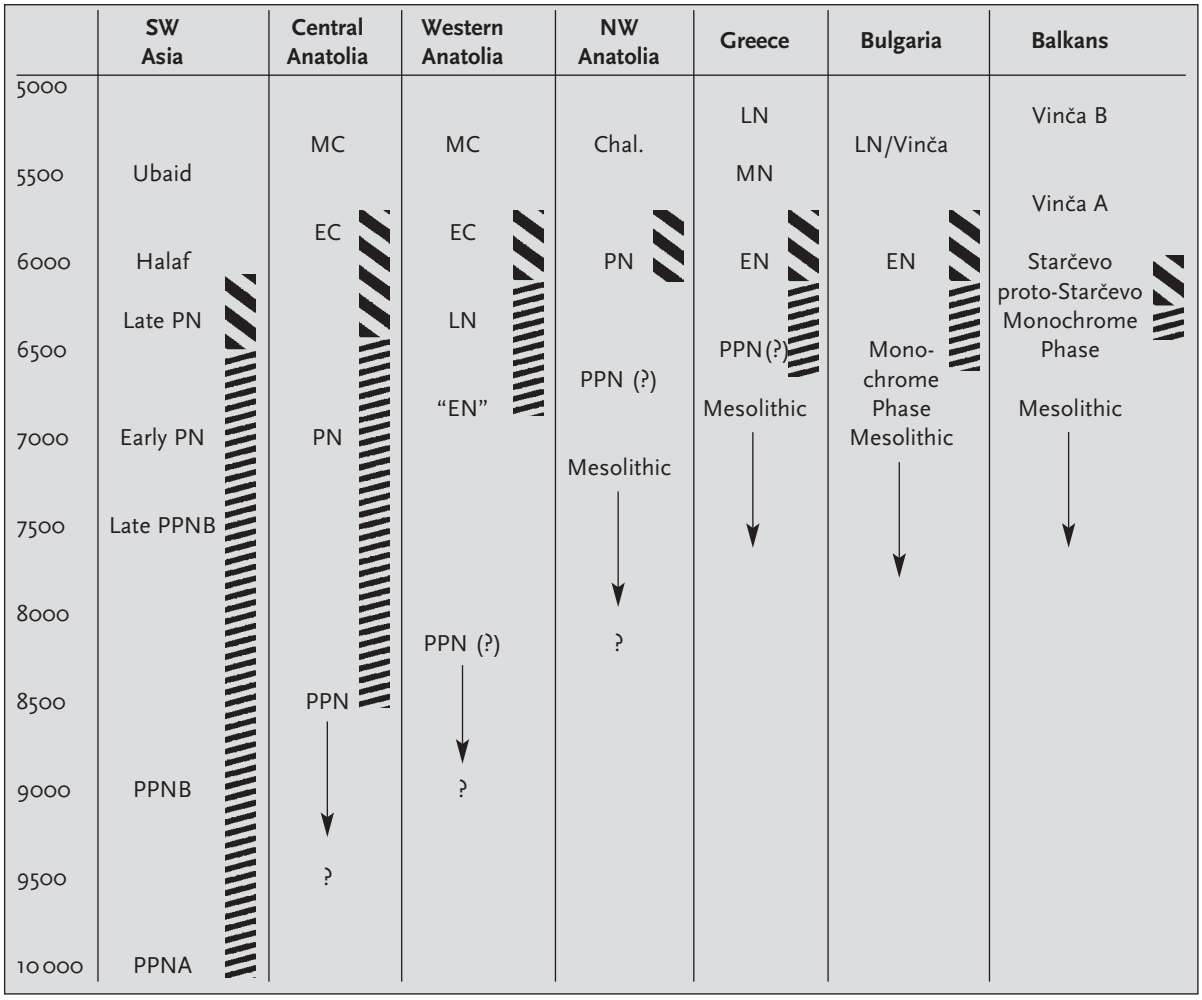
On the other hand, it should be noted that the "package" cannot be (and should not be) identified everywhere intact and in the same form. Female figurines from SE Europe and Central Anatolia look unquestionably different. The motifs on the pintaderas of North Syria, Anatolia and Balkans differ (*Makkay 1984*); the so-called "offering tables" come in many regional variations, depending on their forms and decoration; moreover, they are absent from the "Fertile Crescent" (*Schwarzberg 2005.255–273*). M-shaped amulets are mainly seen in Western Anatolia, Thrace, Thesally and Western Bulgaria[7], and never in the northern parts of the Balkans (*Hansen 2003. 348*). The bone spoons of the Starčevo-Criş-Körös cultures from sites at Donja Branjevina or Starčevo look different from the Anatolian specimens. The quality and quantity of pottery and their forms show certain differences between SE Asia, different parts of Anatolia and Southeast Europe, and so on. But do we actually need to find identical packages over such a large area in order to appreciate the existence of a cultural formation which had its roots in the SW Asian and Central Anatolian PPN? If we consider each and every group in these regions with a potential (perhaps a desire[8]), to transform their (material) culture, but without independence from their time and space, then it would be easier to view the re-formed elements as autochthonous developments on the one hand, and on the other as contributions of these units to the overall cultural formation at the macro level. This is very well illustrated with the earliest NP elements from core regions and the "package" seen during the PN period in West Anatolia and Southeast Europe. By the PN period the "package" is not only much more widespread, but also

Sites/ cal. BC Dates	Çatalhöyük East	Bademağacı	Hacılar	Hoca Çeşme	Ulucak Höyük
5000					III
				I	
5500			I		
			IIB/ pintaderas	II/ pintaderas, bone spatulae, "M" shaped amulettes	...BREAK...
6000	I		VI/ sling missiles, figurines		IV/figurines, pintaderas
	II	1	IX/ bone spatulae		V/sling missiles, bone spatulae
		3-2/ sling missiles, figurines,pintadera			↓
6500				IV/ sling missiles	
				...Virgin Soil...	
	VIB/ sling missiles, figurines, pintaderas				
7000		9-8/ bone spatulae			
		...Virgin Soil...			
	XII/ bone spatulae				
	↓		...BREAK...		
7500			"Aceramic"		
			↓		

Tab. 2. Early appearances of "Neolithic package" elements within Anatolian sites. The dates are taken from Thissen (2002), Duru (2003) and Çilingiroğlu et. al. (2004).

7 There is also a good possibility that many "M" shaped amulettes could not be identified in many excavations due to their tiny sizes.

8 Perlés mentions how the Neolithic in the Aegean islands is dissimilar to the ones that are known from mainlands, although they represent clear cases of colonization: "....as though the colonization of new regions by small groups led to a `founding effect` and a complete break and reorganization of tradition" (*Perlès 2001.58*).



Tab. 3. A simplified table showing the approximate dates of appearance of the "Neolithic package" in different regions, with regional chronologies. The dates are calibrated and taken from Thissen (2002), Özdoğan (1999), Gallis (1996), Todorova (1995) and Schubert (1999). Thin lines indicate the early phases of the package; thicker lines represent the developed phase of the package.

subject to changes in appearance (probably in some cases in function and meaning), and for this reason, it is naturally more diverse and differentiated.

Another question is whether all of the elements of the package appeared together at the same time. The evidence from Anatolian sites shows that some of the elements indeed occurred later and were added to the material culture later in the sequence (see Tab. 2). At the site of Bademağacı, where so-called "Early Neolithic" levels have been identified as EN 9–1, sling missiles, figurines and pintaderas do not occur before EN 3–2, while bone spatulae are present from the EN 9–8 levels (*Duru and Umurtak 2003.323*). Bone spatulae were also present both at Hacılar and Kuruçay from the lowest level upwards (*Mellaart 1970.162; Duru 1994*), but at Hacılar before level VI there are neither female figurines (except two fragmentary figures from level IX) nor sling missiles. At Çatalhöyük the earliest sling missiles, steatopygous female figurines and pintaderas are found from VI B onwards (*Mellaart 1967.217*), whereas at Hacılar the earliest pintaderas are found in level II B (*Mellaart 1970.164–166*). This also holds true for the sites situated in Western Anatolia and Thessaly. In fact, at Hoca Çeşme the earliest pintaderas, bone spatulae and M-shaped amulettes are known from Phase II, whereas female figurines, sling missiles and red-slip pottery are present from phase IV, which is dated between 6500–6200 BC (*Özdoğan 1998*). As reported by Perlès, the earliest Neolithic accumulations (the so-called "pre-pottery Neolithic" levels) in Greece at sites like Sesklo, Argissa or Achilleion, yielded bone spatulae, bone "belt hooks", celts and "ear plugs" (*Perlès 2001*), and in the following phase, e.g. in the EN, other elements such as female and male figurines, pintaderas, marble/stone bracelets, well-made stone bowls, celts etc. would either appear for the first time or in clearly increased quantities. A comparable case is known for the

sling missiles which appeared in Southwest Asia only towards the end of PN period[9] (*Özdoğan 2002. 438*). It is worth noting that, as is mentioned above, at the early sites of Çatalhöyük and Bademağacı sling missiles were not found at the deepest levels which points towards their late occurence in these regions, and at later sites from Turkish Thrace, Bulgaria or Thessaly sling missiles are present from the earliest deposits upwards (*Vutiropulos 1991*). It is at this point that very word "package" is called into question. The examples above clearly illustrate that it was not the case that once the "package" was "packed", it was carried along with all of its components. It would be better to choose a more flexible term to allow for a constantly developing and diversifying set of objects, since the "package" apparently continued to develop until it reached a "high point" in the late 7th– early 6th millennium BC, and with the end of this phase the strong ties seem somehow to loosen.

By the second half of the 7th millennium, SW Asia and Central Anatolia had ceased to be the origins of new or changing elements. The core regions became part of an augmented cultural formation until the Middle Chalcolithic period, when Central and Western Anatolia cultures came increasingly the under influence of Southeast European cultures until the beginning of the Early Bronze Age, implied or denoted by a number of scholars as a "Balkano-Anatolian cultural zone" (*Childe 1956; Garašanin 1979; Todorova 1991; Esin 1993; Özdoğan 1993*). Meanwhile, on the Eastern side, after the phase of pre-Halaf painted wares, connections between Southeast Anatolia and rest of Anatolia seem to have loosened. Together with Northern Syria and Iraq, Southeast Anatolia, with a decreasing attachment to Central and Western Anatolian cultures, would become one of the key regions where Halaf, Ubaid and Uruk cultures are identified. This is to imply that the "Fertile Crescent" developed in another direction from that of Anatolia and the Balkans from the Middle Chalcolithic onwards, and was no longer a part of this "cultural zone".

Within these developments, what happens to the "Neolithic package"? It seems that it loses its homogeneity. The elements become increasingly diversified and regional boundaries are becoming more apparent. Despite these developments many elements" continue into the Chalcolithic and Early Bronze Ages, both in Anatolia and in SE Europe, but as we have mentioned before, it can no longer be found as a single entity. One can probably speak of a "Chalcolithic package" for Anatolia and SE Europe, but with the current level of data on the Middle and Late Chalcolithic periods[10] this does not seem feasible.

LIMITS OF THE TERM: THE EXAMPLE OF FIKIRTEPE CULTURE

The question remains, however: does the existence of a similar material culture mean that they were perceived in the same way by the people who used it? Until now, it has been pointed out that the existence of the "Neolithic package" reflects one macro-cultural zone with shared dynamics sustained by constant interaction. Nevertheless, it should once again be underlined that this zone consists of many smaller cultural units with varying cultural traditions and perceptions, even though the material culture (e.g. their common use of the Neolithic "package") implies otherwise. In order to demonstrate this point and test the limits of the term, Fikirtepe culture is outlined below as an example.

The Neolithic culture of Northwest Anatolia which is known as "Fikirtepe culture" is defined by its round, wattle and daub structures, dark, incised pottery, and microlithic tools from sites such as Fikirtepe, Pendik and Yarımburgaz Cave (*Özdoğan 1999*). Moreover, the groups which inhabited these settlements relied primarily on fishing, mollusc collecting, and hunting and gathering, rather than on farming (*Buitenhuis 1995*). However, their material culture consists of Neolithic package elements such as bone spatulae, bone polishers, chipped disks, female figurines (although rare), "offering tables" and red-slip pottery. Since these objects did not exist in the area during the Mesolithic and PPN periods[11], the sudden appearance of the Neolithic package in the PN period can only be explained by movements into the area, as suggested by Özdoğan (*1999*) which is also evident from the site of Ilıpınar where, from the earliest level upwards, "a farming community" has been identified (*Roodenberg 1999*). However, with

9 In SW Asian terms.

10 In Anatolian terms.

11 The evidence from these periods comes from extensive surveys that were carried out in the region during the 80´s – early 90´s and were identified as Ağaçlı and Çalca Groups. For details see, Gatsov and Özdoğan (*1994*), Özdoğan and Gatsov (*1998*).

a mixed economy, microlithic tools and round huts, Fikirtepe culture is not representative of "typical" Neolithic culture, but is more like a peripheral development. Unfortunately, the emergence of Fikirtepe culture and its relation to local cultures is not well-understood. Nevertheless, it seems highly likely that in addition to the newcomers, local groups in the area adopted the "Neolithic package" while retaining their traditional architecture, subsistence strategy and tools, which makes the Neolithic of Northwest Anatolia very peculiar and unlike those known from Central or Western Anatolia[12]. As an answer to the question above, the evidence from the Fikirtepe sites helps demonstrate that the existence of NP elements at a given site or region does not necessarily point towards identical cultural formations. For this reason, in the case of Fikirtepe culture, where the dissimilarities outweigh the similarities, or where the Neolithic package is not fully integrated into the group's life, the term loses its applicability. A comparison of Fikirtepe culture with other Neolithic cultures only depending on the Neolithic package would be, needless to say, misleading and inadequate. However it must be also said that Fikirtepe culture, as a peripheral Neolithic culture with its own peculiarities, still belongs to the cultural formation mentioned above. It cannot be evaluated or studied without comprehending the Neolithic cultures of SW Asia, Anatolia, and SE Europe.

THE EXISTENCE OF "NEOLITHIC PACKAGE" IN WESTERN ANATOLIA

Western Anatolia, on the other hand, shows different characteristics. The Mesolithic background of the area is virtually unknown. The massive alluvial silting and rise of the coastline prevent archaeologists from locating prehistoric sites, although surveys have identified over 30 Neolithic sites (*French 1965; Seeher 1990; Meriç 1993; Efe 1995; Lichter 2002*). The Neolithic settlements in the area are identified by means of red-slip pottery that appears usually with "S" profiles and vertical tubular lugs. The sites that are investigated have mainly red-slip pottery and the rest of the "Neolithic Package" that occurs with them. Pre-red-slip pottery sites are either absent from Western Anatolia or have not been discovered. Early cultural deposits at sites such as Ulucak Höyük near İzmir and others must be exposed, at least in order to approach the problem of the initial Neolithic in the area[13]. The latest information from Ulucak levels V and IV, dated around 6100–5900 cal. BC, point to a fully developed village layout with wattle and daub architecture followed by mud-brick architecture in the upper level. Level IV at the site has Neolithic package elements such as red-slip pottery, sling missiles, celts, pintaderas, female and male figurines, animal figurines, stone/marble bracelets, and well-made stone bowls (*Çilingiroğlu et. al. 2004*). One of the pintaderas with concentric circles from the site is almost identical to those found at Bademağacı and Nea Nikomedeia[14]. Although it is too early to draw conclusions, Western Anatolia seems to have been a region where demic diffusion can be suggested for the appearance of communities with the "Neolithic package". The fact that the source of obsidian was Central Anatolia (*Çilingiroğlu et. al. 2004.52*), not Melos, for the tools uncovered at Ulucak might also be an indication with regards to the Anatolian origin of this group. Whether a Mesolithic or PPN population existed in the area and whether they had any contacts with the newcomers remain to be investigated. It can be stated, although with reservations, that the West Anatolian Neolithic, unlike the NW Anatolian, contains no elements that can be traced back to the Mesolithic.

CONCLUDING REMARKS

As mentioned in the introduction, there is neither a clear definition for the concept of the "Neolithic package", nor an explicit use of it. As is the case with many undefined but frequently used terms in archaeological literature, lack of definition causes only confusion. For this reason, it seemed to be useful to discuss this term and its implications in the hope that this would promote common understanding and grounds for discussion. It was not the intention here to discuss the Neolithization of Anatolia or Southeast Europe; however, since the term is embedded within these discussions, it was impossible to avoid references to these issues. Another critical point is that the finds mentioned are admittedly largely decontextualised and not discussed in depth.

12 Besides, the rarity of female figurines in the Fikirtepe culture might also point out to a reluctancy in adopting a belief system by the local people (if the female figurines are to be associated with a belief system).

13 According to paleogeographical analyses that were carried out at the site by Prof. Kayan and his team, the cultural deposits continue as deep as 3 meters below the present plain level of Nif Çayı (for details see *Çilingiroğlu et. al. 2004*).

14 With the current information from the region, it is not possible to suggest a development sequence for Neolithic package.

There is no doubt that such a study would provide valuable information. However, the main interest was to evaluate the term's applicability and see whether it can offer anything new. By doing so, we have attempted to trace the origins of some elements from the "Neolithic package" back to the PPN period, and in relation to that, tried to present how the package became widespread and diversified during the PN period. It was also the aim here to point to a "greater" Neolithic world within which numerous cultural regions are defined and studied as isolated entities. I have also tried to discuss the term's limits within the framework of Fikirtepe culture. It is definitely not a "magical" term that guarantees an explanation of everything, but it does have important methodological implications for future research in terms of integrating all the find groups in order to achieve a synthetic approach.

ACKNOWLEDGEMENTS

This paper presents a part of my master thesis which was completed in June 2004 at Istanbul University. I am most grateful to Mehmet Özdoğan who opened up numerous perspectives to me with his knowledge, experience and analytical thinking. I would also like to thank the academic staff and doctoral candidates at Istanbul University Prehistory Department. Earlier drafts of this paper have been read by Mehmet Özdoğan, Andrew Sherratt, Manfred O. Korfmann, Ulf Schoop, Altan Çilingiroğlu, Sinan Ünlüsoy and Özlem Çevik to whom I am grateful for their critiques and suggestions. Last but not least, I would like to thank Mihael Budja for giving me the chance to present this paper to a wider audience.

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back to contents

UDK 903'1(450.36+497.4)"633/63":330.342.11
Documenta Praehistorica XXXII (2005)

The ethnography of the Cyclops: Neolithic pastoralists in the eastern Adriatic*

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ABSTRACT – *Paper discusses archaeological data of the emergence and development of pastoralism on the Eastern Adriatic coast from social perspective. Formation of pastoralism is placed in the context of social changes within indigenous hunter-gathering communities. Incorporation of sheep into households brought the change in social relations of production and caused fragmentation of communities into independent, mobile households, which did not form complex social structures.*

IZVLEČEK – *V prispevku preučujem arheološke zapise o nastanku in razvoju pašništva na vzhodnojadranski obali skozi socialno perspektivo. Začetek pašništva postavljam v kontekst družbenih sprememb lovskonabiralniških skupnosti. Vključitev ovac v gospodnistva je povzročila spremembo družbenih odnosov proizvodnje in vodila k razpadu skupin na neodvisna, mobilna godpodinjstva, ki niso sestavljala kompleksinih socialnih struktur.*

KEY WORDS – *pastoralism; Mesolithic; Neolithic; eastern Adriatic*

INTRODUCTION

This paper is an attempt to write a long-term ethnography of communities in the eastern Adriatic, covering a time span approaching 5000 years. My principal aim is to explore the development and structure of pastoralism on the east Adriatic coast from a social perspective. However, the main focus is on the very short period of transformation of hunter-gatherers into pastoralists. I argue that this transformation was a revolutionary change among indigenous groups which brought a new set of social relations, a different way of life and a different perception of landscape. Thus communities akin to Homer's Cyclops emerged: small, mobile, autarchic households, with their daily life focused on herding sheep and goats.

CONTINUITY OR CHANGE: THE MESOLITHIC-NEOLITHIC TRANSITION ON THE EASTERN ADRIATIC COAST

If archaeological data used in the construction of meaningful statements about the past are perceived through a cloud of theory, then we should be extremely careful when choosing the concepts we use to understand the archaeological record. One such problematic concepts often used uncritically is that the of Neolithic. Julian Thomas (*1993*) has demonstrated in his deconstruction of 'the Neolithic' that, although the precise meaning of the concept has changed, it has always been represented as a totality, an entity that can be analysed as a coherent whole. He suggests a different understanding of the word:

...we have to consider not a thing *but a* field *composed of sometimes interlocking and sometimes unrelated social practices and traditions, elaborated by numerous relays and resistances. Over time some of them decline in their importance, and others emerge (for example, megaliths), while the whole is continually geographically variable. The Neolithic has to be broken down, and recognized as something fragmented and dispersed, localised in its effects, with no overall direction or intention behind it (Thomas 1993.390).*

This is the path I to pursue in this brief review of the archaeological record from the eastern Adriatic.

* This paper is based on PhD thesis, defended at the Department of Archaeology, Faculty of Arts, University of Ljubljana. I would like to thank Dr. Mihael Budja who supervised and guided my PhD dissertation.

I will try to demonstrate that there were different pathways which led to the mosaic of different social practices grouped under 'the Neolithic'. They may have many in common, but they also diverge in fundamental ways.

Continuity or 'gap'?

Several Mediterranean Holocene stratigraphic sequences show a hiatus between the Mesolithic and Neolithic occupations of at least several centuries if not several millennia. This 'gap' is often used as evidence of demographic depopulation – even extinction – of indigenous groups and as favouriing a demic diffusion model:

Thus it is possible to conclude that when the Neolithization of the Adriatic coastline took place the Holocene hunter-gatherers totally disappeared. All the above-mentioned data seem to support the Neolithic expansion hypothesis proposed by Ammerman and Cavalli-Sforza (Biagi and Starnini 1999. 12).

In this perspective the role of Mesolithic communities in the process of Neolithisation in the eastern Adriatic is marginalised, minimal and passive.

However, I want to argue that the concept of a 'gap' is highly problematic, and not supported by evidence. Firstly, Mesolithic settlement patterns should not be interpreted in a reductionist manner, as the proponents of the 'gap' theory do. A Mesolithic settlement pattern is not just a distribution of points in space, points that can be studied in isolation and without reference to the wider context. Instead, a settlement pattern is a remnant of wider economic, demographic and social structures. The long-term reproduction – social and demographic – of such structures is reflected in a stable settlement pattern. In this perspective the Mesolithic record becomes a densely or loosely connected network spanning large areas:

Much of the Balkan Peninsula is covered by extensive forager breeding networks, most of which were large, except in exceptionally rich environments such as the Iron Gates Gorge of the Danube. These networks were the mechanism by which physical and social reproduction were maintained, and stimulated widespread, if low-density exchange of exotic materials and/or finished artefacts (Wobst 1974; 1976; Chapman 1990) [Chapman 1994.143].

Thus 'gaps' in the stratigraphic or radiocarbon sequences of a particular site do not necessarily reflect demographic breaks and depopulations, but may be the result of changed mobility patterns or site use. Gaps, especially if they appear synchronously over a wider area, may be considered as evidence of shifts in settlement pattern. But as long as there is some evidence of human occupation in a region, then some form of demographic and social regional continuity is plausible.

Current distributions of Mesolithic sites are biased due to the rise of sea levels during the Holocene, and the Mesolithic settlement pattern is biased in favour of upland caves throughout the Dinarides, while there is a selective field survey bias in favour of lowland, open-air Neolithic sites (*Chapman 1994. 133*).

However, there are clear concentrations of Mesolithic sites along the eastern Adriatic coast, with evidence of regional continuity. The occupation of the Triestine Karst caves ends abruptly at the end of the early Mesolithic. There are caves with evidence of both Mesolithic and Neolithic occupation, but the hiatus between the 'Mesolithic' and 'Neolithic' occupations of Edera is about 1100 years. However, trapezoidal microliths have been found in contexts from Edera/Stenašca, Benussi/Pejca na Sedlu, Azzura/Pečina na Leskovcu, Tartaruga, Trincea, Monrupino, Zingari/Ciganska jama, Lonza, VG 4246 (*Montagnari Kokelj 1993*) and Mala Triglavca (*Leben 1988; Turk et al. 2004*). The stratigraphic sequence from Benussi has been as from approximately 9400 to 7900 cal BP. This date overlaps at double standard deviation with radiocarbon dates from 'Neolithic' contexts from Edera (context 3a), Podmol pri Kastelcu (layer 13),[1] and Pupićina in Istria. However, the only 'Neolithic' feature of these contexts is large number of domesticates and – in the case of Edera – pottery. Nevertheless, domesticates (sheep or goats) were also identified in a 'Mesolithic' context at Grotta Benussi (*Riedel 1975*). And although we do not have evidence for radiocarbon continuity, it is clear that there is evidence for regional Mesolithic-Neolithic continuity in the Triestine Karst.

A similar situation exists in Istria. Although there is abundant evidence of human occupation in the late

1 6610±40 BP (Poz-8053) and 6640±50 BP (Poz-8054).

Pleistocene and early Holocene, there are almost no late Mesolithic sites (*Malez 1979; Malez et al. 1979; Malez 1987; Miracle et al. 2000*). The radio-carbon gap between 'Mesolithic' and 'Neolithic' in Pupićina is about 1800 years (*Miracle 1997*). In Pupićina (and also in Edera) are Mesolithic and Neolithic layers separated by an erosional surface. On the other hand, we have a very radiocarbon date (7400 cal BP)[2] from the Mesolithic context in Podsojna peć (*Malez 1987*). This date is ealier than the 'Neolithic' date from Pupićina and the lowland site at Vižula, which proves the co-existence of 'Neolithic' and 'Mesolithic' communities in Istria.

There are many sites with evidence of both Mesolithic and Neolithic occupation in Dalmatia and the Kvarner Islands, Vela jama on Lošinj (*Malez 1979; Čečuk 1982*), Jamina Sredi on Cres Island (*Mirosavljević 1971; Čečuk 1982*), Vaganačka pečina on Mt. Velebit (*Forenbaher and Vranjican 1985*), Vogranska peč on Island Krk, Kopačina špilja on Brač, an open-air site at Lopari on on the island of Rab (*Malez 1979*), Ledenice (*Batović 1973*), Podumči (*Malez 1979*), Glavičica, Okrugla, Gospodska and Pečina u Brini (*Malez 1979*), and Vela spila on the island of Korčula (*Čečuk and Radić 2001; Boćuk and Radić 2002*). Those sites located on the Islands and in the Karst hinterland and, an intensive survey of the Ravni kotari lowlands in Northern Dalmatia yielded no Mesolithic sites (*Chapman et al. 1996*).

Similar situation can be found in the south, with number of caves in carstic hinterland in Montenegro, such as Crvena stijena (*Benac 1975*), Odmut (*Srejović 1974; Marković 1985; Kozłowski et al. 1994*), Medena stijena (*Mihajlović 1996*), Mališina stjena, Trebaćki krš (*Mihajlović and Dimitrijević 1999*) and Zelena pećina (*Benac 1958*) in Hercegovina.

On the other hand, clear evidence for stratigraphic and radiocarbon continuity is available from some sites. The clearest example comes from a shell midden site at Sidari on Korfu Island (*Sordinas 1969*). The shell midden was deposited during the Mesolithic. The earliest 'Neolithic' horizon contains abundant monochrome pottery, stone tools in the 'Mesolithic' tradition, and sheep and goat bones. There is no stratigraphic break between the latest Mesolithic and the earliest Neolithic horizon. However, a horizon with impressed ware, is separated by a sterile layer. Another example is Odmut cave in Montenegro (*Srejović 1974; Kozłowski et al. 1994*), which shows a continuity of occupation from the earliest to the latest Mesolithic.[3] Similar evidence for continuity comes from Konispol cave in Albania, with evidence of continuous occupation of the cave during the Mesolithic/Neolithic transition, although there is approximately a 100 year gap between the earliest Neolithic and the latest Mesolithic radiocarbon dates (*Russell 1998; Schuldenrein 1998*).

Another issue that has to be considered in the discussion of Mesolithic/Neolithic continuity is evidence

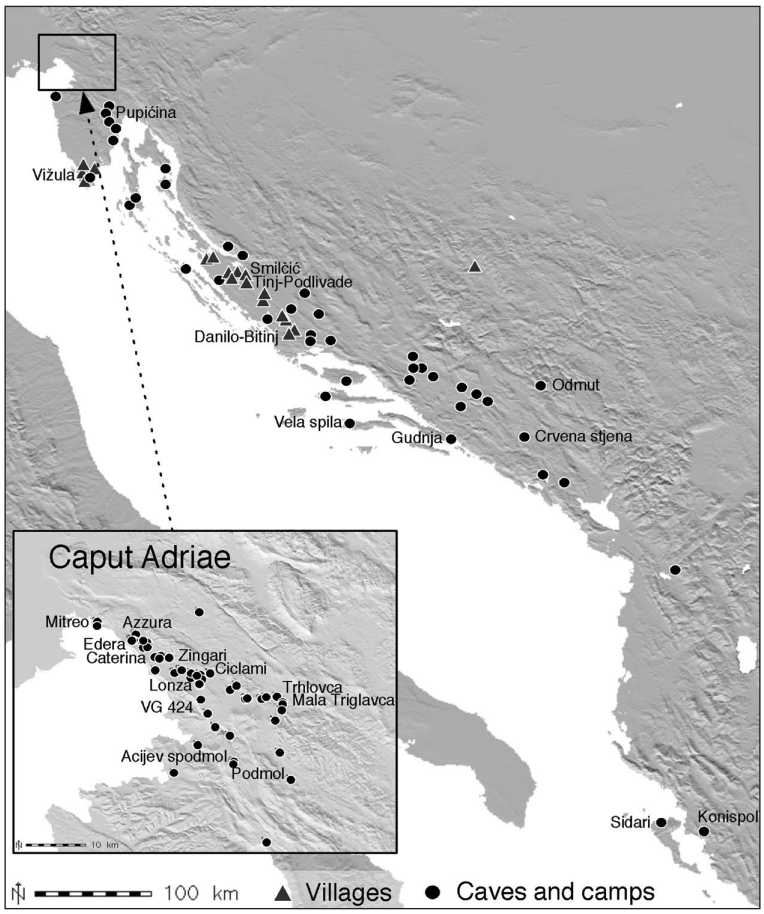

Fig. 1. Some of the sites and places discussed in the text.

2 6400±95 BP (Z-198).

3 This sequence, excavated in the 'seventies, is not without problems. If the new interpretation by Kowzlowski et al. (1994) is correct, there is a 300 year gap between the Mesolithic and Neolithic layers. On the other hand, the bones of domesticated goat were identified in late Mesolithic contexts.

of erosional surfaces between Neolithic and Mesolithic layers. This feature separates two different types of sedimentation, reworked loess and wood ash deposits typical of Mesolithic occupation, and layered heaps of ashes and charcoal typical of the Neolithic use of the caves. Erosional surfaces were noted at many sites, including Edera, Caterina, Azzura, Zingari and Lonza (*Boschian and Montagnari Kokelj 2000*) and Pupićina (*Miracle 1997*). Processes that formed erosional surfaces removed evidence of the latest Mesolithic occupation. This can be clearly seen in the case of Grotta Lonza, where the Mesolithic layer, cut by the eroded surface, is filled with a layer containing pottery (*Meluzzi et al. 1984*). In Grotta Azzura intact Mesolithic layers were found in a test trench in the front of the cave; the test trench inside the cave contained only traces of Castelnovian layers (*Cremonesi et al. 1984*). Erosional discontinuities may demonstrate intensive anthropogenous modifications of cave interiors, which happened at least once, at the beginning of Neolithic, and which destroyed evidence of late Mesolithic occupation. This interruption also marks a completely different use of caves: from gatherings of people in the 'Mesolithic' to animal shelters or stables in the 'Neolithic'. This can explain the presence of Castelnovian microliths in Neolithic deposits (*Montagnari Kokelj 1993.75*) and the presence of 'anomalous' radiocarbon dates and inversion in radiocarbon sequences.

Further eveidence which speaks against the 'gap' are the finds of domestic animals in Mesolithic contexts along the Adriatic coast. These collections are considered as highly problematic and were attributed to the various 'taphonomic filters' (*Guilaine 1993; Zilhão 1993; Rowley-Conwy 1995; 2003*). However, they were never subjected to any serious analysis and often actively dismissed as 'intrusions'. This attitude towards these finds is clearly more informative about authors' assumptions about what the 'Neolithic' is than the actual archaeological record. These finds on the Eastern Adriatic coast are too numerous (Tab. 1) to be simply dismised. Instead of treating them as – in the best case – anomalies, I want to include them in the discussion, as another evidence of active role of indigenous groups in adopting new innovations. Instead as simplistic indicators of 'avability phase' (*Zvelebil 1986; 1995; 2001*), can these animals be viewed as active agents, which played an important role in prestige competitions within and among Mesolithic groups (*Mlekuž 2003*) and become the medium for the reproduction of new social relations of production. I will develop this argument below.

Site	Context	Date	Ovicaprid NISP	References
Grotta Azzura	4	Mesolithic	12	Cremonesi et al. 1984; Wilkens 1991
Grotta Benussi	5	8380±70 BP R–1045	5	Riedel 1975
	4	7620±150 BP R–1044	8	
	3	7050±60 BP R–1043	9	
Podmol pri Kastelcu	13	6610±40 BP Poz–8053	6	Turk et al. 1992
		6640±50 BP Poz–8054		
Pod Črmukljo		Mesolithic	1	Pohar 1986
Vaganačka pečina	1	Mesolithic	??	Forenbaher and Vranjican 1985
Crvena stijena	VI	Mesolithic	??	Malez 1975
Odmut	I	9135±80 BP Si–2228	??	Srejović 1974
		8590±100 BP Si–2224		
		7790±70 BP Si–2226		
		7080±85 BP Si–2227		
Vela spila	VII/1998	Mesolithic	6	Kužir et al. 2005
Šandalja	B/g, B/s	Mesolithic?	??	Brajković 2000
Pupićina peć	L19–21	6600±240 BP Z–2575	11	Miracle 1997
Grotta dell'Edera	3a	6700±130 BP GX–19569	53	Boschin and Riedel 2000
		6620±60 BP GrA–19912		
		6510±70 BP GrN–27229		
		6480±40 BP GrN–25474		
		6390±60 BP GrN–19820		

Tab. 1. Finds of ovicaprines in Mesolithic contexts of Eastern Adriatic.

The final set of evidence which challenges the demographic gap comes from the modern gene pool, especially Y-chromosome haplogroups. The population of the south-eastern Adriatic islands of Brač, Hvar and Korčula has the highest frequencies reported in Europe to date (54–66%) of haplogroup I, which originates before the last glacial maximum. High frequencies of haplogroup I imply demographic stability since the last Glacial Maximum in the Western Balkans and directly refutes migration or demic diffusion models. Haplogroups J, G and E which can be related to the spread of farming, characterise a minor proportion (12.5%) of Croatian paternal lineages (*Barać et al. 2003*).

What, then, is Neolithic?

The recognition of the Neolithic on the eastern Adriatic coast traditionally relies on the presence of pottery. However, even from this reductionist perspective we have exclusive interpretations. Batović was the first to emphasise the Mesolithic/Neolithic continuity and the internal development of the east Adriatic Neolithic. In his model, indigenous groups adopted pottery through exchange and adoption, whereas domesticates and farming caught up later and were fully integrated only at the end of the early Neolithic (*Batović 1966; 1979*). A similar position was adopted by Ruth Tringham (*1971*), who makes a strong case for continuity from Late Mesolithic to impressed ware based on the continuity of lithic technology and the association of wild fauna with impressed ware (Crvena stjena, Jama na Sredi and Vogranska peć).

Other authors gave importance to the colonisation processes. Johannes Müller (*1994*) demonstrated the importance of the Adriatic bridge for the diffusion of pottery styles from Apulia. Chapman and Müller (*1990*) detected a directional trend in the distribution of radiocarbon dates consistent with the local diffusion of the Neolithic way of life from Apulia, southern Dalmatia to the Kvarner Islands and Istria. In their scenario, the Triestine Karst remained a hunters' refugee zone well into the 6th millennium BC, when indigenous groups in Montenegro hinterland hunted goats derived from coastal farmers.

Although there are some isolated finds of impresso pottery in the Triestine karst, Lawrence Barfield (*Barfield 1971; Montagnari Kokelj 1998*) defined middle Neolithic 'Vlaška group' as the first Neolithic culture in the area. It emerged as a result of contacts of indigenous hunter-gatherers with the eastern Adriatic middle Neolithic cultures Danilo and Kakanj. Forenbaher and Miracle (*2005*) have recently elaborated Chapman and Müller's model and suggested a two-stage model for the spread of farming along the eastern Adriatic coast based on the first appearance of pottery. The initial stage was a very rapid migration into southern Dalmatia, associated with cave sites, where the second stage was a slower agropastoral expansion associated with open-air and cave sites along the northern coast. The mountainous hinterland formed an agricultural frontier zone, where farming was adopted piecemeal by indigenous groups. They base their argument on pottery only and treat the east Adriatic Neolithic as an unified object. However, Chapman and Müller (*1990*) clearly demonstrated that an integrated Neolithic package – domesticated plants and animals, pottery and polished stone tools – can be identified only at open-air sites.

The Neolithic on the eastern Adriatic coast is not a homogenous and totalising entity. It has different forms, which are the results of different processes, which led to the adoption of novel resources.

I believe that a key to the transition to farming on the eastern Adriatic coast is hidden in the structural dichotomy of settlement patterns (*Müller 1994.62*). The Neolithic settlement pattern is dual and complementary. Its first components were open-air settlements located in lowland, seasonally flooded areas suitable for early agriculture. They usually yield evidence of architecture, large quantities of pottery, and domesticated plants and animals. They are 'flat', with no evidence of older occupation of the area. They can be interpreted as villages, no different from early Thessalanian or early Central Balkan Neolithic sites.

Cave sites are in sharp contrast to open-air sites, located in mountainous areas, away from lowlands suitable for cultivation. They are marked by low densities of pottery and animal bones, the majority of which are ovicaprines. Cave sites are usually 'deep' with long occupational histories, often extending into the Palaeolithic. These can be interpreted as seasonal hunting or herding camps. There are differences the in density of pottery on the range of magnitude.

I believe that the dichotomy between caves and villages is deeper, and reflects not only the the different processes which led to the eastern Adriatic 'Neolithic'. What is Neolithic on the eastern Adriatic coast, and how can it be recognised? I have tried to demonstrate that the concepts of Mesolithic and Neolithic are too fuzzy to have any heuristic or interpretative

use. Many authors have tried to avoid this by adopting the simplistic and reductionist position that Neolithic is a total phenomenon which can be identified by only one component of the 'Neolithic package'. My position is different. I want to argue that what we call 'Neolithic' on the eastern Adriatic coast is not a total phenomenon, but a mosaic of different social practices. The mosaic of contexts, with different components of the 'Neolithic package', do not yield evidence of 'One Neolithic' but is a reflection of the various social practices that existed along the eastern Adriatic coast. There is no single 'Neolithisation' of the Eastern Adriatic, but "several related but different processes, spanning several millenia and following distinctive regional and local trajectories" (*Halstead 1996b.306*).

We can observe at least two trajectories of 'Neolithisation' along the eastern Adriatic coast, and a number of different 'Mesolithics' and 'Neolithics'. The first trajectory can be described as a process of the integration of external innovations within the established social practices of indigenous hunter-gatherers. This trajectory begins with the formation of Mesolithic social (exchange and kinship) networks. These networks enabled the social and demographic reproduction of hunter-gatherers over a wider area, and were a medium for the dispersal of prestige items and exotic animals well beyond the 'agricultural frontier'. Consequently, in some late Mesolithic contexts in the eastern Adriatic the first domesticates appear. These finds are rare, and in some cases the evidence is most unconvincing, but they became more common and numerous in some very late Mesolithic contexts, such as Sidari on Corfu, or Grotta dell'Edera/Stenašca in the Triestine Karst. Firstly, undecorated or monochrome pottery appears. Presence of impressed ware pottery is often the only diagnostic elements for the first 'Neolithic' contexts, as some context contain remains of only or predominately wild fauna and lithic tools made in a 'Mesolithic' tradition. However, domestic animals, especially ovicaprines, are usually the main component of faunal assemblages. This demonstrates that the process of adoption of innovations was not unilinear and homogenous, but elaborated by numerous relays and resistances. However, the main change visible in the archaeological record is the new use of caves. If they were gathering of people in 'Mesolithic', sedimentation of ash from burnt animal dung, show that caves were now used as shelters for domestic animals.

A different, but related trajectory of Neolithisation begins around 7600 cal BP with the establishment of open-air sites located in areas suitable for cultivation, and containing an integrated 'Neolithic package'. These communities practiced an agro-pastoral way of life very similar to other early Neolithic village communities in Greece or the Central Balkans. Open-air settlements appear almost synchronously along the Adriatic coast around 7600 cal BP. This process is similar to the spread of cardial ware in the Western Mediterranean:

... at a level of resolution allowed by radiocarbon dating, the spread of Cardial farmers and shepherds could be described as a punctuated event, not the outcome of a slow, regular, east-west spread from one contiguous area to the next (Zilhão 1997. 21).

In analogy to the processes in the western Mediterranean the emergence of open-air sites can be attributed to the leapfrog colonisation (*Zvelebil and Lillie 2000.62*) of farming groups, which targeted niches suitable for early farming – especially the floodplains in Ravni Kotari, Zagora and Red Istria.

However, pottery and domesticates emerged before the establishment of farming villages. East Adriatic hunter-gatherers participated in exchange and demographic networks.

I believe that the advent of the Neolithic on the eastern Adriatic coast should be seen through a perspective of continuity and change. Continuity of social reproduction on the east Adriatic coast can be seen in the ways that exogenous innovations (pottery, domesticates) were absorbed by indigenous population and used as tools in the existing social system. I believe that it is extremely simplistic to understand these changes as a result of population change. Instead, I will focus on the mechanisms of internal social dynamics which led to changes in the archaeological record that are traditionally classified as 'Neolithic'.

BEYOND SUBSISTENCE: MODES OF PRODUCTION

My discussion of social dynamics which lead from hunting and gathering to pastoralism will be structured around the concept of mode of production, a focal analytical tool in Marxist analyses of political economy. Maurice Godelier (*1977*) defines mode of production as a "combination – which is capable of reproducing itself – of productive forces and specific social relations of production which determine

the structure and form of the process of production and the circulation of material goods within a historically determined society".

The productive forces include the means of production (raw materials, land, tools, and machines) and the organization of production (labour power). The forces of production determine the possibilities and the constraints of the productive process, but the specific patterns of allocation and stratification are determined by the social relations of production (*Godelier 1977.36*). These social relations determine the economic use that is made of the environment, the division of productive labour, the forms of appropriation and distribution of the social product, and the value of the surplus in relation to the costs of reproduction and the utilization of the surplus (*Friedman 1974.446*).

Ambiguities in Marx's own formulations have allowed economic and technological determinist interpretations of the relationships between productive forces and the social relations of production. But it should be noted that the distinction between infrastructure and superstructure is not between institutions; it is a distinction between different functions within a single institution (*Godelier 1978; 1980*).

Godelier redefined infrastructure to encompass the processes that produce not only the material preconditions of social life, but all its pre-conditions – including e.g. kinship, which anthropologists had long claimed to have a status similar to a Marxist infrastructure. Godelier (*1978*) thus suggested that in early, pre-class societies, kinship relations are also relations of production and distribution and they are the dominant and determinant relations of production. The determination of the main organization of production at the infrastructural level of kinship is one way of facing the dilemma presented in pre-industrial societies to Marxist analyses, namely between the decisive role accorded by the theory to economic forces and the fact that the dominant economic relations are in quality superstructural e.g kinship relationships (*Terray 1969; Godelier 1972*). Thus kinship, chieftainship and even ritual order appear as economic forces (*Sahlins 1972.102*).

An essential premise of Marxism is that humans are motivated by self-interest and motivated to accumulate power in order to extend that self-interest. People's interests become antagonistic to others' since they are involved in social relations for the production of materials and food, and for the reproduction of the social institutions which articulate that production. Marx and Engels defined two domains where contradictions can appear. The first is the inter-relationship between forces and relations of production. The second kind of contradictions exists between the appropriation and consumption of the surplus and the social organization of its production. If "the history of all hitherto existing societies is the history of class struggle" (*Marx and Engels 1968.35*), how can these concepts be applied to pre-capitalist societies?

Domestic mode of production

Marshall Sahlins (*1972*) identified a mode of production in foraging, simple farming or pastoralist societies. The principal relations of productions in the "domestic mode of production"' are those within the household. The division of labour by gender is the dominant form; marriage therefore establishes a generalised economic group. Production is motivated by the subsistence needs of the household (production for use) and therefore harbours an anti-surplus principle. However, the household unit is never completely self-sufficient, but given the emphasis on use values and livelihood, production is set low and, consequently, resources are often under-used.

Sahlins recognised two sets of contradictions inherent in the domestic mode of production. The first contradiction is the structural opposition between the forces and relations of production, where domestic control becomes an impediment to the development of productive means. This contradiction is reduced by the 'horizontal' contradiction between the household economy and the society at large, the domestic system and the greater institutions in which it is inscribed. The household is never entirely submerged in the larger community, nor are domestic ties ever free from conflicts from wider kin relationships. Sahlins believe that this conflict is masked by an uncritical ideology of reciprocity (*Sahlins 1972. 124*). These two contradictions determine the transformational vectors of the domestic mode of production.

The 'centripetal' vector has roots in the first contradiction and leads to an intensification of production, where the demands of descent groups, marital alliances of different structures, or even interpersonal kin networks of different patterns encourage or even demand surplus domestic labour. But the formal solidarity of the kinship structure can be transmitted to its political aspect. As the kinship structure is politicised, especially when it is centralised in its rul-

ing chiefs, the household economy is mobilised in a larger social cause. Political life can be a stimulus to production which generates surpluses. However, Sahlins notes that material flow in simple societies tends to be away from accumulation towards insufficiency. This often takes the form of consumption – competitive feasts – where is masked by generalized reciproci-competitive battles between individuals – accumulators – trade of goods is masked behind the ideological facade of generalized reciprocity. Feasts serve to promote ideology This vector leads to emergence of 'big-man' societies.

On the other hand we have a 'centrifugal' force, which leads to weaker kinship relationships and the economic isolation of individual households. Sahlins believes that realisation of this contradiction entails economic collapse, where there is not enough surplus to sustain relations of reciprocal sociability, and results in separate proprietary interests, which is overcome through an ideology of generalised reciprocity. However, it is in times of crises that the ideological screen of reciprocity is removed and proprietary interests become explicit.

I will tackle this transformation of the domestic mode of production in the following section, following the model proposed by Tim Ingold (*1980*) based on his fieldwork among Arctic reindeer pastoralists.

From hunting to pastoralism

The transition from hunting and gathering to pastoralism is more than merely the incorporation of new resources into hunter-gatherer societies, but a qualitative infrastructural change. The source of this discontinuity comes from new social relations of production (*Ingold 1980.94*).

Hunting and gathering is based on a principle of undivided access to productive resources (or sharing)[4], both land and animals. However, this right does not extend to the consumption of the products, which serve rather to disguise obligatory sharing as prestige-conferring generosity (*Ingold 1980.161*). In the hunter-gatherer mode of production, social relations of productions are reproduced in the interval between the kill and consumption of animals. The accumulation of material wealth within the social relations of production is not possible, as dead animals can not reproduce. Hunter-gatherers developed a series of social and ideological practices to encourage the distribution of game and the reproduction of the ideological principle of sharing. Successful individuals may subvert this ideological principle to accumulate prestige. However, the individual possession of dead animals in a hunting society exists only in the domain of ideology, and does not reflect an underlying principle of divided access.

The incorporation of tame animals in a human household, where animals gain the status of quasi-persons is the first pre-condition for pastoralism. Tame animals are ubiquitous in hunter-gatherer societies, where they have the role of pets, hunting assistants (dogs), transport animals or decoys (reindeer). They are members of households and subject to the same rules as human members.

Pastoral property relations become explicit when the status of animals changes from agents of production to sources of food. It is also a change in animals' status from quasi-persons to resources.

Sharing out – the distribution of food – reaches its widest extent in times of extreme shortage (*Ingold 1980.152*). This is in direct opposite to Sahlins (*1972. 123–48*) view, but the principle that 'no one starves unless all are starving' which Evans Prichard (*1951. 132*) observed among Nuer is even more valid for the hunter-gatherers. But this can only be achieved at the expense of the deterioration of intra-domestic relations. The ultimate realisation of this extreme is marked by changes in the status of members of the household, their conversion into food, whose consumption is limited to the household. This applies more usually – although not exclusively – to domestic animals. Pastoralism thus begins with the negation of social relations within the household, where the status of animals is reduced from quasi-persons to food (*Ingold 1980.150–61*).

Animals in the pastoral mode of production become means of reproducing the social relations of pastoral production. Reproduction and the multiplication of domestic animals make possible the accumulation of wealth (*Ingold 1980.144*). The slaughter of domestic animals frees people from obligations of sharing that apply in the case of hunted animals. Social fragmentation into autonomous, self-sufficient domestic units is therefore not the cause, but the effect of drawing on domestic herds for subsistence. Thus auto-

4 Ingold (*1986*) emphasised two structurally different forms of sharing. *Sharing out* is a act of distributing resources, whereas *sharing in* is a principle of undivided access to resources, which inheres in hunter-gatherer social relations and practices.

nomy in the realm of property characteristic of the pastoral household derives from a domestic division of labour, and ultimately forms the structure of the human family itself (*Ingold 1980.151*). The rationality of accumulation follows the fragmentation of economic responsibility, for whereas hunters derive a collective security through the ideology of sharing, pastoralists ensure themselves against catastrophes by maximizing their herds (*Ingold 1980.89*).

In Ingold's model, animals must be capable of functioning both as labour and its subject-matter in order to support a direct transformation from hunting to pastoralism. This includes reindeer, which are often used as draught animals or hunting decoys in hunter-gatherer groups, but excludes sheep and goats, which cannot be employed as transport animals. It is therefore scarcity of prey that encourages owners of domestic herds to draw off from their domestic herds.

But on the eastern Adriatic coast the animals involved in transition from hunting and gathering to pastoralism were obviously ovicaprines, goats and sheep. Are there any other trajectories of transformation from hunting-gathering to pastoralism?

I believe that pressures on households to begin transforming their animal members into food might be found in the context of prestige politics (*Hayden 1990; Dietler 2001; Hayden 2001; Hayden 2003*). Exotic domestic animals – sheep and goats – may become available through hunter-gatherer exchange networks. They are included in the households of successful middlemen who control exchange networks (*Bender 1978; Bender 1981*). The demand for surplus and exotic foodstuffs in competitive battles among prestige-aspiring individuals may result in a chain of events as in Ingold's scenario. Wealthy accumulators would use their own exotic animals to attract followers. Those animals – although shared out – are beyond the obligations of sharing that apply in the case of hunted animals. When they begin to reproduce in hunter-gathering societies they also reproduce new relations of production. This opens the way to the accumulation of wealth, and leads to the fragmentation of economic responsibility. Animals, formerly used to promote social cohesion and integration, at the point when they become a source of food actually reverse this process and lead to the fragmentation of society into autonomous households.

Carnivorous vs. milch pastoralism

The accumulation of the herds as the exclusive property of particular households is a for the condition of emergence of what Ingold calls 'carnivorous pastoralism'. Carnivorous pastoralism is no more effective than hunting. In the long term it is often less effective because of the age structure of herds being biased towards older animals, high concentrations of animals on pastures, and increasing vulnerability to diseases. Carnivorous pastoralism can not be seen as intensification of hunting, but as a mode of production with the complete autonomy of the household in the sphere of its property characteristics (*Ingold 1980.87*).

Carnivorous pastoralism is a small stock economy, with no possibility of conversion to large stock (*Ingold 1980.178*). Small stock is usually exploited for meat; although milked on occasion, it is not specialised for this purpose. The have very high rates of increase – up to ten times greater than that of cattle – but they are particularly vulnerable to epidemics (*Dahl and Hjort 1976*). With no alternative form of security avalaible, a household is forced to accumulate herds by minimalising their off-take. Carnivorous pastoralism thus combines a restriction of household size with a tendency toward the maximal concentration of animals. Households in carnivorous pastoralism avoid reciprocal obligations beyond the household: "the successful pastoralist hoards rather than hosts" (*Paine 1971.167*). This leads to what Barth calls a "very careful life". Hospitality is definitely not a feature of carnivorous pastoralism.

Sheep and goats are gregarious by nature and may not require too much labour. On the other hand, large stock require more management, which places constraints on the number of animals that can be maintained by a single household. Resource extraction from milch animals constitutes an essential part of their everyday care, which means greater labour demand, whereas extraction from meat animals coincides with the end of care. The milch pastoralist's wealth in large stock is therefore equal to the abundance of labour force, women and children. Thus the availability of labour sets a limit on herd size.

This enables alternative forms of security to emerge. The main strategy is the circulation or redistribution of stock among households. Wealthy owners whose holdings exceed the maximum manageable size will find it mutually advantageous to loan or give some animals to other households. Conversely, if someone man is short of animals, they may seek gifts or loans from the better-off (*Dahl and Hjort 1976.136–37*). Animals produce milk for the household where they are situated, irrespective of who owns a parti-

cular animal; however, the owner retains control over the slaughter of an animal and over its offspring.

Alternatively, complementary types of animals allows poorer households to exploit the high reproductive potential of small stock to build their herds and then exchange them for larger stock (*Dahl and Hjort 1976.230–34*). While in a carnivorous pastoral economy a herd is the exclusive property of the household, households in milch pastoralism spread their interests by distributing animals as gifts and loans to a range of stock-associates. Milch herds typically consists of animals from a number of separate owners under the management of a single household. This establishes a network of social relations between households which are reflected in herds. Animals become symbols of social cohesion (*cf. Evans-Pritchard 1940*).

Another difference between carnivorous and milch pastoralism lies in the different status of animals. While animals in carnivorous pastoralism become resources, the staus of animals in milch pastoralism is not unlike that of tame animals in hunter-gatherer societies. Milk animals *produce* milk and are therefore agents of labour rather of its subject. In terms of social relations between animals and people and between people with respect to animals, milch pastoralim has nothing in common with the exploitation of domestic herds for meat. Carnivorous and milch pastoralism are not related modes of production (*Ingold 1980.200*).

ETHNOGRAPHIC MEAT ON ARCHAEOLOGICAL BONES?

Distinguishing different types of pastoralism on the basis of social relations between animals and people and between people with respect to animals is extremely important when discussing ethnographic data as an analogy for past pastoral systems. Could the exceptionally rich ethngraphic data on various pastoral strategies from the Dinarides and the eastern Adriatic coast shed any light on the structure and development of Neolithic pastoralism? My suggestion is that the ethnographic and historical data on traditional subsistence strategies should be approached with caution.

There is a variety of different pastoral systems recorded in the Dinarides and the eastern Adriatic (*Dedijer 1916; Leban 1950; Umek 1956; Cvijić 1966; Marković 1971; 1980; Smerdel 1989; Vinščak 1989; Smerdel 1999*). The most common form of pastoralism was integrated into arable farming. Farmers kept domestic herds as sources of milk, wool, manure and meat. Herds served as a form of 'animal capital', as buffers against failed harvests and political crises. There are different levels of dependence on livestock, from farmers who kept only a few sheep to sedentary pastoralists who combined the herding of relatively large flocks with the cultivation of grain for domestic consumption. However, most herds were small and diversified, average flocks on the Triestine Karst being no larger than 15 animals combined of sheep, goats, cattle and horses/mules. This number was larger in Čičarija, where herds reached 80 animals, most of them sheep and goats (*Vilfan 1957*). Mobility was restricted to the confines of the local community or to the top of the local mountains; flocks grazed on communal land, marginal for cultivation. Specialised forms of transhumant pastoralism and nomadic pastoralism were practised almost exclusively by the Vlachs, who exploited a no-mans-land between the Ottoman and Venetian states, supplied both sides with animal products (*Wace and Thompson 1914; Marković 1971; 1980*).

Probably the most important lesson we can learn from the study of traditional pastoralism is that modern practices should not be seen as fossil strategies from the distant past, and timeless responses to seasonal climatic extremes, but as dynamic responses to extremely complex natural, historical and economic processes. Instead, I take the position of 'radical defamiliarisation' of Neolithic subsistence practices. I believe that Neolithic pastoralism was something quite different from anything we can experience now (or a few decades ago) in the eastern Adriatic. Structurally equivalent ethnographic analogies for Neolithic economies should therefore be sought elsewhere. I suggest two examples which can shed a light on Neolithic pastoralism: the north American Navajo Indians, and the Cyclops from Homer's Odysseus.

The Odyssey can be read as an ethnographic text describing the pastoral society of 'the lawless and inhuman' Cyclops (*Odyssey IX*). The Cyclops are pastoralists, herders of sheep and goat flocks. They do not cultivate land, eat bread or respect gods. Their main animal product seemproduct seems to be milk, as Polyphemus' daily schedule includes milking, separating lambs from lactating ewes and dairying. This way of life was so remote to the Greeks that the Cyclops cannot be classified as human; instead, they are portrayed as monsters.

However, the social institutions described in Odyssey are closer to those of carnivorous pastoralism. Cyclop society is fragmented into autarchic households which are economically and politically independent: 'They have no laws nor assemblies of the people, but live in caves on the tops of high mountains; each is lord and master in his family, and they take no account of their neighbours' (*Odyssey IX. 112–115*). Weak coalitions are formed only in times of conflict; this is obvious from the other Cyclops' reluctant response to Polyphemus' call for help when blinded by Odysseus. One of the most striking features of carnivorous pastoralism is the absence of any formal rules of hospitality. This is, of course, a consequence of the fragmentation of economic responsibility, which can be obtained only by maximising herds. The lack – or rather, the opposite – of hospitality is shown at its most extreme when Polyphemus kills and eats Odysseus' six companions, and not a single goat or sheep from his herd.

The detailed descriptions of the organisation of space and herding techniques are revealing. Cyclops live in caves, which also serve as folds for their flocks. The description of these caves is surprisingly similar to the cave-pens which are still used as shelters for flocks in Dalmatia. The cave space is structured by folds which serve to separate ewes from lambs and rams. Flocks consist of goats and sheep and are taken to pasture every morning. In the evening they are returned to the cave, where they are milked

The descriptions of herding practices in The Odyssey are precise and seem to document existing practices experienced by the author(s) at the time the epic was created. However, there is obviously an older layer in the epic, describing social institutions and ways of life (the absence of agriculture, specialised carnivorous pastoralism, and the social relations typical of this mode of production) which was seen as both fascinating and strange to the Aegean society of the early first millenium BC. The Cyclops in the Odyssey can therefore be seen as evidence for existence of a specialised, almost 'pure' carnivorous pastoralism somewhere on the fringes of the Aegean world.

A fascinating insight into the introduction of pastoralism to hunter-gatherers, and their subsequent transformations can be gained from accounts of the colonisation of the American Southwest by the Spanish. Before the adoption of pastoralism the Navajo were hunter-gatherers and small-scale farmers. As a consequence of an increased reliance on agriculture, the Navajo became more sedentary and tied to their maize fields. Sheep were brought to the Southwest by the Spaniards in the 1600s. Exactly when the Navajo began herding sheep rather than taking them for food is unknown, but reports indicate that herding had begun by the early eighteen century. A process of structural change in Navajo society began soon after 1700, and within only a matter of decades they had become a full blown pastoral society. Domestic herds caused the fragmentation of extended families into independent households, and increased mobility (*Bailey 1980*).

Before the 20th century Navajo households practised subsistence pastoralism combined with small-scale cultivation of maize fields. Herds and maize were used for direct consumption, not for trade, and most households owned no more than the minimum numbers needed for direct consumption, which is estimated to be around 250 sheep per household (*Kelley and Whitley 1989.49*).

Navajo herding practices were extremely simple, as rams were not separated from the herd. Combined with the extreme reproductive potential of *churro* sheep, this allowed herds to increase faster (*Kelley and Whitley 1989.90*). Because of large herds and pressure on pastures, various patterns of mobility emerged. Most households practised vertical transhumance, with up to three residences over an annual cycle, although other systems of nomadic mobility were devised:

The people moved around most of the time, herding their sheep from place to place. The people travelled mostly on horseback; when moving with the sheep, we used horses to carry our belongings. The main reason for moving around like that was to look for new grazing ground and water for the sheep and horses. We never stayed at one place very long; we would spend a few days here, and then move on to some another location (Frisbie and MacAllester 1978.29–31).

Of course, the Navajo can not serve as direct analogy for the emergence of pastoralsim in the eastern Adriatic; however, it can provide insight into the consequences of changed social relations of production caused by the adoption of herding. This change fragmented extended families into autonomous households; it increased mobility, and modified settlement patterns.

Both examples can be useful in adding 'meat to bones' of, but the 'bones' – structure and development –

of Neolithic pastoralism should be built from the ground up, based on the fragmentary archaeological data.

PIECING THE BONES TOGETHER: NEOLITHIC PASTORALISM

The principal questions that interest me in building the 'skeleton' of the Neolithic pastoralsim in the eastern Adriatic are those related to the scale and specialisation of hunting and pastoral economies in a long-term perspective, the seasonality of practices in a landscape, patterns of exploitation of animal products and the structure of settlement patterns.

Faunal Assemblages

The subject of analysis are 97 faunal assemblages from more or less well defined stratigraphic contexts[5] from 21 sites in the eastern Adriatic and *Caput Adriae* (the assemblages used in the analysis can be accessed on the *Documenta Praehistorica* homepage: http://arheologija.ff.uni-lj.si/documenta/v32mlekuz_sup.html). Data was collected from available published reports. An obvious problem with such diverse sources is the comparability of sampling strategies (use of sieving etc.), applied analytical methods, and the level of detail available in the reports. Only mammal remains were used in the analysis, since information about other resources is either incomplete or lacking. All assemblages were screened for obvious inconsistencies and some adjustments have been made to the bone counts derived from the original reports in order to enhance comparability among sites. Where necessary, worked bone and shed antlers were not included in the counts used in the analysis. In general, the categories used comprise the number of bone fragments identified to species level. Some modification was required in the case of bones such as *Sus* sp. and *Bos* sp. Most 'Neolithic' assemblages contain representatives of both wild and domestic forms of cattle and pig. Many also contain bones which, due to high fragmentation and intermediate size, can only be identified to genus level. In order to increase the comparability of assemblages, bones identified as *Bos* sp. and *Sus* sp. were counted as *Bos taurus* and *Sus domesticus* in 'Neolithic' and 'transitional' assemblages (phases 1, 2, 3, 4; see below) and as *Bos primigenius* and *Sus scrofa* in 'Mesolithic' assemblages (phase 0, Fig. 3). For the same reason, bones identified as *Ovis aries*, *Capra hircus* and '*Ovis* or *Capra*' were grouped together as ovicaprines.

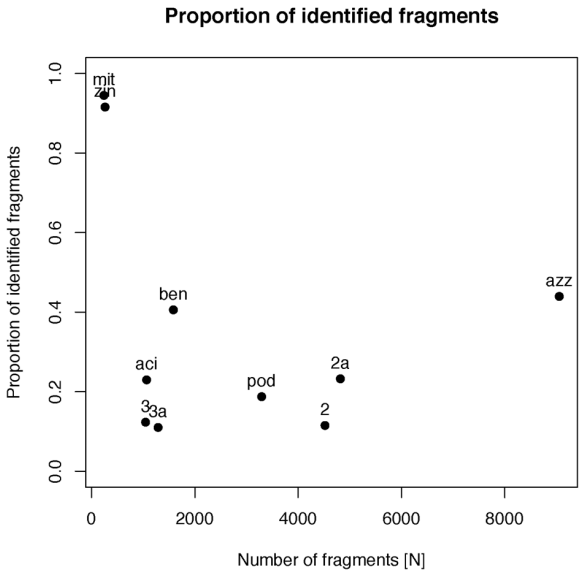

Fig. 2. Proportion of identified fragments versus sample size for sites: Grotta dell'Mitreo/Mitrej (*Petrucci 1997.100*); Grotta degli Zingari/Ciganska jama (*Bon 1996.127*); Grotta Benussi/Pejca na Sedlu (*Riedel 1975.128*); Acijev spodmol (*Turk et al. 1992b.34*); Podmol pri Kastelcu (*Turk et al. 1992a.71*); Grotta Azzura/Pečina na Leskovcu (*Cremonesi et al. 1984.28*); Grotta dell'Edera/Stenašca, layers 3a, 3,2a, 2 (*Boschin and Riedel 2000.Tab. 3*).

The assemblages discussed here are not the simple result of *châines opératoires*[6] streaming through the sites; they are reworked by a series of taphonomic filters, which transformed them in many ways. A comparison of proportions of identified fragments and assemblage sample sizes (Fig. 2) can reveal taphonomic traces related to the collection, recording and publication of assemblages. The percentage of identified fragments is usually well below 50%, except in Grotta dell'Mitreo/Mitrej and Grotta degli Zingari/Ciganska jama, both with low sample sizes. It is obvious that in these two cases the excavators chose to collect and record only identifiable fragments. Assemblages from other sites seem less modified by collection and recording strategies, although there are considerable differences. However, there is no correlation between percentages of iden-

5 See Tomaž Fabec's (*2003*) critical analysis of stratigraphic contexts from *Caput Adriae*.

6 I believe that the *châine opératoire* or operational sequence (*Leroi-Gourhan 1988*) approach to the study of animal remains in the landscape can be extremely fruitful. Instead on paying attention on the the static assemblages found in the sites, operational sequences focus attention on the dynamic processes of selection, transport, consumption and deposition within the landscape and in the social and cultural perspective.

tified fragments and sample sizes, neither can differences be attributed to the identification skills of individual analysts (Grotta Azzura/Pečina na Leskovcu (45% of identified fragments) was analyzed by B. Wilkens, whereas A. Riedel analyzed Grotta Benussi/Pejca na Sedlu (45%) and Grotta dell'Edera/Stenašca (10–25%)). It might be significant that both 'Mesolithic' sites (Grotta Azzura/Pečina na Leskovcu and Grotta Benussi/Pejca na Sedlu) have the highest percentage of identified fragments, whereas the percentage for 'Neolithic' sites is much lower. This may reflect structural changes in taphonomic processes which correlate with the Mesolithic-Neolithic transition and may be connected to changes of activities performed on the sites.

Faunal assemblages were grouped into four chronological phases (Fig. 3) in order to understand changes in animal use. However, loose stratigraphic control over contexts, a general lack of radiocarbon data, and difficulties connected with traditional chronologies based on pottery and lithic typology mean that this chronological sequence has only heuristic value, and does not pretend to challenge established local chronologies.

Phase 0 consists of assemblages from contexts identified as 'Mesolithic' on the base of lithic typology and absence of pottery. Phase 0 faunal assemblages consist exclusively of wild animals. Phase 1 includes 'transitional' assemblages, with a mix of traditional 'Mesolithic' elements (the presence of a Castelnovien tool-kit) and 'Neolithic' elements such as domesticates and pottery. Phases from context attributed to the 'Vlaška group' on the basis of pottery typology are grouped in phase 2. Phase 3 assemblages derive from loosely defined 'late Neolithic' contexts. Assemblages from phase 4 are from 'late Eneolithic/early Bronze Age' contexts defined by the presence of 'Ljubljana culture' pottery.

Sums of available radiocarbon dates (Fig. 4) display all the problems connected with phasing. Phases are chronologically fuzzy and overlapping, sometimes even significantly (phases 2 and 3). However, the distribution of radiocarbon dates does display a general pattern of succession.

Specialisation and diversification

Faunal assemblages display considerable differences in terms of their general structure, as well as in the relative contribution of major taxa. One way of investigating these differences is through an analysis of assemblage diversity. A faunal assemblage dominated by one species would suggest the potential for large-scale specialised herding, whereas a mixed assemblage suggests the reverse: diversified and small scale herding.

Specialisation refers to concentration on one or a very limited range of species. The economic rationale may be to focus on animals with greater productivity in local environments or on animals with specific desired yields. Thus in the context of carnivorous pastoralism it may be desirable to focus on small stock which have extremely high reproductive capacities and allow rapid accumulations of herds. Specialisation is often a risky strategy, since all stock may be affected by localised disease or disaster. However, the relative expense of maintaining exclusively one kind of stock may be expected to decrease with a large number of animals, primarily due to the organisation of labour, which is aimed at the rather predictable requirements of only one species (*Glass 1991.32; Halstead 1996a.24*).

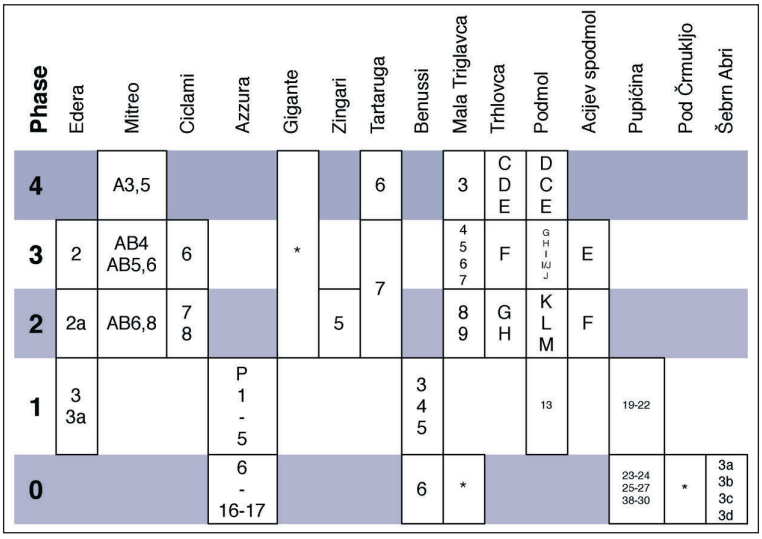

Fig. 3. Chronological divission of assemblages into five phases.

Specialisation is a common response of subsistence agriculturalists to the introduction of a market economy. For this reason it has generally been regarded as representing a late development, facilitated mainly by the establishment of inter-regional economic systems integrated into a world market. However, carnivorous pastoralism is often based on only one species, for example reindeer in the case

of Siberian peoples (*Paine 1971; Ingold 1980*), or sheep and goats in the case of the Navajo (*Bailey 1980*) or Basseri (*Barth 1961*). It can even be said that it is specialisation, which does not enable conversion of stock and therefore alternative forms of security, which drives households towards the accumulation of herds and the fragmentation of economic responsibility (*Ingold 1980*).

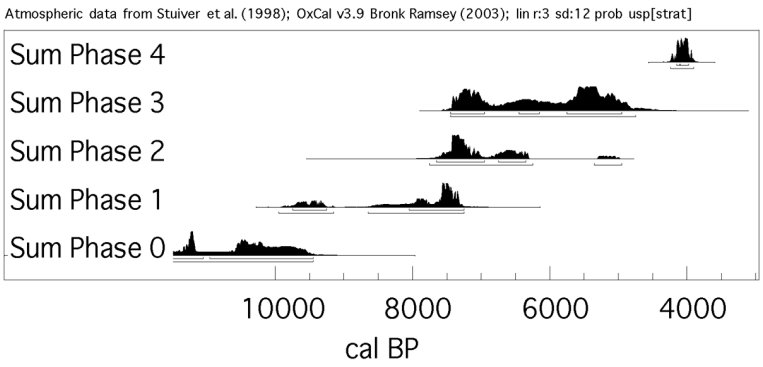

Fig. 4. Sums of radiocarbon dates for chronological phases. Radiocarbon dates used can be found on the Documenta Praehistorica homepage: http://arheologija.ff.uni-lj.si/documenta/v32mlekuz_sup.html

Diversification refers to a strategy in which multiple kinds of animals are kept, and are usually managed for different products. There are many advantages to be gained from the diversification of stock-holding. Since different animals graze on complementary plants, their combination permits a more effective utilisation of land. They are attacked by different diseases and parasites, so a diversified herd is less vulnerable to loss of due to diseases. Diversification may help to even out irregularities in the food supply, for in pastoral species oestrum, duration of gestation, and lactation periods vary. Moreover, the presence of different stock within pastoral economy creates the possibility of conversion from one to another through exchange (*Dahl and Hjort 1976.223–30*).

Measuring diversity

Diversity, as used here, is a measure of variability in the composition of an assemblage. It is comprised of two components: richness and evenness. Richness refers to the number of taxa in an assemblage; evenness describes the relative proportion of each taxon in an assemblage (*Grayson 1984; Kintigh 1984; 1989; McCartney and Glass 1990*). Evenness is measured with Shannon-Wiener information statistics (H) divided by the maximum value for observed richness (H_{max}). Division by H_{max} removes the effect of richness and normalises evenness into the 0, 1 interval.

Measures of richness and evenness have been shown to depend greatly on sample size. Both rgression and simulation methods have been proposed to control for the effect of sample size (*Grayson 1984; Kintigh 1984; 1989; McCartney and Glass 1990*). While sample size can be important information in itself (see below), variability in sample sizes among sites presents one of the most obvious difficulties in comparing faunal assemblages. The huge variability in sample sizes for analyzed assemblages, which range from a few to a few thousand fragments, and relatively poor control over the taphonomic histories of published assemblages makes it critical to consider sample-size effects.

The effect of sample size on diversity is evaluated using a Monte Carlo simulation (*McCartney and Glass 1990*). This involves constructing a background population of species frequencies from a group of assemblages. This hypothetical parent population is then randomly sampled a set number of times at various sample sizes. Mean values and confidence intervals are calculated for each sample size. Each individual assemblage can be compared to this range, and the likelihood that it derives from a background population can be evaluated. In this study, the background population was constructed using a variation of Kintigh's procedures described in (*McCartney and Glass 1990*).[7]

The program generates expected values and 95% confidence intervals for richness and evenness. Separate simulations were run for each case. Throughout the analyses faunal assemblages were quantified using numbers of identifiable specimens (NISP). Other measures (e.g. minimum number of elements, MNE) give a more reliable estimate of abundance, especially in contexts where fragmentation is variable between species and/or identifiably of bones varies significantly between taxa (*Miracle 1996*). However, variable levels of detail in published assemblages allowed only the use of NISP, which was the common denominator for all publications. The null hypothesis for each simulation is that all assemblages derive from the same background population.

7 This procedure was implemented in a software program which can be accessed on the Documenta Praehistorica homepage: http://arheologija.ff.uni-lj.si/documenta/v32mlekuz_sup.html

Faunal assemblage diversity

In the first simulation, *Caput Adriae* assemblages were compared against all eastern Adriatic assemblages (Fig. 5). This simulation is aimed at detecting general trends in the diversity of assemblages and examining the effect of sample size on the diversity of assemblages.

The simulation of the effect of the sample size on taxonomic richness in mammal assemblages shows an approximate logarithmic relationship between richness and sample size.

The slope of the line representing the mean expected evenness decreases slightly with the higher sample size. The width of the 95% confidence interval decreases with larger sample sizes, showing that somewhat greater degrees of random variability are to be expected at lower sample sizes than at large ones. The scatter of points showing actual values of faunal assemblages very roughly reflects these same characteristics. They fall in a relatively steeply sloping linear band, which is much broader at small sample sizes. The points do not all fall within the limits defined by a 95% confidence interval for each simulated point. Therefore the null hypothesis can be rejected: the assemblages are not derived from a single parent population. The majority of assemblages displays greater evenness than the hypothetical population; they are therefore more diversified than expected. But almost all assemblages with sample sizes greater than 300 fragments have lower than expected evenness. This may be due to the effect of sample size, or may reflect deeper structural properties of animal economies in the eastern Adriatic. It is apparent that assemblages from the region tend to have larger sample sizes and lower evenness, and can be found in the lower left portion of the graphs; some assemblages tend to cluster with *Caput Adriae* assemblages.

The result of the analysis suggests that sample size is a major factor structuring differences in richness and evenness. It also indicates that the assemblages cannot be assumed to come from a single population, or at least not from one resembling the hypothetical population. It is apparent that most *Caput Adriae* assemblages tend to be characterised by small sample sizes and high diversity. Larger assemblages tend to be more specialised, which is consistent with the observation that faunal assemblages dominated by one species would suggest a potential for large-scale, specialised herding.

The second batch of simulations was run on data from selected sites. The main issues pursued here are related to temporal changes in assemblage diversity.

Mala Triglavca and Trhlovca are two contemporaneously occupied caves, with very small assemblages (Fig. 7). A relationship between sample size and richness is expected, except for a cluster of assemblages from Mala Triglavca which have lower richness than expected. The evenness values of assemblages from Mala Triglavca display a sharp threshold in phase 2, from very specialised to relatively diversified assemblages in phases 3 and 4. Assemblages from Trhlovca are apparently more diversified than expected during phases 2, 3 and 4.

The case analysed is Grotta dell'Mitreo/Mitrej, a cave with relatively small assemblages which span from the Neolithic to the Bronze Age (Fig. 8). There is a distinctive cluster of assemblages with much lower richness than expected; most of those assemblages are early and less diverse than expected. The earliest assemblages (AB6, A5, B5, phase 2) tend to be less diverse, and the latest (A4, phase 3; A3, phase 4) are more diverse than expected. This pattern is less pronounced with larger samples (excavations by *Centro di Antichitá Altoadriatiche*; (*De Piero Steffèe 1978*)). However, at Grotta dell'Mitreo/Mitrej there is an apparent trend toward increased diversity of faunal assemblages during the Neolithic (phases 2, 3 and 4).

Grotta dell'Edera/Stenašca assemblages are relative large and span the 'transitional' period (layers 3a and 3; phase 1) and the 'Neolithic' (layer 2a, phase 2

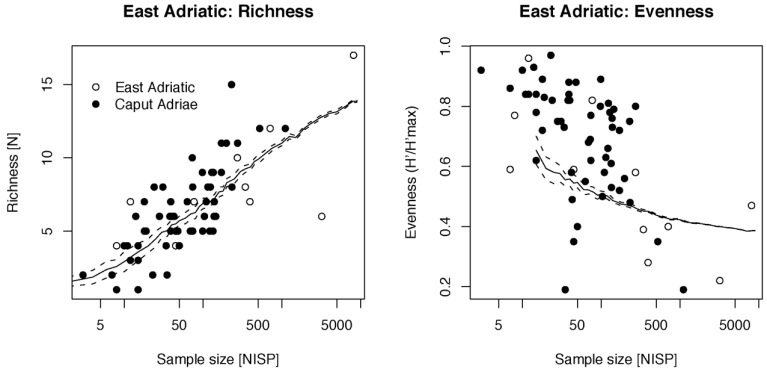

Fig. 5. Result of richness and evenness simulation for assemblages from eastern Adriatic.

and layer 2, phase 3). Although there is an expected relationship between sample size and richness, there is a dramatic change in the evenness of assemblages from less diverse than expected assemblages in phase 1 to less diverse than expected in phases 2 and 3 (Fig. 9). This change is also marked by the pronounced step in sample sizes, where the latter samples are larger by an order of magnitude.

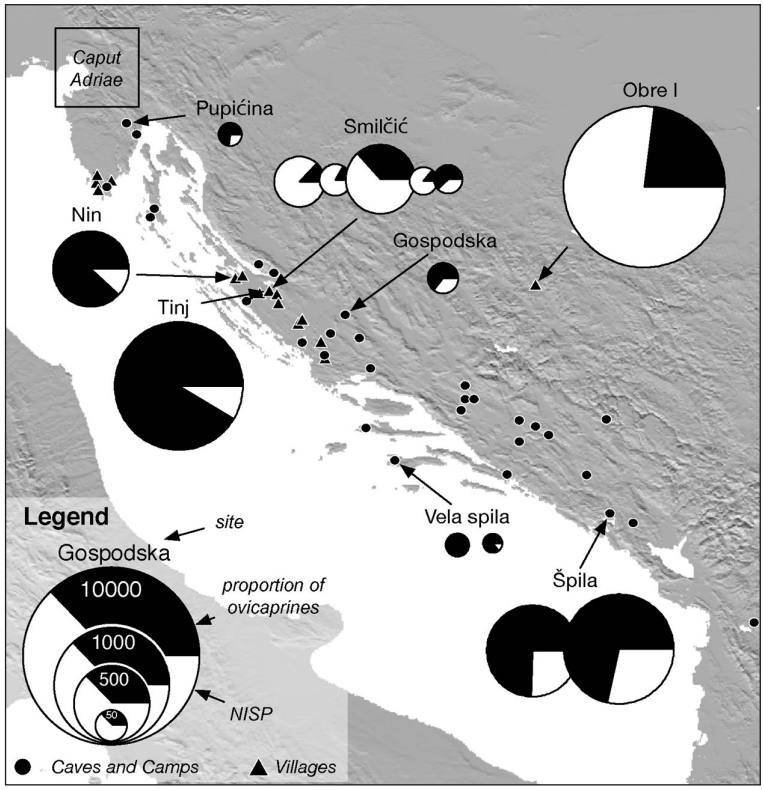

Fig. 6. Assemblages from the Eastern Adriatic. Note the large differences in assemblage sizes.

Selected cases from the *Caput Adriae* demonstrate that there are different trajectories of assemblage composition. In Mitreo/Mitrej there is an obvious trend for more diverse assemblages during the Neolithic and Eneolithic (phases 2, 3 and 4). On the other hand, there is a dramatic decrease in diversity from the transitional period to the Neolithic in Edera/Stenašca, where assemblage diversities remain low. Selected examples tend to demonstrate different temporal changes in the diversity of faunal assemblages. Is there a general trend? In Figure 10, a histogram of evenness values was produced for assemblages from different phases. All phase 1 assemblages can be found in the left-hand portion of the histogram, indicating the absence of highly specialised assemblages. These appear in phase 2; however, highly diversified assemblages still exist, and tend to be more numerous in phase 3, which is marked also by the disappearance of the? most specialised assemblages. Only highly diversified assemblages can be found in phase 4.

At this point it is evident that phase 2 is marked by the appearance of very specialised animal management systems, which co-existed with more diverse ones. In phases 3 and 4 a trend towards diverse assemblage compositions can be observed. I will try to explain this trend with an analysis of composition of assemblages and of the main animal products.

Assemblage composition

Since sheep and goats tend to be the largest component of faunal assemblages, I will analyse their role in structuring assemblage diversity. Figure 11 is a histogram of the proportion of sheep and goat in assemblages from different phases. In most of phase 1 assemblages sheep and goats tend to be a minor component, usually comprising less then 40% of the assemblage. In phase 2 a bimodal distribution can be observed. There are some assemblages with relative low proportions of sheep and goat, and a large number of assemblages with high proportions of ovicaprines. Almost no assemblages with moderate proportions of ovicaprines can be found. This changes in phase 3, where we can observe a normal distribution of proportions of sheep and goat, with most of assemblages composed of

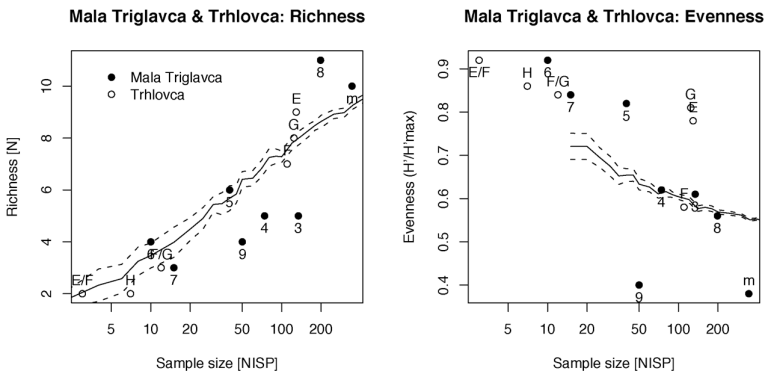

Fig. 7. Result of richness and evenness simulation for assemblages from Mala Triglavca and Trhlovca.

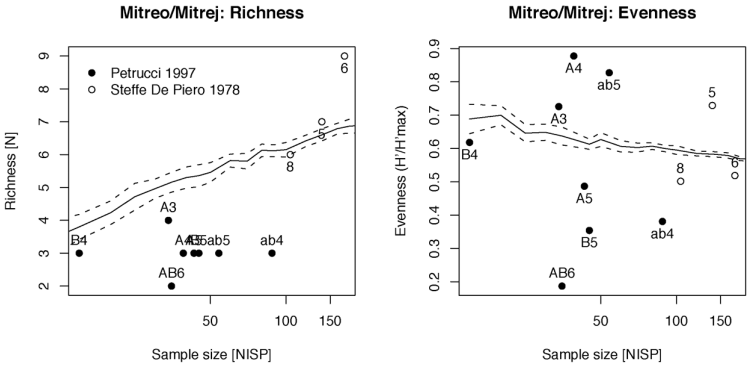

Fig. 8. Result of richness and evenness simulation for assemblages from Grotta dell'Mitreo/Mitrej.

50% of sheep and goat. A similar, but less pronounced picture can also be seen in phase 4, where there are no assemblages with high proportions of ovicaprines.

A similar picture emerges when we compare proportions of sheep and goat in the assemblages to their evenness (Fig. 12). Phase 1 assemblages tend to cluster in the upper right part of the scatter plot, with high diversity and low proportions of sheep and goat in assemblages. Assemblages with high proportions of sheep and goat and low diversity appear in phase 2. Phase 3 assemblages tend to display lower proportions of sheep and goat, and higher diversity, which becomes even more evident in phase 4.

This observation is further supported by the results of correspondence analysis[8] of faunal assemblage compositions (Fig. 12).

The first dimension, factor 1, which accounts for about 48% of variability, differentiates most clearly between categories of domestic and wild animals. Domestic animals (pig, dog, and sheep and goat) are found only on the left of the plot, while wild animals (boar, red deer and roe deer) are located on the right of the plot. Cattle, both wild and domestic, categories are located in the middle of the first dimension and overlap. This makes sense considering the difficulties in distinguishing wild and domestic species. It is clear that the ratio of wild to domestic animals is the main structuring factor for the assemblages, accounting for almost half of the variability.

The second dimension, factor 2, is more difficult to interpret. It is obvious that species which are more common in assemblages (sheep, boar, red deer) are placed in the upper section of the plot, while rarer species (carnivores, insectivores) are found in the lower portion of the graph. The situation becomes clearer if all samples with evenness lower than the hypothetical population (less diversified samples) appear in the upper part of the plot. The second dimension can therefore be interpreted as a diversification of samples.

Based on the results of correspondence analysis assemblages can be divided into three groups. The first group (A) consists of assemblages with high proportions of red deer and/or wild boar. Many assemblages from this class are less diversified than the hypothetical assemblage, and came from the context dated to phase 1 (Fig. 14). Assemblages from this class can also be found in later phases (2, 3 and 4), but these are usually more diversified than those from phase 1. Class A assemblages can be interpreted as the result of operating sequences of more or less specialised hunting.

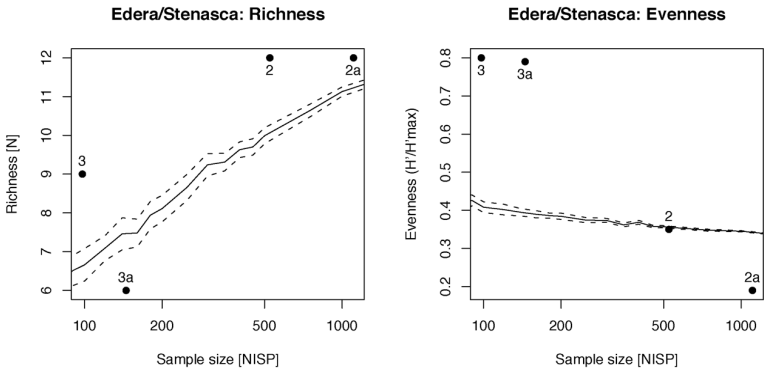

Fig. 9. Result of richness and evenness simulation for assemblages from Grotta dell'Edera/Stenašca.

8 Correspondence analysis is an exploratory technique related to principal components analysis, which finds a multi-dimensional representation of the association between the row and column categories (assemblages and species, in this case) of a two-way contingency table. This technique finds scores for the row and column categories on a small number of dimensions, which accounts for the greatest proportion of the chi square for an association between the row and column categories, just as the principal components account for maximum variation. For graphic display two or three dimensions are typically used to give a reduced rank approximation to the data (*Shennan 1988; Baxter 1994*).

The main components of assemblages from the second group (B) are sheep or goat. Most assemblages are less diversified than the hypothetical population; highly specialised assemblages can be found in phase 2; assemblages from later phases are usually more diversified. Assemblages from this group are derived from the herding of sheep and goat.

The final group (C) consists of extremely heterogeneous assemblages, with unusually large proportions of small mammals, carnivores, pigs and cattle. This class is difficult to interpret, and might represent taphonomically modified assemblages, carnivore dens or diversified assemblages derived from the herding of diversified herds or heterogeneous operational sequences operating on sites.

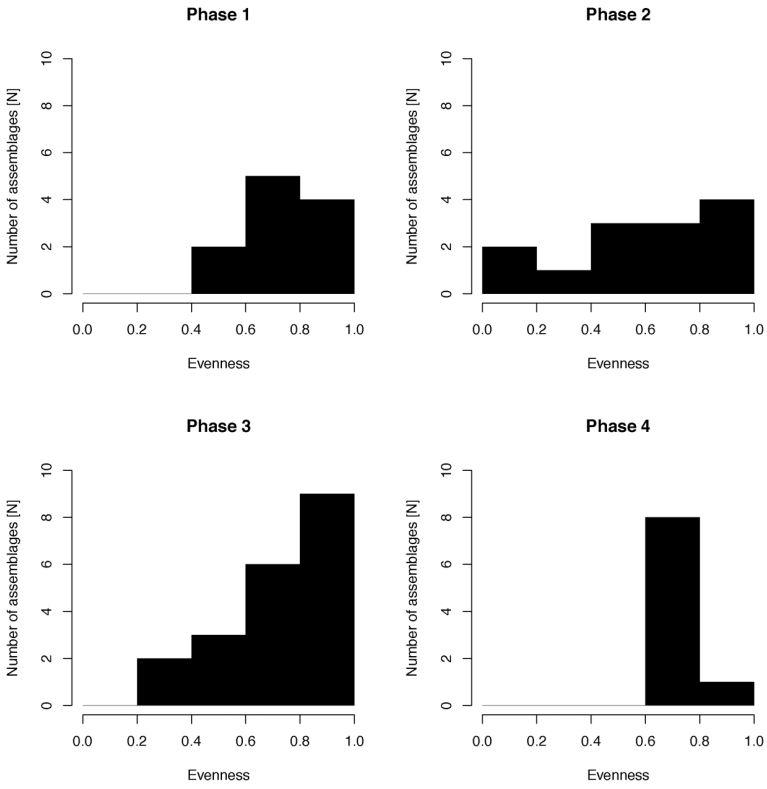

Fig. 10. Histograms of evenness scores for faunal assemblages from phases 1 to 4.

Correspondence analysis thus sheds light on the analyses of assemblage diveristy. Most phase 1 assemblages are derived from hunting activities (class A). Very specialised samples which derive from herding sheep and goat (B) appear in phase 2, along with heterogeneous, diverse samples (class C). Assemblages from all three classes can also be found in phases 3 and 4, but they tend to become less specialised. Assemblages from phase 3 and, more markedly, from phase 4 tend to cluster in the middle of the correspondence plot. This represents the homogenisation of animal management strategies toward more diversified herds with sheep, cattle and pig as the main species, but also with high proportions of wild animals.

Sample sizes as measure of intensity of activity?

The observation that sample size is a major factor structuring variability in both richness and diversity of assemblages does not mean that differences among the sites in terms of absolute sample sizes are meaningless.

I will assume here that sample size is a meaningful measure, although not without problems, of the intensity of bone deposition on the site, and it therefore reflects scales of pastoralism. Sample size can therefore offer a hint about the 'density' and intensity of actions of *châines opératoires* flowing through the site. However, it can not be overstated that the assemblages were excavated under diverse conditions over a number of decades, and analyzed by a number of investigators. Simulated excavations of a pastoral site in Kenya demonstrated that sample size can play a major role in the estimation of size and composition of the target population (*Ammerman et al. 1978; Voorips et al. 1978*). However, bias due to the intensity of sampling is an inescapable fact of archaeological work.

If we assume that deposition rates calculated for samples are representative of the whole site – which is a far-fetched assumption – then we can compare the intensity of deposition at different sites. Table 2 shows calculated deposition rates for selected sites based on assemblage sizes, volumes of sampling units, duration of occupation, and the estimated areas of the sites. Because most values are only estimates and educated guesses, values are compared by their orders of magnitude.

The assemblage from Tinj-Podlivade (*Chapman et al. 1996*) – an open-air site in Dalmatia – is characterised by a large sample size, which is due to the large sampling unit. However, the density of identified bones in a sediment is comparable to the densities calculated for sites from *Caput Adriae*. In Tinj-

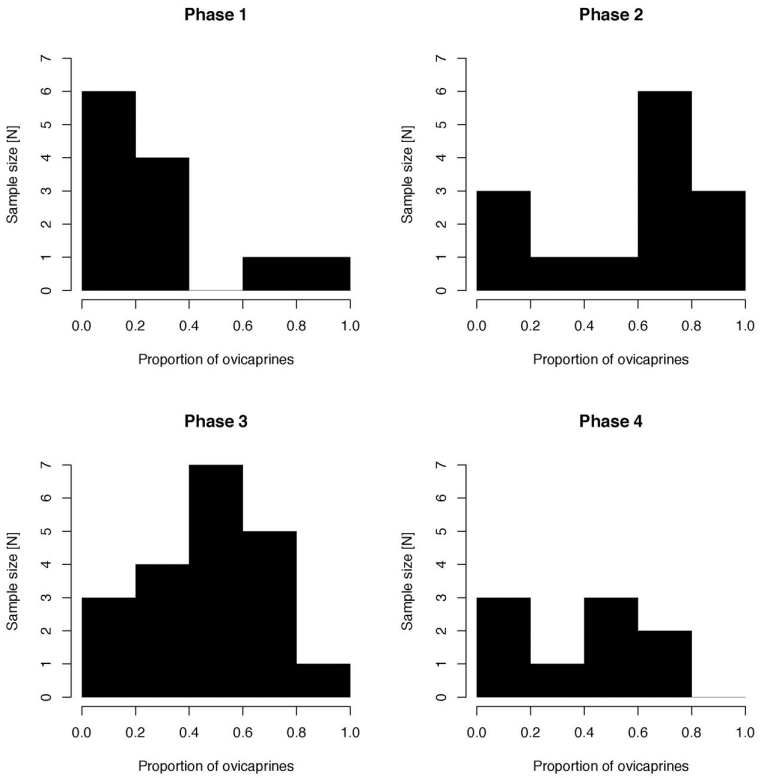

Fig. 11. Histogram of proportion of ovicaprines in assemblages from phases 1 to 4.

Podlivade the number of all deposited fragments per year is larger than from other sites by an order of magnitude. Given a site area two orders of magnitude larger, bone densities in sediment (NISP/m^3) differ only by one order of magnitude, which means that bone assemblage sizes are largely determined by the size of sampling units (test trenches). However, since sampling units are usually very small (usually well below 2% of the estimated site area), deposition rates are on the same order of magnitude, and therefore the intensity of operations on dead animals was more or less equal for all sites. Thus it is site size which defines the total rate of deposition on sites: large open-air settlements from Dalmatia yielded larger assemblages, whereas small caves yielded far smaller assemblages. However, types of activities and seasonality. Deposition rates for *Caput Adriae* are comparable on the order of magnitude.

Binford and Bertram (*1977*) analysed two complementary seasonal Navajo camps inhabited by one family with a flock of approximately 350 sheep over one year. Informants reported that 37 sheep were killed over six months at a winter site. Binford and Bertram found 448 identifiable fragments, which gives an estimate of 21 MNI. Eleven sheep were killed at a summer camp, but since it was occupied longer than the winter site, the 593 fragments found comprise deposition over a course of several years, and can not be compared to animals butchered for the one summer.

The calculated deposition rate for the winter camp is slightly larger than that of the *Caput Adriae* sites, but is mainly in the same order of magnitude. Accounting taphonomic factors and small sample sizes for *Caput Adriae* assemblages, this may indicate that few animals were culled on the site in one year at sites such as Podmol pri Kastelcu and Edera/Stenašca, a situation comparable to the Navajo camps. The deposition rate for the open-air, and possibly year-round settlement at Tinj-Podlivade is an order of magnitude larger, indicating greater culling and larger scale consump-

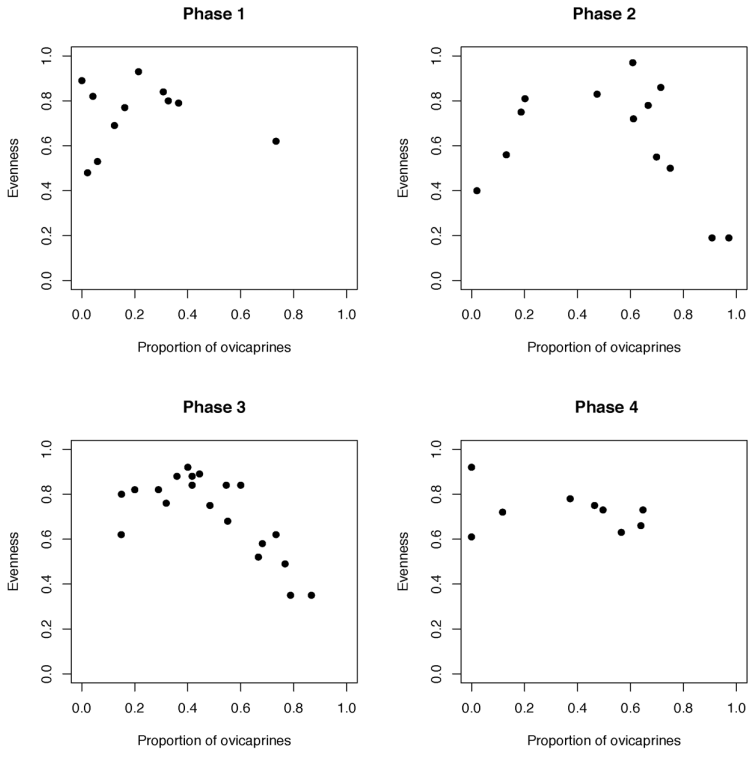

Fig. 12. Proportion of sheep vs. evenness for assemblages from phases 1 to 4.

tion than that observed at Navajo camps.

These results are consistent with the geometric densities of pottery in deposits. Müller's (*1994.Abb. 1*) calculations clearly demonstrate a much higher density of Neolithic pottery in lowland, open-air sites than that observed in caves.

Meat or milk?

The identification of herd exploitation strategies poses a number of challenges to archaeological research. The matter of which animal product was primary is not important only in the context of economics. The different labour requirements connected with milch and meat pastoralism play crucial roles in shaping the social relations of production and therefore influence every facet of life.

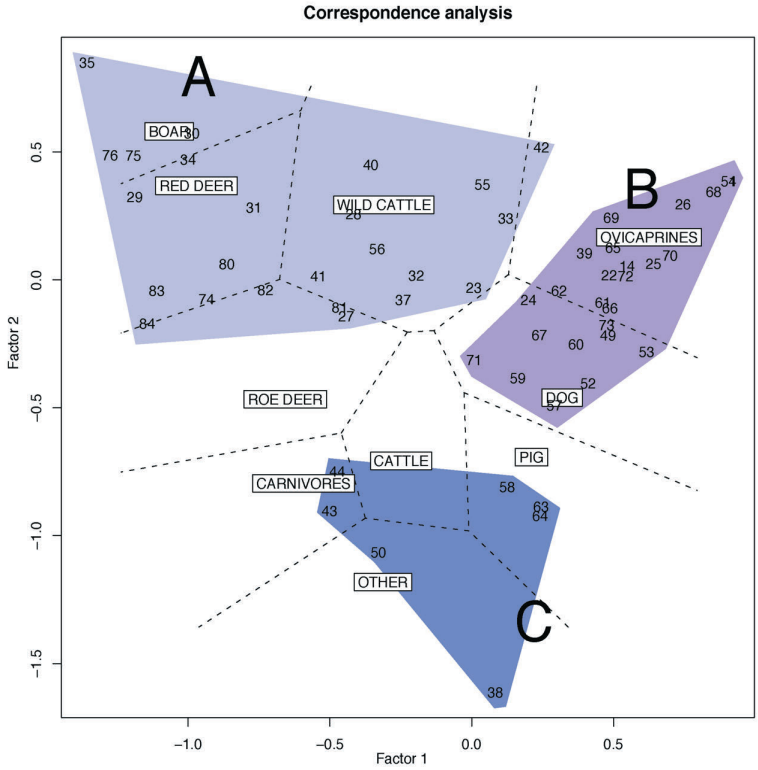

Fig. 13. Correspondence analysis of faunal assemblages.

That dairying was an innovation of the 3rd millennium BC was first proposed by Andrew Sherrat as a component of the secondary products complex (*Sherratt 1981; 1983; 1997a; 1997b; 2002; 2002*). Dairying is not a specific technology, nor is it necessarily limited to special types of livestock (*Sherratt 1997a.206*). Dairying offers by far the most efficient use of uncultivated land, and results in products that are suitable for storage (*Ingold 1980*). However, large herds optimised for dairy production are labour-intensive and economically untenable in regions without easy accessible pasture (*Dahl and Hjort 1976. 220; Halstead 1996a*). Halstead (*1996a*) argues that mixed farming strategies, where a small number of a variety of animals are kept for a mixture of products (meat, milk, wool) principally for domestic use not only seems more economically plausible in such environments, but is also evident in the considerable heterogeneity that exists in Neolithic faunal assemblages. This argument supports the idea that a specialised dairy economy could only develop toward the end of Neolithic, after substantial amounts

Site	Context	NISP [N]	Density [NISP/m³]	Duration [years]	Deposition [NISP/m²year]	Site area [m²]	Deposition [NISP/site year]	References
Tinj-Podlivade		3212	143	850	0.13	28000	3527	Chapman et al. 1996
Podmol pri Kastelcu	13	15	15	20	0.38	250	94	Turk et al. 1992
	11	23	30	75	0.26	250	66	
	10	15	18	10	0.46	250	114	
Edera	3a	145	363	80	0.45	250	113	Boschin and Riedel 2000; Biagi 2003
	3	98	245	60	0.41	250	102	
	2a	1107	277	500	0.55	250	138	
	2	524	119	2000	0.07	250	16	
Navajo Winter camp		448		1			448	Binford and Bertram 1977

Tab. 2. Deposition rates of bones for selected eastern Adriatic sites.

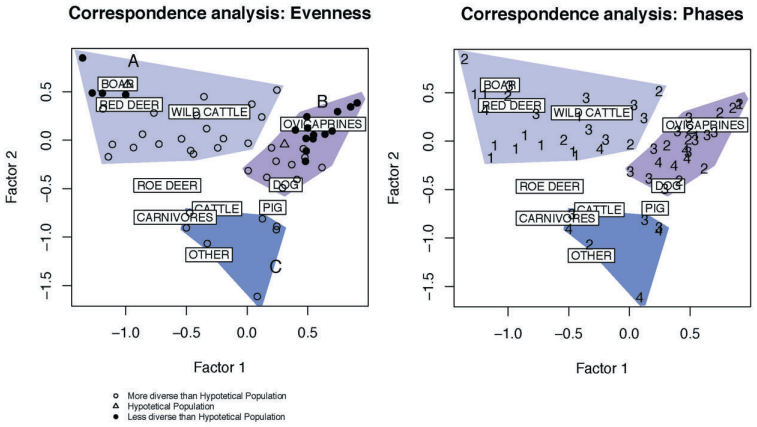

Fig. 14. Correspondence analysis of faunal assemblages with relative evenness values (left) and chronological phases (right).

of primary forest had been cleared, and fits well within the secondary products revolution.

The traditional method of detection of animal strategies is an analysis of kill-off curves. Payne (*1973*) proposed – on the basis of his ethno-archaeological research among Turkish pastoralists – a middle range theory, which links flock management strategies to kill-off curves. It is based on the assumption than an optimisation of animal products can be obtained by manipulating the sex and age structure of the herd. Ideal dairying and meat models differ in the age when males are culled. In the ideal dairying model, most animals younger than two months are culled in order to reduce competition for milk with people. With an optimal meat strategy most animals are culled after one to three years, as they achieve their maximum weight.

However, use of faunal kill-off patterns to define scale and specifics of animal husbandry has been heavily criticised. Besides problems inherent in preservation and recovery of animal bones, ancient livestock may have different productivity than modern, specially breed animals (*Halstead 1998*). High juvenile culling need not indicate a dairy economy but can be result of fodder preserving strategies. Even more, the presence of lambs may be prerequisite of early dairying in order to stimulate lactation of the sheep.

Kill-off curves from the four sites (Grotta dell'Edera/Stenašca; (*Boschin and Riedel 2000*), Grotta degli Zingari/Ciganska jama; (*Bon 1996*), Grotta del Mitreo/Mitrej; (*Petrucci 1997*) and Grotta dei Ciclami/Orehova pejca; (*Riedel 1968*)) were analyzed (Fig. 15).

Kill-off curves from the Edera (phases 1, 2 and 3), Zingari (phase 2), Ciclami (phase 2) and Mitreo (phase 3) are similar to the dairying curve, as they document a relatively high cull of young lambs. However, the cull of juvenile and sub-adult animals is closer to the ideal meat model (Edera and Mitreo, sites with relatively large samples). The cull of adult animals is low.

Combined curves (Fig. 16) display trends towards higher culls of adult and lower culls of young animals. However, culls of juvenile animals are too high for the ideal meat model.

Curves from the latest assemblages (Mitreo and Ciclami, phase 4) are structurally different. Compared to the earlier curves this demonstrates lower culls of young animals and the increased culling of adults. The curves lie between the ideal milk and meat curves.

No curve resembles either the ideal meat or milk model. Examples of optimised meat economies can be found – among others – in early Neolithic Greek (*Halstead 1996a*) and Dalmatian sites. However, these are relatively large, occupied all year round, and provide evidence of domestic and agricultural activities. They are in sharp contrast to the small, seasonally used caves, from which all the assemblages analysed derive.

How can we interpret these puzzling curves? A seasonal bias needs to be accounted for. Since most sites were occupied during lambing, a high number of young lambs may reflect high mortality and/or culling. A high cull of juveniles may reflect fodder optimisation strategies (*Halstead 1998*) (e.g. autumn killing, (*Higgs and White 1963*)). Thus early curves demonstrate a relatively simple, unoptimised economy aimed at the domestic consumption of meat.

Curves from the latest assemblages may demonstrate trends towards the optimisation of meat production and/or the intensification of dairying. These curves may be the result of mixed farming strategies, where a small number of a variety of animals is kept for a mixture of products (meat and milk) principally for domestic use. This pattern not only seems more economically plausible, but is also evident in a trend toward heterogeneity that exists in the Late Neolithic, Eneolithic and Broze Age faunal assemblages. However, there is no evidence of an intensive dairy eco-

nomy based on sheep and goat. However, in diversified herds, small stock is exploited principally for meat, while cattle are kept as a source of milk (*Dahl and Hjort 1976.223–56*). It is therefore possible that the trend of increased diversity of assemblages reflects a diversification in animal products, with cattle or goats as the main milk animals.

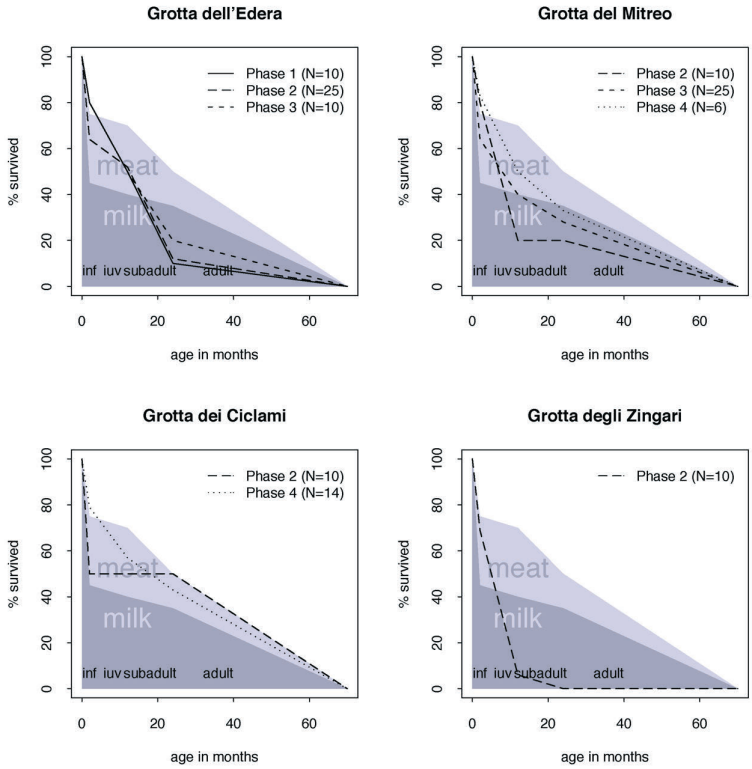

Fig. 15. Kill-off curves of assemblages from sites Grotta dell'Edera/ Stenašca, Grotta degli Zingari/Ciganska jama, Grotta del Mitreo/ Mitrej and Grotta dei Ciclami/ Orehova pejca.

Goats or sheep?

Goats and sheep are usually kept together as 'small stock' and regarded as one unit. Difficulties in distinguishing sheep from goat bones in faunal assemblages (*Boessneck 1969*) grouped under 'ovicaprines'. However, sheep and goat are complementary animals in terms of food preferences and grazing behaviour (*Dahl and Hjort 1976.249–56; Bartosiewicz 1999*). Most sources agree that under traditional pastoral conditions goats are more effective milk producers than sheep (*Dahl and Hjort 1976.210*). Therefore they allow for a fine grained diversification of herds. Combining sheep and goats has many practical advantages. Goats act as flock leaders and lead sheep to graze over wider areas (*Dahl and Hjort 1976.250*) and complementary dietary preferences allow a more effective use of land.

Goats are obviously present since the appearance of small stock in *Caput Adriae* (Grotta dell'Edera/Stenašca, layers 3a in 3; phase 1). However, their ratio is usually low, around 20% which is usually cited as the optimal proportion (*Bartosiewitz 1999*).

The percentage of goats is high in specialised assemblages, where caprines are the dominant component (60%.) However, large percentages of goats can be attributed to collection strategies, which favoured large, easily identifiable fragments (horn cores). In Edera/Stenašca, where sample size is relatively high (24 and 42 fragments determined to the level of species), the percentage of goat never exceeds 30 (Fig. 18).

Rowley-Conwy determined that Arene Candide goats were present from the Middle Neolithic onwards (*Rowley-Conwy 2000*), when they were used for milking. Rowley-Conwy attributes their late appaerance to their supposed unsuitability for sea transport.[9]

However, goats were present in the *Caput Adriae* region from the first introduction of the *caprinae*.

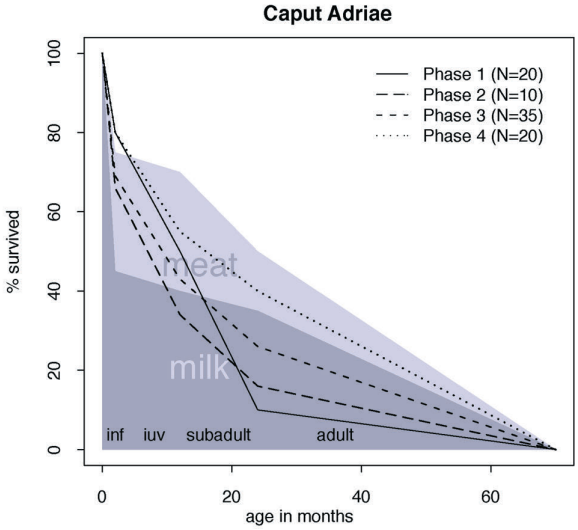

Fig. 16. Combined kill-off curves.

9 However, weak phylogeographic structure (i.e. high gene flow) in domestic goats (*Luikart et al. 2001*) indicates extensive transportation of goats. It also suggests that goats might have played an important role in historical human colonisations, migrations and commerce.

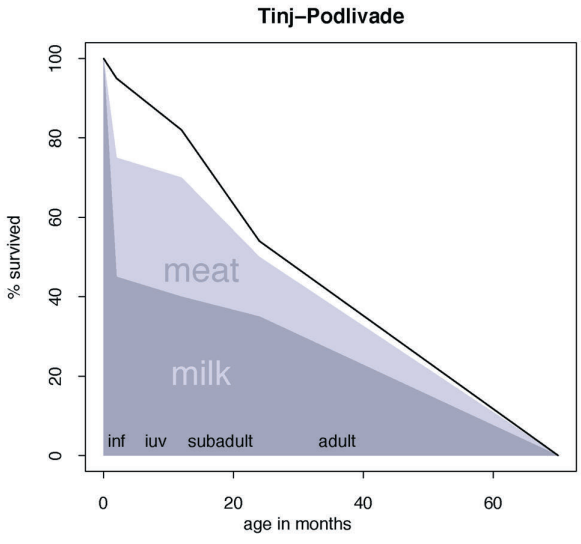

Fig. 17. Kill-off curve from Dalmatian open-air site Tinj-Podlivade, indicating exploatation of herds for meat.

They could have been used for small scale dairying, invisible in the crude resolution of kill-off curves. However, I believe that goats can not be connected to the process of diversification and appearance of dairying on a larger scale in the Late Neolithic.

Seasonality and mobility

A basic tactic for enhancing the productivity of herds is mobility, seasonal, and inter-annual, to exploit the best available pasture or to prevent local overgrazing. An examination of seasonality of site use is an essential step if any light is to be cast on the organisation of an economic system. Patterns of the presence or absence of animals at sites through the seasonal cycle are represented in the distribution of young animals, whose ages can be accurately determined from tooth eruption patterns. The eruption of sheep teeth is relatively well understood and various methods can be applied to study age and seasonality. In this analysis I compiled analyses of the wear stages of mandibles from the original publication and standardised them against Payne's scheme (*1973*). The samples are generally very small, and only nine assemblages from two sites (Grotta dell Mitreo/Mitrej (*Petrucci 1997*) and Grotta dell'Edera/Stenašca (*Boschin and Riedel 2000*)) yielded enough data, which is presented in Figure 19). However, due to the very small samples and blurred age distributions, only some tentative conclusions can be drawn.

It appears that the majority of animals in Grotta dell Mitreo/Mitrej in phase 2 were culled between 2–6 months. Since no foetal remains are present, animals were probably not present on the site.[10] In phase 3 the pattern changes; the peak is still at 2–6 months, but younger animals and foetuses are present too, which suggests that sheep lambed on the site. No animals older than 6 months are present on the site.

The seasonality pattern in the Grotta dell'Edera/Stenašca seems to be different. All age ranges except 0–2 months are present in phase 1; however, this sample is unrepresentative due to the small size. Most animals were culled at 0–2 months in phase 2; animals from the age range of 2–6 months are absent. All age ranges are equally represented in phase 3; however, sample size is again very low.

Comparing the seasonality pattern of the sites, it is complementary. Most animals from Mitreo were culled at 2–6 months in phase 2, while this age range is absent from Edera.

Other assemblages offer some hints on seasonality patterns. The majority of animals from Grotta degli Zingari/Ciganska jama are older than six months, aged on the basis that most mandibles that had milk premolars were also characterised by molars in the process of eruption. The presence of neonatal animals demonstrates lambing on the site. A similar situation can be observed in Grotta Gigante/Pečina v Gmajni (*Riedel 1969*), where most mandibles have

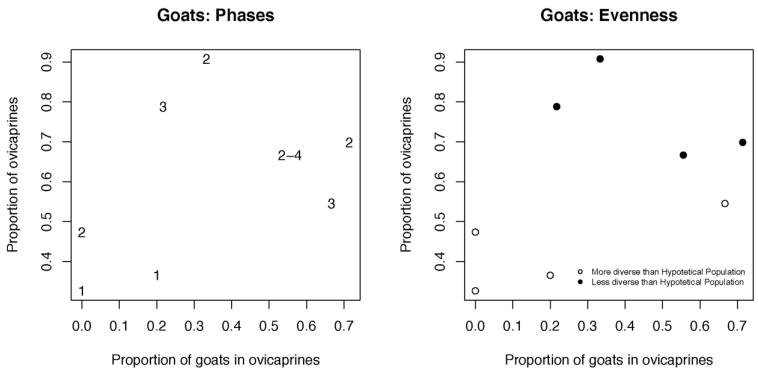

Fig. 18. Proportion of goats in the assemblages by relative evenness scores (left) and chronological phases (right).

10 Taphonomic factors may, of course, be responsible for the lack of foetal bones, but since foetal bones were recovered from other contexts, this may suggest that ewes were actually absent from the cave in the lambing season.

both milk premolars and molars in the process of eruptions, pointing at cull of animals older than six months.

In the Pupićina most of the animals whose age could be estimated were foetuses or younger than 2 months, suggesting occupation of the cave in the lambing season.

When in the seasonal cycle were the caves in use? The birth season of sheep and goats is crucial to the discussion. Wild sheep's oestrus is stimulated by decreasing day length, which triggers an increase in hormonal activity. Seasonality is more pronounced in more northerly regions. Wild sheep thus breed in late autumn/early winter and lamb in late spring/early summer. Oestrus can be manipulated by the practices of herders. Oestrus can be stimulated by the controlled introduction of rams into a flock. On the other hand, where ewes are not separated from rams, they become polyoestrous. This is the traditional Navajo shepherding strategy, which is aimed at maximising births (*Kelley 1994*).

It is thus not clear precisely when sheep and goat might be expected to give birth. At least two scenarios are possible.

Scenario 1. If Neolithic sheep gave birth in late spring/early summer, then 2–6 month animals were culled somewhere within the period between August and December, 6–9 month old animals in period the between December and March. Then animals from the phase 2 occupation of Grotta dell'Mitreo were culled in the period from August to March, with the peak between August and December; while in phase 3, animals were present on the site from June to December, with culling peak in autumn. Animals from phase 1 contexts from Edera were absent during the summer from the site, but in phase 2, most animals were culled in summer and absent during the autumn and early winter.

In *scenario 2* Neolithic sheep are polyoestrous, therefore give births over whole year. The seasonality pattern in this scenario is extremely difficult to interpret, but different and complementary patterns observed in different hint at the seasonal use of sites.

The complementary seasonal pattern observed in Mitreo and Edera may suggest that cave sites were not merely outstations of a larger pastoral system, with central sites elsewhere, but they comprised a full yearly cycle of seasonal mobility. However, due to the extremely small sample sizes, all conclusions here are tentative and further testing of the arguments is necessary.

Representation of body parts

The relative frequency of different body parts can provide valuable information about operational sequences on dead animals in the landscape. In this way can we identify processing and consumption sites, and the role of sites in the settlement pattern, and identify the spatial dimension of operational sequences on animals flowing through the landscape. The observed distribution of anatomical parts in archaeological contexts is a result of a potentially complex set of cultural and natural processes.

For the purpose of analysis skeletal elements were grouped into a series of carcass units. NISP counts

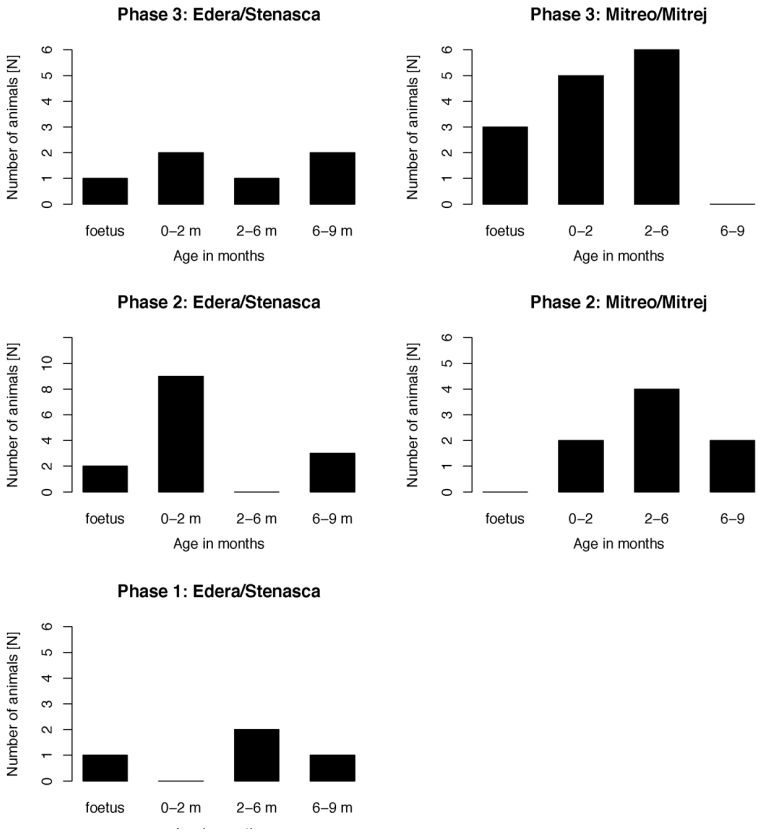

Fig. 19. Seasonality data for Grotta dell'Edera/Stenašca and Grotta dell Mitreo/Mitrej.

were corrected by dividing NISP for each carcass unit by the number of elements present in the carcass unit in a complete skeleton. Note that not all elements were included for each carcass unit.

The principal measure used in the analysis is %MAU, which was calculated by standardising corrected NISP for carcass units to 100 % by dividing values by the highest corrected NISP; The MGUI (*Binford 1978*) and volume density (*Lyman 1994.Table 7.6*) were are used as predictive models of carcass unit selection. Mean MGUI and density were calculated by averaging values for the different elements included in each carcass unit. Relationships between these variables and carcass unit frequencies were assessed using scatter plots and non-parametric statistical measures of correlation (Spearman's r).

Sample sizes are generally low, so some caution in interpreting results, as with the seasonality pattern is advised.

In Edera/Stenašca (Fig. 20) there is a strong positive correlation between food utility, as measured by the mean MGUI, and carcass unit frequency for phases 2 and 3, but a weak and statistically insignificant correlation for phase 1 assemblages. An obvious feature of body part distribution is the extremely large proportion of head bones. This can probably be attributed to the taphonomic processes (*Stiner 1991; Stiner 1994*). If one removes head bones from the analysis, then there is an even stronger correlation for phase 2 and 3, but a weaker and less significant correlation for phase 1 assemblages. Turning to red deer, we find an inverse pattern (Fig. 21). There is a negative correlation between food utility and carcass unit frequency over all four phases (grouped together due to the small sample sizes), which becomes stronger as head bones are removed from analysis.

In Grotta dell'Mitreo/Mitrej a weak positive correlation between food utility and carcass unit frequency can be observed, similar to the phase 1 assemblages from Edera/Stenašca. However, this may be due in both cases to very small sample sizes. The proportion of head bones to other carcass units is much lower than at Edera, suggesting different taphonomic agents operating on the site from those at Edera (Fig. 22). The sample sizes are admittedly small, and the results are preliminary, but the overall impression is that sheep and goats were consumed on the site, suggested by the presence of meatier parts, but red deer carcasses were only butchered in the Edera/Stenašca and consumed elsewhere. If this is true, then we have evidence for two seasonally exclusive uses of the site: as a herding camp, and as a hunting camp. Meagre seasonal indicators for red deer[11] suggest that red deer were hunted in winter during phase 1, while in phase 2 the hunting season shifted to summer-autumn.

The large ratio of sheep and goat bones to red deer suggests significantly greater consumption, and may indicate that this was a residential camp where flocks were accompanied by entire household(s) and not just shepherds.

Another question is whether these results reflect the selective use of carcass units or are merely the result of taphonomic processes (*Grayson 1981; 1984*). Carcass unit frequency is not significantly correlated with volume density; however, it is much weaker and even negative when head bones are excluded (Fig. 23). Thus a large proportion of head bones in Edera are possibly a result of the density mediated destruction of bones. However, a significant positive correlation between carcass unit frequencies and food utility, and a negative correlation between carcass units and volume density with head bones excluded suggests that assemblages can still yield some information on the selective use of carcass units.

Sites

The work of J. E. Brochier (*1983; 1990; 1991; 1996*) in the French Midi demonstrates that sedimentological and soil micromorphological analyses of the sediments of caves can indicate whether caves were used as animal shelters as they are made up of and contain abundant calcareous spherullites and pytholiths. Giovanni Boschian (*2000; Boschian and Montagnari Kokelj 2000; Boschian and Miracle 2003*) has established that the soil morphology evidence for these deposits was formed by the accumulation of ash derived from the burning of the shelter layers containing herbivore droppings.[12] Two different facies were determined for stable deposits.

11 Only animals older than six months are present in contexts 3a and 3, while in context 2a and 2 foetuses, newborns and animals younger than 6 months are present (*Boschin and Riedel 2000.Table 8*). However, sample size is again very low.

12 Boschian (*2000*) has identified stable deposits in caves from the Triestine Karst, Azura, Lonza, Caterina, and Pupićina. On the basis of descriptions such deposits also be infered for other caves, such as Podmol pri Kastelcu, Mala Triglavca, Acijev spodmol, Vaganaćka pečina, Vela spila, Hateljska peć.

Facies 3 deposits ('layer-cake') are made up of finely alternating black and white lenses. They appear in the form of 'heaps' and are mainly found near the cave walls, and may be result of cleaning the ash from the centre of the cave and of heaping in marginal areas (*Boschian 2000.364; Boschian and Miracle 2003*). The thin, finely layered charcoal lenses suggest that this process was repeated cyclically, probably over a long period (Fig. 24).

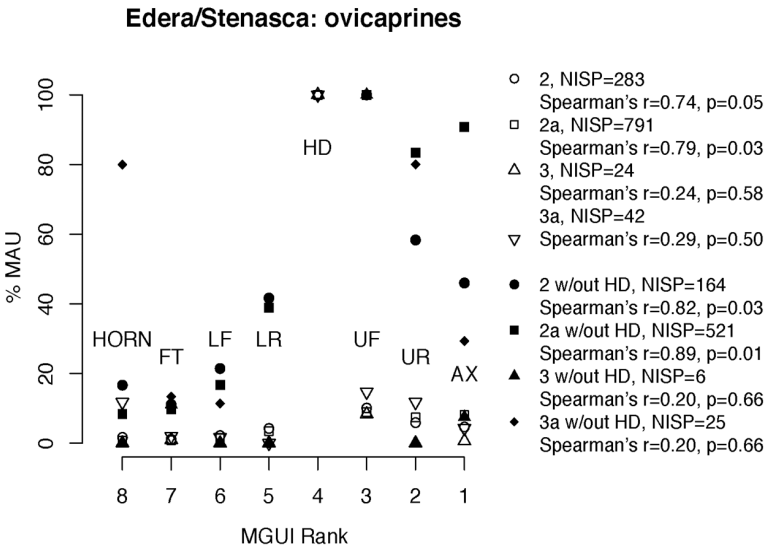

Fig. 20. Representation of carcass units of sheep in assemblages from Grotta dell'Edera/Stenašca.

The basic components of facies 4 are the same as those found in facies 3 and are the result of similar sedimentary processes. These deposits are highly homogenous, as coprolithic aggregates are very sparse throughout the deposits. The disaggregation of coprolites was probably due to reworking and trampling, as suggested by the compactness of the facies 4 sediment. Large patches of phosphates are common. This facies is usually found in the centre of the caves.

The varying distribution of facies suggests that the cave space was somehow structured, with a central area used for animal accomodation, which was regularly cleared, and marginal areas at the cave walls used as a dump for burned dung. Sheep can produce large quantities of dung. Modern breeds can produce around 500 kg of dung per year (up to 900 kg/year animal) and around 1.5 kg per day; goats are even more productive. Cattle can produce up to 10 000 kg of dung per year (*Slicher van Bath 1963*). And even if animals do not stay in the cave for the whole year and only part of the day (night, midday) a small herd can produce a large qauntity of dung[13]. Thick layers of dung cause cave floors to be slippery, wet and generally uncomfortable for animals. This can cause weight loss and susceptibility to diseases and parasites. Animal droppings are a medium for parasites such as strongyloid, which can be often found in humid and unattended stables (*Kompan et al. 1996; Pogačnik et al. 1998*). However, sheep dung is around 80% water and has to be dried in order to make it flammable.

Based on his work in the Midi Pyrenees Brochier has proposed a model for a complex agro-pastoral system in which transhumant shepherds seasonally moved from their lowland open-air settlement (*habitats bergeries*) to the upland caves (*grottes bergeries*). This produced a settlement pattern with two exclusive type of sites, seasonally occupied caves, where animals were kept during the summer and permanent open air villages. This pattern is similar to the *Alpwirtschaft* and ethnographically documen-

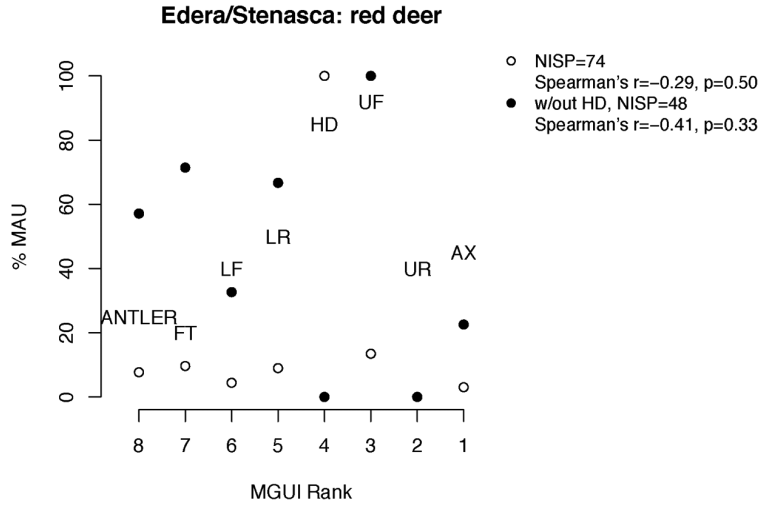

Fig. 21. Representation of carcass units of red deer in assemblages from Grotta dell'Edera/Stenašca.

13 Thus a herd of 100 animals which spends 8 hours per day in a cave can accumulate 4000 kg of fresh and around 2800 kg of dry dung in one year.

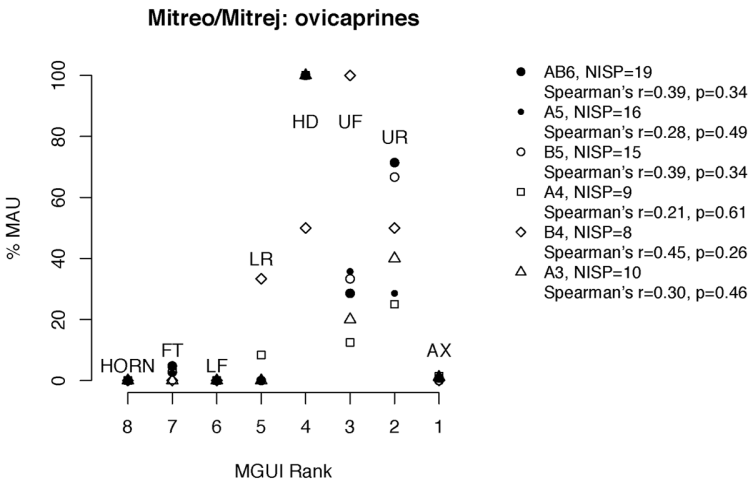

Fig. 22. Representation of carcass units of sheep in assemblages from Grotta dell'Mitreo/Mitrej.

ted systems of normal transhumance practiced in the Dinarides, or with seasonal upland pastoral settlements (*stine, katuni*) and lowland villages (*Marković 1980*). This model was somehow uncritically accepted also for the eastern Adriatic and the Triestine Karst. However, there are also other ethnographically documented uses of caves in the pastoral systems of eastern Adriatic coast and Dinarides. Caves were often used as winter stables, especially on Dalmatian islands (*Mlekuž field notes*, Fig. 25) and at Bukovica (*Vinščak 1989*). Use of similar structures is attested also for Greece, where similar structure in Argolid was documented by Claudia Chang (*Chang and Murray 1981*).

Perhaps an even better analogy for caves are *staje*, shelters where animals are kept during the midday heat and during bad weather (*Vilfan 1957*). Sometimes *staje* were used for overnight shelter, especially if pastures were too far from villages. *Staje* are usually natural shelters, caves, rock shelters, doline, used mainly for animals, although shepherds may use them too. *Staje* are reused, as can be observed in the dry walls used to structure the space. Most of the excavated caves in the Triestine karst were used as *staje* in historical times, which can be attested by the reports of informants and the dry wall structures visible in excavation reports.[14] However, it is important to note that *staje* were used in a system of non-transhumant pastoralism, documented for the Adriatic Islands and Triestine Karst, where animals were pastured on common land around the village (*Vilfan 1957; Vukelić 1973*).

This may be compared to the technique called 'hogan grazing' practiced by the Navajo, who bedded their flocks close to their homes – hogans or rock shelters. Flocks were allowed to graze nearby during the day, but in the evenings they were returned to the corrals (*Bailey 1980.77; Blomberg 1983; Kelley and Whitley 1989. 88–99*).

The intensive presence of grazing animals around the caves can be attested also by the presence of 'open vegetation' pollen and the low percentage of grasses in palinological record (Podmol pri Kastelcu (*Turk et al. 1992*)), which indicates that grasses were grazed before flowering (*Groenman-van Waateringe 1993*).

The most direct evidence for the presence of flocks of domestic animals in the archaeological record are

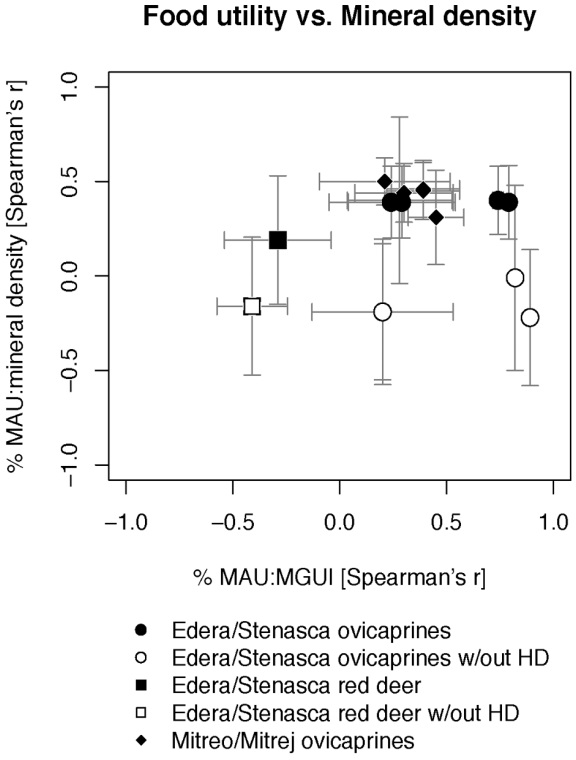

Fig. 23. Correletion between representation of carcass unit representation and food utility vs. correlation between carcass unit representation and mineral density.

14 Use of caves for *staje* can be attested at Grotta Azzura/Pečina na Leskovcu (*Cremonesi et al. 1984*), Mala Triglavca (*Leben 1988*), Podmol Pri Kastelcu (*Turk et al. 1992*), Grotta degli Zingari/Ciganska Jama (*Marzolini 1971*), Pejca v Lašcu (*Moser 1899*) and Grotta dell'Orso/Pečina pod Muzarji (*Guacci 1959*).

Fig. 24. Facies 3 deposit at the Mala Triglavca.

Fig. 25. Cave-stable near Matajna on the Island Pag.

shelter deposits. Although sites were probably used only seasonally, main anthropogenic component attests to the periodically intensive presence of animals. And this is in contrast to the relatively low rates of bone deposition, indicating a very low culling of animals.

Integrating the results into the wider picture

The first sheep and goat bones appear in the late Mesolithic contexts of phase 1 (Fig. 26). The ratio of sheep and goat in the assemblages are usually well below 50%, and most assemblages are diversified, with red deer and boar being the main components. These assemblages can be understood as the seasonal hunting camps of indigenous hunter-gatherer communities. Sheep and goat bones document the formation of domestic herds, still, however, incorporated into traditional modes of land use.

The main change can be observed at the advent of phase 2 (Fig. 27). The first Neolithic contexts of the 'Vlaška group' yielded some very specialised assemblages with ratios of sheep and goat well above 50%, sometimes even close to 100%. However, there are still some diversified assemblages similar to those from phase 1 and marked by high proportions of red deer or boar. Seasonality analyses suggest changes in the seasonal use of sites from previous phases. The observed complementary seasonal patterns suggest that Triestine Karst caves enclosed the full cycle of anual mobility. The concentration of animals is suggested by the appearance of stable deposits, which also documents a shift in cave use from gatherings of people to animal shelters. However, caves were also sites of consumption, as the pattern of selective uses of sheep and goat carcass units suggests. The main animal product was meat. Kill-off patterns suggest unoptimised culling for immediate consumption. Wild animals were butchered on-site, but consumed elsewhere. This may indicate the complementary use of the cave during the annual cycle, whereby caves were used for part of the year as animal shelters or as herding camps, and as hunting camps at other times. Therefore, phase 2 documents the emergence of carnivorous pastoralism in the area.

In the late Neolithic (phase 3, Fig. 27) and Eneolithic and Early Bronze Age (phase 4, Figure 28) a trend

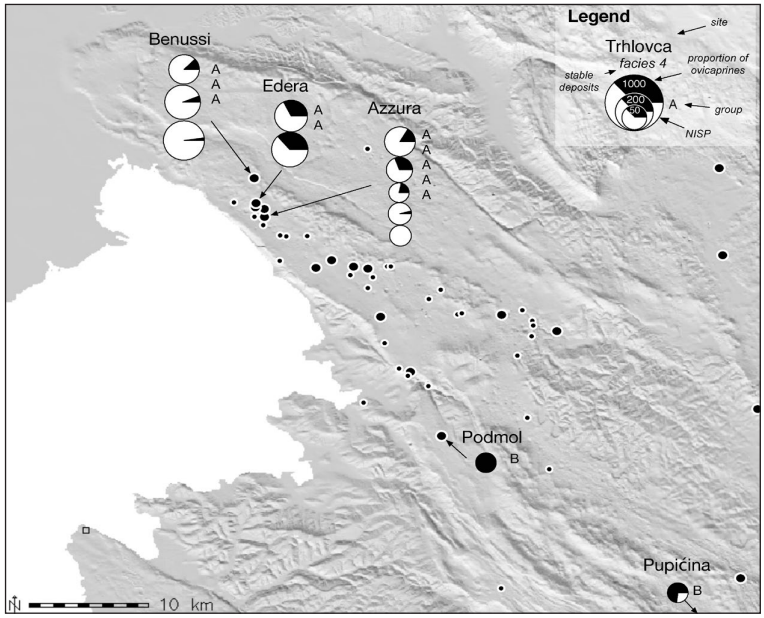

Fig. 26. Caput Adriae assemblages at the Mesolithic/Neolithic transition (phase 1).

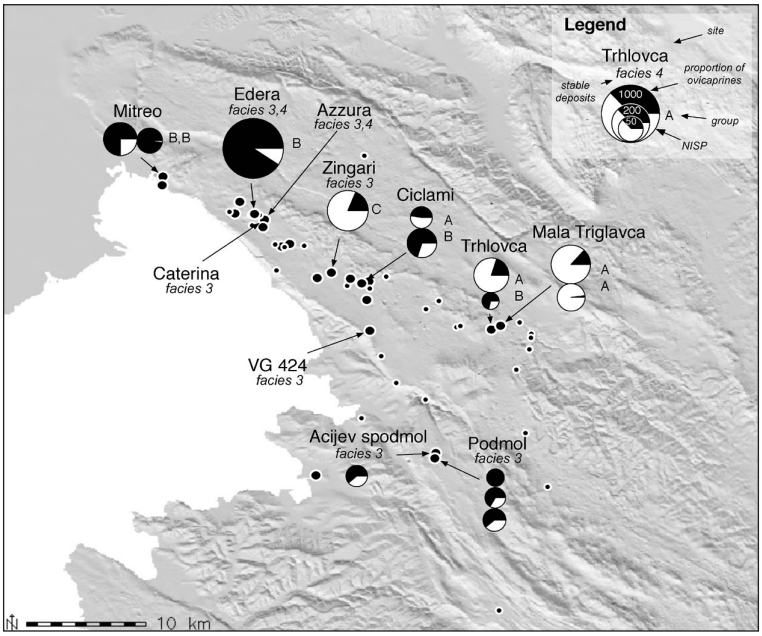

Fig. 27. 'Vlaška group' assemblages (phase 2).

towards the homogenisation and diversification of assemblages can be observed. Assemblages are now much the same as each other and more diversified. This may be the consequence of the increased use of some animals (cattle) for milk and assigning a more specialised role to each species in the herd, as kill-off patterns for sheep indicate. Thus a mixed stock economy emerges, with more flexible security strategies than those of carnivorous pastoralism.

CONCLUSION

The first evidence of sheep and goats on the eastern Adriatic coast appear in late Mesolithic contexts. Although they are domesticates, they do not document the beginning of pastoralism, but rather an internal political dynamic. They were obtained through exchange networks and used as prestige foodstuffs in a competitive feast operating in and between hunter-gatherer communities in the eastern Adriatic (*Miracle 2001*). But they opened a path for different transformations. Those animals – although shared – are beyond the obligations of sharing that apply in the case of hunted animals.

When sheep and goats were rare, they were eaten before they could reproduce within the household which obtained them. Small proportions of sheep and goat in assemblages suggest that animals were not herded, but used only for display and feasts. With the establishment of farming villages in the Istrian lowlands and northern Dalmatia a channel for the massive acquisition of sheep and goats was opened. When households could obtain them (through exchange or raiding), they become more numerous, and this led to the establishment of domestic herds. But through their reproduction they reproduce the principle of divided access to resources. They become the medium for the reproduction of new social relations of production.

New relations between people and between people with respect to animals can be observed are marked by the establishment of domestic herds, which serve as sources of food. In the archaeological record this change can be read from stable deposits, which evidence the concentration of domestic animals on sites, and high proportions of sheep and goat in assemblages, which points to their importance for subsistence. Both indicators of new relationships between people and animals appear together, at the end of 'transitional phase' (phase 1), around 7500 cal BP. Thus can phase 1 be understood as a period

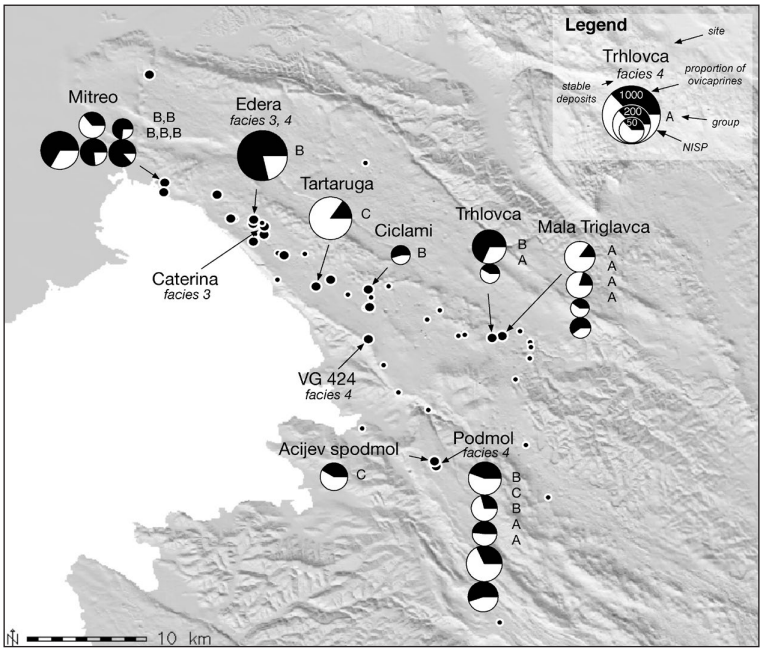

Fig. 28. Late Neolithic/Eneolithic assemblages (phase 3).

of structural transformation of hunter-gatherers into full-blown pastoralists. It seems that this process was relatively fast,[15] which is probably connected to the high reproductive capacity of small stock. A similarly rapid transformation can be observed in the case of the Navajo in the 18th century.

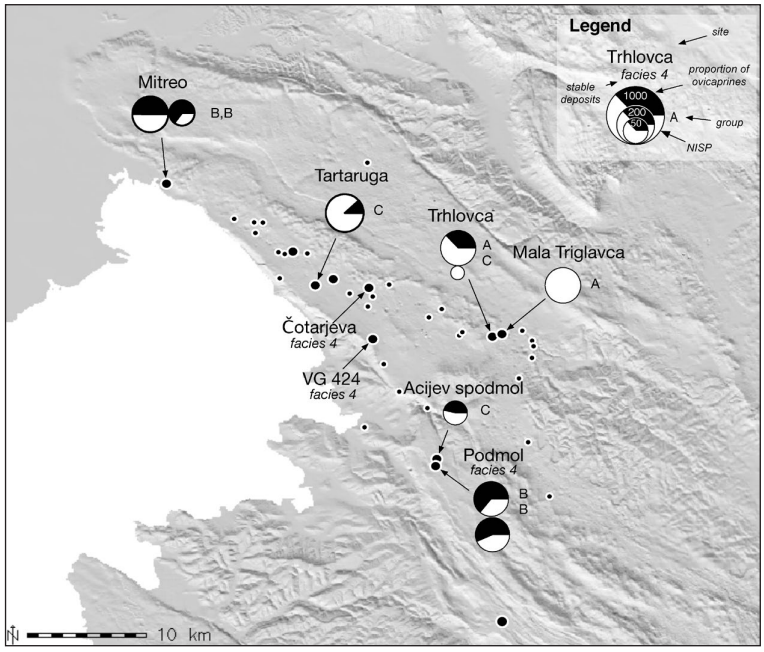

Fig. 29. Eneolithic/Bronze Age assemblages (phase 4).

Although sporadic finds of domestic sheep can be found in late Mesolithic contexts, specialised strategies of small stock management appear in the early Neolithic. This change is also reflected in a radically different use of sites from the early Neolithic onwards. Mesolithic sites were primary gatherings of people; with the appearance of small stock they became animal shelters. Generally, the small sample sizes of animal bones demonstrate low rates of bone deposition, which is consistent with the cull and consumption of only one household. Sites were seasonally occupied. The pattern of seasonal use of sites can be interpreted by two exclusive scenarios. However, both support the idea that sites from the study area are part of a complete seasonal cycle. In the Early and Middle Neolithic, domestic animals were exploited mainly for meat. Animal management strategies were not optimized and were geared towards the satisfaction of immediate needs. Milk probably became an important animal product in the late Neolithic/Eneolithic. This change in the pattern of animal product exploitation is also reflected in a trend of diversification of animal management strategies. The remains of wild animals display a pattern where only low-utility parts can be found at sites, whereas high utility animal parts were consumed elsewhere. The bones of domestic animals display the reverse pattern. This may demonstrate the complementary use of sites through the seasonal cycle.

I believe that *Caput Adriae* and the Dinarides were settled by small, autarchic and mobile groups. Although pure pastoralism is rare in the ethnographic record (*Salzman 2004*), I believe that the Neolithic pastoralists of the eastern Adriatic were as pure carnivorous pastoralists as can be. The social relations of carnivorous pastoralism kept political life to a minimum; households did not enter complex social structures such as exchange networks. This may explain the pattern observed by Budja (*2001*). He noted a general lack of painted pottery, anthropomorphic figurines, stamp seals, tokens and stylised amulets on the eastern Adriatic coast and explained this curious absence by social barriers which prevented engaging and maintaining the circulation of goods and people over long distances (*Budja 2001.41*). The reason for the exclusion of eastern Adriatic from the regional networks exchange is therefore to be sought in the fragmentation and isolation of carnivorous pastoralist households, who lead a 'very careful life' of isolated accumulation of their herds. East Adriatic carnivorous pastoralist can be best portrayed as Cyclops.

The transformation of hunter-gatherer groups into pastoralists was a deep structural transformation, which involved much more than the incorporation of novel resources into existing societies. It was a revolutionary transformation which created a different set of social relations between animals and people and between people with respect to animals, new organisations of production, different ways of life and different perceptions of landscape. And although the archaeological record of pastoralism from the eastern Adriatic coast displays many differences from hunting and gathering, it is not the result of population change, but a structural change in social relations which changed the hunting and gathering mode of production into carnivorous pastoralism.

15 Most phase 1 radiocarbon dates tend to cluster around 7500 cal BP.

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back to contents

UDK 903.2(4)"633/634":575.1.291.37
Documenta Praehistorica XXXII (2005)

The process of Neolithisation in South-eastern Europe: from ceramic female figurines and cereal grains to entoptics and human nuclear DNA polymorphic markers

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ABSTRACT – *Paper discusses concepts of 'neolithic package', 'demic diffusion' and 'revolution of symbols' in relation to the process of Neolithisation in South-eastern Europe and the phylogeography of Y chromosome haplogroups I1b*, J and E. It is suggested that 'demic diffusion' is not a realistic scenario, and that there were two Neolithisation trajectories and two related, archaeologically and genetically readable, regional palimpsests in South-eastern Europe.*

IZVLEČEK – *V članku analiziramo koncepte 'neolitski paket', 'demska difuzija' in 'revolucija simbolov' v povezavi s procesom neolitizacije jugovzhodne Evrope ter filogenetike in filogeografija Y kromosomskih haploskupin I1b*, J and E. Ocenjujemo, da 'demska difuzija' ni koncept, ki bi ga lahko še naprej uporabljali pri pojasnjevanju začetkov neolitika in pridelovalnih gospodarstev na omenjenem področju.*

KEY WORDS – *hunter-gatherers; farmers; demic diffusion; symbolism; archaeogenetics; Eurasia*

INTRODUCTION

It is doubtless convenient to begin with the simplifying assumption that a new Neolithic way of living and thinking broke completely with the past, spreading en bloc into Europe, and such a formulation may be justified for certain political purposes (see *Ammerman 2003.3–23*), but it seems unlikely that this is actually how Mesolithic-Neolithic transitions were effected in most Eurasian regions.

It is not only that the transmission of the 'Neolithic package' is still believed to explain the Neolithisation of Eurasia, but also that it represents a stable and homogenous set of features, a viable unit which can be analysed as a totality. Its structure is supposed, on one hand, to be composed of a subsistence economy, ceramic technology, and symbolism. On the other, its inter-regional transmission is postulated by the agency of migration, 'demic' and 'cultural' diffusion, and there is a presumption that only a few human communities and 'cultures' are inventive, thus becoming and remaining centres of cultural change and progress.

We have to remember that 'package' was never conceptualized, although it is embedded within the basic principles of 'Neolithic culture, economic practice and technology' on one hand, and in systems of 'typological similarities' and 'structural analogies' in the Levant and Europe on the other. A number of attempts have been made to 'repack' it, and it was suggested finally that such a homogenous, stable and complex entity of 'economic practices and material culture' never existed (*Thomas 1993.357–394; 1998.37–60; 1999.13–17; 2003.67–74; Pluciennik 1998.61–38;* see also *Çilingiroğlu, in this volume*).

In the context of the orthodox 'centre and periphery' perception of Eurasian Neolithic, the 'package' maintains a central position in interpreting the ge-

nesis of European Neolithic cultures, in determining the direction of farmer's movements, and in positioning the geographical boundaries between the groups of hunter-gatherers and farmers. The determination of its structure is based on the assumption that Neolithic colonisers, when crossing the border between the Levant and Europe, brought in their most valuable objects, techniques, symbols and language(s).

We will not concentrate in this paper on migrating farmers' imaginary baggage, but on the instrumentalisation of the ideas of the 'Neolithic package' and 'demic diffusion' that led to the politicisation of the debate about the process of Neolithisation and the transition to farming in Europe between 'diffusionists' and 'indigenists'. While the diffusionist idea of an allochthonous farmers invasion of Europe has been self promoted continuously in a way that "the idea of 'demic diffusion', which is now widely accepted and used in literature .... helped to fill a major gap in terms of how we think about the movement of people in prehistory", the indigenists' idea of autochthonous population participation in the transition to farming was labelled anachronistic and nationalistic (*Ammerman 2003.14–16*).

INSTRUMENTALISATION OF 'FARMING PACKAGE' AND 'DEMIC DIFFUSION'

Parallel with more or less sophisticated approaches in Mesolithic and Neolithic archaeology, interpretative frameworks have evidently been dominated by instrumentalism, at different levels and in different combinations. While its primary function is the *a priori* determination of early domesticates and associated artefacts (not necessarily by context) as Neolithic assemblages, the secondary function is to correlate *a priori* these packages with classic and molecular population genetic determinations of the West Asian farmers' invasion and repopulation of Europe. Five basic postulates were incorporated in this interpretative framework:[1]

- that the 'early farming and Neolithic are virtually equivalent' and, where one and/or two elements (cereals and/or pottery) of the Neolithic 'package' have been documented, the others must necessarily have existed (*Ammerman and Cavalli-Sforza 1971.674–676; 1984.45–52; Renfrew 1987.131*);

- that the spread of agriculture was caused by the agency of 'demic diffusion', by which farmers expanded geographically, 'carrying with them their own culture' (*Ammerman and Cavalli-Sforza 1973.344; 1984.61; Ammerman 2003.5–6; Bar-Yosef 2002. 113–122–123; Cavalli-Sforza 1996. 52–69; 2002.80; Renfrew 1987.126–131; 1996.77; 2002.8; Rowley-Convy 2004.83–113*). Their expansion into Europe was of the final episodes of the Levantine PPNB 'great exodus' (*van Andel and Runnels 1995.481–499; Cauvin 1997.310–311; 2000.141–142; Perlès 2001.283–290; 2003.99– 113*);

- that the language(s) of the nuclear area of farming were transmitted to south-east and central Europe through 'demic diffusion' (*Renfrew l.c.*, but see also *Renfrew 2000.26; 2002.3–16*);

- that a 'revolution of symbols', changes in collective psychology must have preceded and engendered those in the economy and technology, so all regions peripheral to the Levant did not become Neolithicised until the new ideology reached them (*Cauvin 1978.134; 2000.22–25, 207–208*);

- that the transition to a theorising culture which utilised 'external symbolic storage' and employed a symbolic material culture was not a characteristic of hunter-gatherer, but of agrarian, societies (*Renfrew 1998.3–4*).

Forty years ago, two paradigmatic works coincidentally appeared in the same year. Robert Rodden (*1965.152–153*) formulated a list of farmers' settlements and artefact sets in south-eastern Europe and the Levant, emphasising that, because of similar economic, technological and symbolic features the former was 'not peripheral to the region within which the Neolithic revolution began, but was an integral part of it' (Fig. 1). Grahame Clark (*1965a.45–48; 1965b.58–73*) presented the results of 'a pure scientific approach in chronological determination of the expansion of farming culture' which was based on the radiocarbon dating 'of materials from the actual settlements of the prehistoric cultivators themselves'. The decreasing values of uncalibrated radiocarbon dates that appeared to be arranged in a southeast-northwest cline he described as 'the gradual spread of farming culture and the Neolithic way of life from the Near East over Europe'.

1 We neither discuss the process and the tempos of Near Eastern origin of farming nor archaeobotanical evidence of spread of cultigens but regional South-eastern European trajectories. For cultigens dispersal see *Colledge, Conolly and Shennan 2004.35-58* and attached Kotsakis' Ozdoğan's and Peltenburg's comments (l. c., 50–53).

ARCHITECTURE	ARCHITECTURE	**Techniques**	**Objects**
1 Square house plan	1 Square house plan	- weaving	- sling bullets
2 Wood frame and mud wall	2 Wood frame and mud wall	- matting	- disk spindle whorls
3 Open settlement plan	3 Open settlement plan	- stone polishing	- belt hooks
		- pressure flaking	- stamp seals
SUBSISTENCE	SUBSISTENCE	- bone grooving	- ear studs
4 Cattle?	4 Cattle?	- pottery making	- stamp-seals
5 Pigs?	5 Pigs?	- agriculture and husbandry	- stone vases
		Architecture	- bone spatula
ADORNMENT	ADORNMENT	- rectangular houses	- awls on metapodials
6 Studs and nails	6 Studs and nails	- pier houses	- pierced needles
7 Clay stamps ('pintaderas')	7 Clay stamps ('pintaderas')	- mudbricks	- axes, adzes and chisels
8 Belt-fastener	8 Belt-fastener	- wattle and daub	**Figurines**
		- "plastered" floors	- schematized seated figurines
POTTERY DECORATION	POTTERY DECORATION	- clay benches	- coffee-bean eyed figurines
9 White-painted and finger impressed	9 White-painted and finger impressed	- complex hearths	- pebble figurines
10 Red-on-cream painting	10 Red-on-cream painting	**Economy**	
11 Modelled face	11 Modelled face	- domesticated plants	
		- domesticated animals	
Rodden 1965.153	*Renfrew 1987.170, Fig. 7.9*		*Perlès 2005.Tab. 1*

Fig. 1. Lists of artefacts and symbols that mark 'cultural similarities' between Anatolia and Balkans (*Rodden 1965.152–153*), 'demic diffusion' (*Renfrew 1987.Fig.7.9*) and 'pioneer colonisation' (*Perlès 2005. Tab. 1*).

The same cline of radiocarbon dates and related, supposedly initial Neolithic settlements dispersal, six years later Ammerman and Cavalli-Sforza (*1971. 674–688; 1984*) saw as the marker of 'demic diffusion'. In the time-space-transgressive settlement pattern they recognized the continuous displacements of farmers at an average of 1 km per year. The rate of displacement was calculated by the ratio between the time of departure from the Levant (Jericho was used as the starting point of diffusion), time of arrival in Europe, and the geographical distance between the two. There was not very much attention devoted to the discrepancy between the rates of advance of farmers on the continental and regional levels. Along with a continental average of 1.08 for 'all of Europe', the most extreme regional rates of 0.70 for 'Balkans' and 5.59 for 'Bandkeramik' were suggested (Fig. 2). The authors believed, however, that such an 'average constant rate of diffusion' must have been driven by permanent population growth, and that the continuous waves of population expansion must have been distinct from 'cultural diffusion'. While in 'demic diffusion', a movement in a radial expansion of populations, farmers themselves caused the spread of agriculture; in 'cultural diffusion' it was spread by the transmission of farming techniques. The population growth was explained as the result of surpluses and storage in farming societies, which allowed the carrying capacity of the land to rise.

Marina Gkiasta and her colleagues recalculated the mean rate of spread in Europe by linear regression analyses of calibrated radiocarbon dates, and produced results similar (1.3 km per year) to those of Ammerman and Cavalli-Sforza. But when all calibrated date distributions are used to show the spread, the pattern is far less obvious, and a clear co-occurrence of hunter-gatherers' and farmers' sites was shown within the south-east European regions (*Gkiasta et al. 2003.45–62*). In Eurasia and Mesoamerica continental average rates of spread range between 0.5 and 1.25 km per year, but on regional levels it was much faster, ranging from 2.5 to 5 km per year (*Belwood 2001.181–207; 2005.12–43*). We can predict, however, the rapid spread of a farming economy in those environments in which they had developed, as that it was much slower where ecological, transitional, demographic and social boundaries exist, but substantial evidence for population growth per se to induce population pressure has not yet been proven archaeologically (*Bellwood 2001.197–198; Cohen 2002.41–47*).

Sites	*Correlation coefficient*	*Diffusion rate*
Mediterranean	0·975	1·52 km per year
Western Mediterranean	0·915	2·08
Balkans	0·458	0·70
Bandkeramik	0·494	5·59
All of Europe	0·892	1·08

Fig. 2. Regional diffusion rates, taking Jericho as the centre of 'demic diffusion' (from* Ammerman and Cavalli-Sforza 1971.Tab. 2*).

Menozzi, Piazza and Cavalli-Sforza (*1978.786–792; 1994;* see also *Ammerman and Cavalli-Sforza 1984*) seven years later, for the first time postulated that 'demic diffusion' and the replacement of indigenous European population are genetically and archaeologically grounded in the resemblance of a south-east-northwest gradient of the first principal component of 95 gene frequencies of 'classic' non-DNA marker dispersal (allele frequencies for blood groups, the tissue antigen HLA system, and some enzymes) and the gradual farming settlement distribution as measured by radiocarbon dates.

From this point onwards, interpretations of the processes of Neolithisation and transition to farming in Europe were dominated by concepts of permanent population growth and subsequent 'demic diffusion' taking over new lands. While at interregional level the macro model of 'wave of advance' has been applied, the micro models of 'availability', 'leapfrog' and 'saltatory' jumps from one suitable environment to another, 'pioneer' and 'insular' colonization were suggested for regional and local levels (*Zvelebil and Rowley-Conwy 1984.104–128; Zvelebil and Lillie 2000.62;* seee also *Zvelebil in this volume; Zilhão 1993.37; 2001.14180–14185; van Andel and Runnels 1995.481–499; Perlès 2001.62; 2003.99–113*).

It is noteworthy that over the same period Colin Renfrew (*1987.169–170, Fig. 7.9*), working on the arrival of a Proto-Indo-European language in Europe with the arrival of farmers, objectified 'demic diffusion' archaeologically through the catalogue of artefacts and symbols attached to Rodden's map twelve years earlier (Fig. 1). It has become an icon perpetuating the legitimacy of both 'demic diffusion', and 'great exodus', in which Levantine and Anatolian farmers carried with them all the features of their cultures but, paradoxically, not the central authority and symbolic representations that maintained this power (*Özdoğan 1997.16–17; Perlès 2005.276–278, Tab. 1;* see also *Çilingiroğlu in this volume*).

MtDNA AND Y CHROMOSOME HAPLOGROUPS AND 'DEMIC DIFFUSION'

The map of the first 'principal components' in classical marker frequency dispersal across Europe and the Near East (*Menozzi, Piazza and Cavalli-Sforza 1978.786–792*) has perpetuated the legitimacy of Neolithic ancestry for modern Europeans. The question 'Who are the Europeans?' that Alberto Piazza (*1993.1767–1769*) addressed in this context was not at all rhetorical. The Near East was recognized as an ancestral homeland for the people who now live in Europe. The elimination of the European Mesolithic population was supposed, despite only a 27% total variation in 'classical marker' frequencies attributed to Neolithic populations across the Europe. We should certainly not overlook the assumption driven by population geneticists that there was no genetic interaction between hunter-gatherers and farmers (*Cavalli-Sforza, Menozzi & Piazza 1993.639–646;* see also *Sokal et al. 1991.143–145; Cavalli-Sforza et al. 1994; Cavalli-Sforza and Cavalli-Sforza 1995; Cavalli-Sforza 1996.51–69; Renfrew 1996.70–92; Belwood and Renfrew 2002; Dupanloup et al. 2004. 1361–1372; Barbujani and Bertorelle 2001.22–25*).

This interpretative discourse was mainly the outcome of a low-resolution map of allele frequency distribution, showing that Europe as a whole is quite homogenous, as the genetic distances between different populations are relatively short, and the genetic landscape is rather uniform. Only some clear outliners, such as Basques and Saami have been shown to emerge from this homogeneous entity as hunter-gather Mesolithic relics.

Simulations of the colonisation process of Europe by Neolithic farmers have been performed, however, in parallel to test the effect of the Neolithic expansion on European molecular diversity, as well as their potential admixture and competition with local Palaeolithic hunter-gatherers. The results strongly suggest that the scenario of 'demic diffusion' is unrealistic, as it would only have occurred if Neolithic migrants had contributed more than 66% of the genes at the time of the admixture (*cfr. Goldstein and Chikhi 2002.143*), and, as mathematical simulations suggest that there should have been a massive Palaeolithic contribution to the current gene pool of Europeans (*Currat and Excoffier 2005.679–688*).

After the revolution in the study of the human genome the debate has moved from 'classical' markers of certain genes to loci in humans, the mitochondrial DNA, which is present in both sexes, but inherited only in the maternal line, and the Y chromosome, which is present only in males and inherited through males. Because they are non-recombining and highly polymorphic, the mitochondrial genome and the Y chromosome are ideal for reconstructing human evolution, population history and ancestral migration patterns.

The analysis of uniparentally inherited marker systems allows population geneticists to study the gene-

tic diversity of maternal and paternal lineages in different Eurasian populations, as well as the environmental and cultural processes that might have been involved in the shaping of this variety. Thus different human nuclear DNA polymorphic markers (polymorphisms) of modern populations have been used to study genomic diversity and to define maternal and paternal lineage clusters, haplogroups, and to trace their (pre)historic genealogical trees and chronological and spatial trajectories. Particular attention, however, has been drawn in recent years to the power of Y Chromosome biallelic markers, which allows the construction of intact haplotypes, and thus male-mediated migration can be readily recognised (for a review of the literature see *Richards 2003.135–162; Goldstein and Chikhi 2003.129–152; O'Rourke 2003.101–109; Jobling and Tyler-Smith 2003.598–610*).

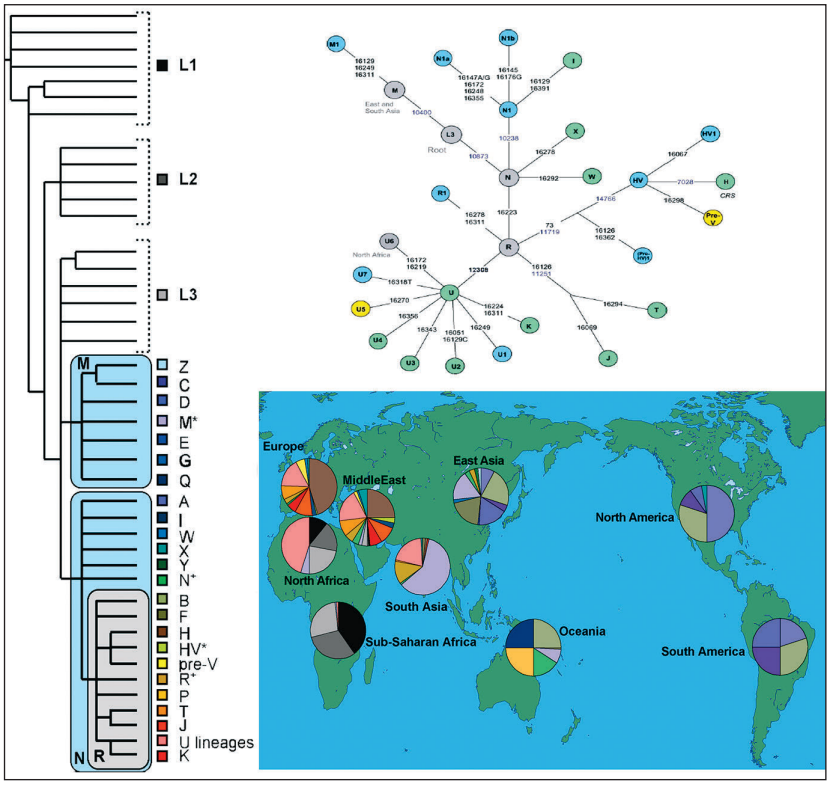

Fig. 3. MtDNA haplogroups and their worldwide distribution (from Richards M. 2003. The Neolithic Invasion of Europe. Annual Review of Anthropology 32: Figure 3, Copyright © 2003 by Annual Review of Anthropology, and after http://www.mcdonald.cam.ac.uk/genetics/images/MtDNA_DistributionMap.gif).

Over 90% of maternal lineages present in European populations can be classified into 8 major (macro)-haplogrops, designated H, V, T, J, N1, U, X and W, characteristic of western Eurasians in general (Fig. 3). Haplogroup H is the most frequent cluster but it occurs at frequencies of only around 25%–30% in the Near East, whereas its frequency is about 45%–60% in European populations. The cline of its spatial frequency is quite the opposite of what one would expect had it been distributed by 'demic diffusion' during the Neolithic. Indeed, haplogroup H and its sister clade V arrived in Europe during the Middle Upper Palaeolithic and re-expanded after the Last Glacial Maximum. The haplogroups J and T1 that are linked to Neolithic gene flow from the Near East and Anatolia present only a small minority of lineages at frequencies between 12% and 23%. It is noteworthy that these haplogroups did not play an equivalent role in the diffusion of farming towards the East (*Richards et al. 1996.185–198; Richards et al. 2000. 1251–1276; 2003.135–162; Richards and Macaulay 2000.139–151; Pereira et al. 2005.19–24; Torroni et al. 2000.1173–1177; Quintana-Murci 2004.838*).

After the study of female lineages that provided "uniquely authoritative glimpse of the African origin and subsequent dispersal of our species, the Y Chromosome has finally come into its own", Colin Renfrew and his colleagues euphorically hailed the recognition of new Y chromosome markers (*Renfrew, Forster & Hurles 2000.253–254*). Three paradigmatic papers were published at the same time, sorting the paternal genetic legacy of our species that has persisted to the present in ten, globally distributed haplogroups, I–X (*Underhill et al. 2000.358–361;* see also *2001. 43–62; 2002.65–78*) (Fig. 4), and twenty-two haplotypes, Eu 1–Eu 22 (*Semino et al. 2000.1155–1159*) (Fig. 5), and ten haplogroups (1–3, 8–9, 12, 16, 21–22, 26) (*Rosser et al. 2000.1526–1543*) with corresponding binary Y Chromosome markers that relate to the demographic history of Europe and Near East.

Two main migratory scenarios have been proposed. At the global level the expansion of Homo sapiens sapiens out of Africa via the Levantine corridor to Europe at approximately 45 000–30 000 years BP was said to have been recognized in markers M89/213 and haplogroup VI. Its appearance in Europe

is very low (0.2%), indicating that few of these lineages have survived to the present (*Underhill et al. 2001.53*). An alternative chronology forthese events has been suggested: that the separation of the out-of-Africa branch of modern humans from Africans was embedded within 13 5000 bp for the earliest and 57 000 bp for the latest chronological limits, and that the Asian and European populations diverged some 20 000 years later (*Zhivotovsky 2001. 700–708*).

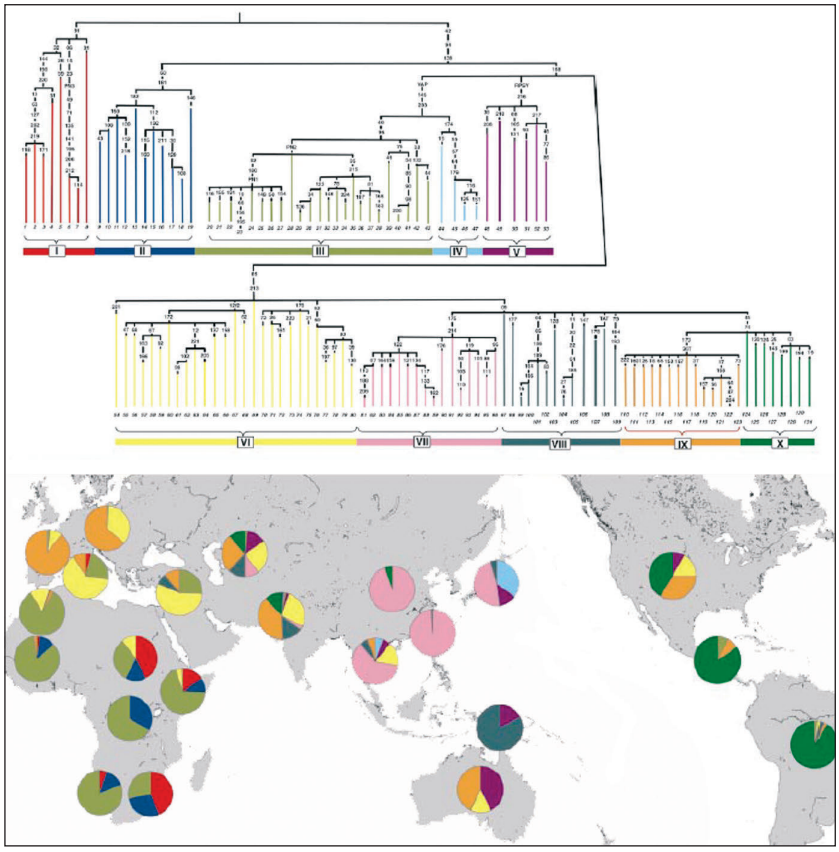

Fig. 4. Y chromosome haplotypes assorted into 10 haplogroups (I–X) and their worldwide distribution (from Underhill P. A., 2001. The phylogeography of Y chromosome binary haplotypes and the origins of modern human populations. Annals of Human Genetics 65: Figs 1 and 2, Copyright © 2001 by Blackwell Publishing Ltd).

At the inter-regional level, two Palaeolithic migratory episodes, and one Neolithic, were recognized as having contributed the modern European gene pool. The first is linked to the expansion of haplotypes Eu18 and Eu19 (M173 and M17) from isolated population nuclei in the Iberina peninsula and the Ukraine around 30 000 bp. The second relates to haplogroup Eu7 (M170), which originated in Europe in descendants of men who arrived from the Middle East 25 000 to 20 000 years bp, who could have been associated with the archaeologically traceable Gravettian culture.

The southeast-northwest cline of frequencies for haplotypes Eu4, Eu9, Eu10 and Eu11 (M35, M172, M89 and M201) is believed to mark the male contribution of a 'demic diffusion' of farmers from the Near East to Europe. In interpreting the mtDNA and Y Chromosome spatial frequency patterns in Europe Ornella Semino and colleagues calculated that European gene pool 'has ~80% Palaeolithic and ~20% Neolithic ancestry' and that the diffusion seems to be more pronounced along the Mediterranean coast than in Central Europe (*Semino et al. 2000.1157–1158*). By coalescence dating for a generation time of 27 years, they calculated the origins of these haplogroups at about 20 000–15 000 years bp (see also *Rosser et al. 2000.1526–1543*). The calculation was based on the concept of a statistical estimate of earlier and later limits for divergence times, since a population in a corresponding haplogrop region had bifurcated (*Hammer 2000.6771; Zhivotovsky 2001. 700–709; Zhivotovsky et al. 2003.1171–1186; 2004. 50–61; Rosenberg and Nordborg 2002.380–390*). Since the molecular age of mutations (Y Chromosome marker sequence) and its corresponding haplotypes must predate the demographic migratory event which it marks, the 'demic diffusion' could have happened at any *terminus post quem* and need not have been associated with farmers.

A year later Nebel and his group (*Nebel et al. 2001. 1103, 1105*) calculated by use of the mean variance of microsatellite repeats for a generation time of 25 years the start of the rapid expansion haplogroup 9, which includes both Eu9 and Eu10 haplotypes to 7492 years bp. The molecular age of haplogroup dispersals that are supposed to support the model of 'demic diffusion' thus post-dates the transition to farming in the Near East and in most of Europe.

In most recent studies of the origin, differentiation and diffusion of Y chromosome (macro)haplogroups

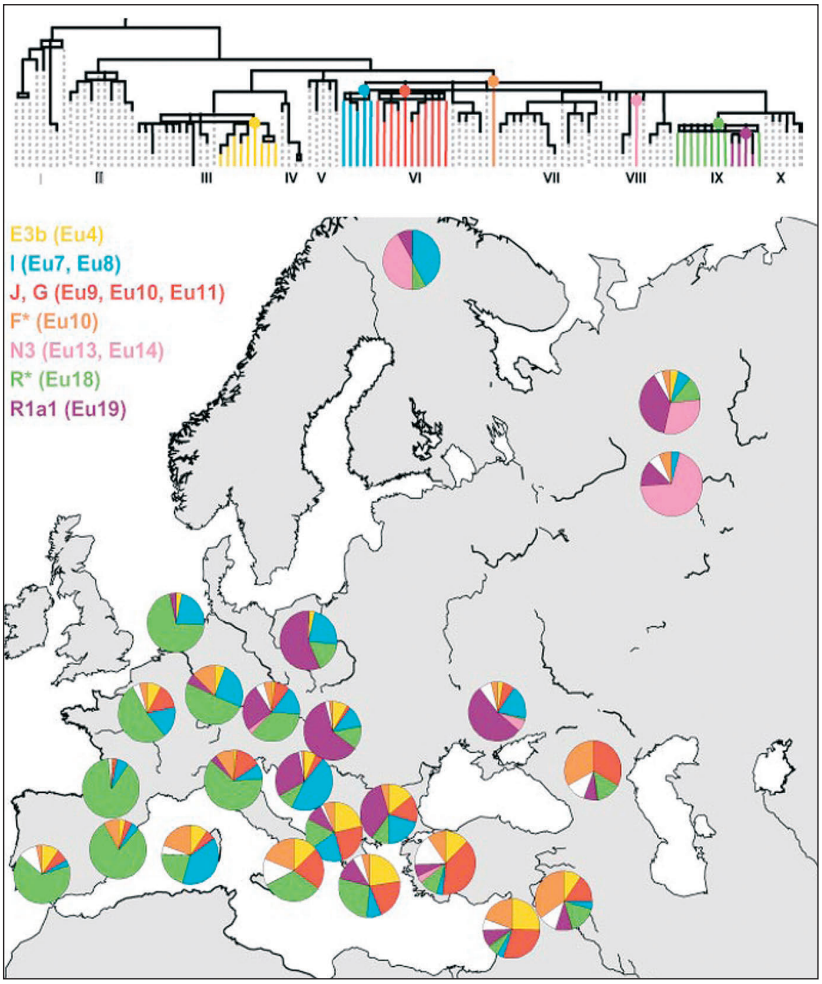

Fig. 5. Y chromosome haplogroups and their distribution in Western Eurasia (from Richards M. 2003. The Neolithic Invasion of Europe. Annual Review of Anthropology 32: Figure 6, Copyright © 2003 by Annual Review of Anthropology).

J and E[2] it becomes evident that expansions from the Middle East toward Europe, whether calculated for a generation time of 25 or 30 years 'most likely occurred during and after the Neolithic' (*Semino at al. 2004.1032; Peričić 2005.1964–1975*). The median expansion time of haplogroup J (M267* and M172*) was calculated at 8700–4300 years bp, respectively, for the earliest and the latest limits. The network of haplogroup E (M78 and M123) with dispersals in the Near East, North Africa and the Southern Balkans exclusively, has been dated by the divergence time between the Near East and European lineages to a range of 14 000–7000 year bp. Haplogroup E3b1 (M78), which typifies European lineages, however, was calculated to have a median estimation of expansion date at 4800 years bp (*Cinnioğlu et al. 2004.131, 134*).

It was suggested that a major difference in population structure between Southern Europe and the Central Mediterranean from the Near East had already been formed at the time of the spread of (macro)haplogroup J, which was considered to represent the signature of the Neolithic 'demic diffusion' associated with the spread of agriculture (*Di Giacomo et al. 2004.357–371*). The recent findings of many biallelic markers which subdivide the haplogroups J and E suggest that the large-scale clinal patterns cannot be read as a marker of a single, time limited wave of advance from the Levant, but a multi-period process of numerous small-scale, more regional population movements, replacements, and subsequent expansions overlying previous ranges (*Semino at al. 2004. 1032; Di Giacomo et al. 2004.36; Cinnioğlu et al. 2004.133–135*)

The contribution of Europe's indigenous inhabitants to European society has been underestimated ever since. The conclusion often drawn is that large regions were uninhabited during the early Postglacial, and because of a lack of evidence of Mesolithic sites in both Central and Southeast Europe the Mesolithic population must have been very sparse and, in consequence, this would have allowed farmers to expand and colonise the regions rapidly (*Pinhasi, Foley, Mirazón 2000.45–56, 50, 54; Gkiasta et al. 2003.45–62; Pinhasi and Pluciennik 2004. 69–72*). Hunter-gatherer sites are unequally distributed throughout the South-eastern Europe, but there are well-defined clusters dispersed along the Aegean coast and among the islands, in Thessaly, on the Adriatic and Ionian coasts, and Dinarides, and in the Danube in the Northern Balkans.

Within the studies of late-glacial hunter-gatherer expansions from refuge areas in Europe, haplogroup I

2 The Neolithic Eu4 and Eu9, Eu10 and Eu11 lineages have been renamed to haplogroups E3b and J an G after the introduction of Y chromosomal binary haplogroups nomenclature system (*Hammer 2002.339-348*).

(M170) was recently analysed in detail. It represents the only major clade of the Y phylogeny that is widespread over Europe, but virtually absent elsewhere, including the Near East. Thus it was suggested that it appeared in Europe, probably before the Last Glacial Maximum (se above), accounting, on average, for 18% of the total paternal lineages (*Rootsi et al. 2004.128–137*).

Previous studies of haplogroup I phylogeography revealed that it reached a frequency of ~40%–50% in two distinct regions, in Nordic populations of Scandinavia, and in the Balkan population of Southern Europe (*Semino et al. 2000.1156*). Recently performed genotyping resulted in a phylogegraphical structure of three distinct sub-haplogroup regions of postglacial expansions from refuge areas. While sub-haplogroup I1c (M223) covers a wide range in Europe, with the highest frequencies in the north-west, sub-haplogroup I1a (M253) is mostly found in Northern Europe, with the peak frequency in Scandinavia (*Rootsi et al. 2004.129–134*). Sub-haplogroup I1b* (P37) is relevant for Paleolithic, Mesolithic and Neolithic indigenous population prehistory in South-eastern Europe (*Barać et al. 2003.535–542; Rootsi et al. 2004.133–134; Marjanović 2005.757–763*) (Fig. 6). The highest frequencies were reported in the Balkans, the Adriatic and the Ionian Sea, with the highest values reaching 54–66% on the Adriatic islands of Brač, Hvar and Korčula. Paradoxically, this is exactly the place where seafaring Near Eastern farmers were supposed to have settle and began colonising the entire region in the mode of 'demic diffusion' (*Chapman and Müller 1990.127–34; Müller 1994; Forenbaher and Miracle 2005. 514–528*). We should stress, however, an opposite gene flow of sub-haplogroup I1b* from the Balkans to Anatolia due to migrations at about 9100 years bp (*Cinnioğlu et al. 2004.131, 134; Rootsi et al. 2004.134;* for mtDNA haplogroup see also *Richards et al. 2000.1263–1264*).

It is, of course, rather speculative to read a detailed demographic picture of Palaeolithic and Mesolithic hunter-gatherers and Neolithic farmers from the distribution of present-day genetic lineages. It should perhaps be stressed that any Y chromosome or mtDNA marker sequence intrinsically associates the 'demic diffusion' of Levantine and Anatolian farmers and the Neolithic way of life. It was more the continuous movements of men and women along the social networks which seemed to be more dynamic in the Eastern Balkans.

THE CERAMIC FEMALE FIGURINE PARADOX

The haplogroups become instrumentalised archaeologically by a correlation of the southeast-northwest cline of frequencies of haplogroup Eu9 in current West Asian and European populations and the geographic distribution of both Neolithic figurines and painted pottery (*King and Underhill 2002.707–714*). Authors have suggested that haplogroup Eu9 (J–M67* and J–M92 according to *Semino et al. 2004. 1030*) is the best 'genetic predictor' of 'demic diffu-

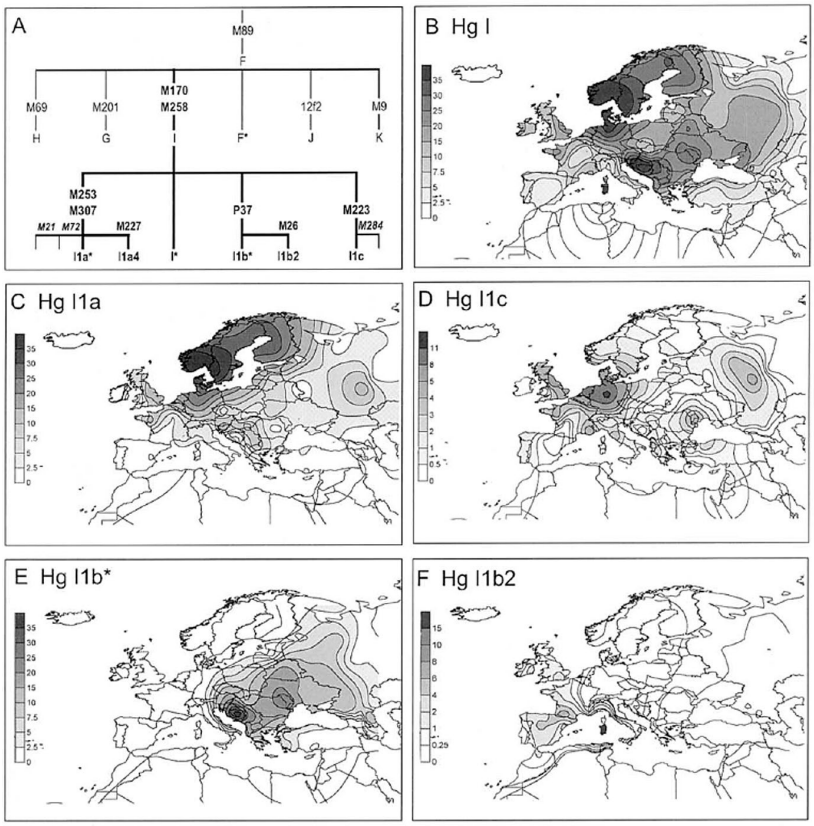

Fig. 6. Haplogroup I and sub-haplogroups I 1a, 1b*, 1b2 and 1c frequency distributions in Western Eurasia (from Rootsi Siiri et al. 2004. Phylogeography of Y-Chromosome Haplogroup I Reveals Distinct Domains of Prehistoric Gene Flow in Europe. American Journal of Human Genetics 75: Figure 1, Copyright © 2004 by The University of Chicago Press).

sion' originating from South-central Anatolia and, of the appearance of Neolithic figurines and painted pottery at various European sites. This appreciation was based on the assumption that the package carried by the males that participated in 'demic diffusion' consists of material and ideological content, and Y chromosome haplotype markers we mentioned above.

Jacques Cauvin (*1978.134; 2000.22–29, 204–205, 207–208*) indeed suggested that the use of clay as a building material, stone and baked clay figurines, and auroch skulls and horns buried in the houses were markers of the new religion and ideology – a powerful force which made possible the transition to the Neolithic and to farming way of life, which 'very quickly revealed itself to be expansionist'. He thought he had found the reason why villagers outside the Levant did not develop subsistence production for themselves. They supposedly did not adopt the 'humanisation' of art and related new divinities that could have stimulated the necessary energy to develop a new type of palaeo-economy. The Europe in this interpretative scenario thus could not become Neolithicised until the ceramic female figurines had reached the Balkans.

It is broadly accepted, indeed, that ceramic female figurines appeared along with the beginning of cereal cultivationin PPNA in the Levant, and that all the gender and the symbolic attributes were visualised at that time, and as such incorporated a millennia latter in the 'new materiality' that defines the Balkan Neolithic (*Gimbutas 1989; Biehl 1996. 153–175; Marangou 1996.176–2002; Chapman 2000; Bailey 2005; Hansen 2005.199–200*).

The introduction of ceramic female statuettes, animal figurines and structural ceramics was certainly not the domain of Levantine hunter-gatherers, and they did not appear on the 'eve of the appearance of an agricultural economy' exclusively, as Cauvin suggested (*2000.25*). We can trace them from Central Europe across the Russian Plain to Southern Siberia and back to the Levant and Northern Africa. They are well embedded in Eurasian hunter-gatherer social contexts, and chronologically clustered within a time span from 26 000 to 10 000 years BP.

Janusz Kozłowski (*2000.526*) has already pointed out that central European Gravettian Venus ceramic figurines exhibit evident similarities to those of the initial Neolithic of the Near East. We have added the notion that the principle of fragmentation as a social practice is also evident. That is, female figurines were broken intentionally, some by means of well-controlled pyrotechnic manipulation (*Vandiver et al. 1989. 1002–1008; Soffer 1993.259–275; Verpoorte 2001. 56,128; Budja 2004.59–81*).

In Central Europe more than 16 000 fragments of anthropomorphic figurines, zoomorphic statuettes, pellets, 'earplugs', flat fragments and 'structural ceramic' were found at Dolní Věstonice, Pavlov, Petřkovice, and Předmostí in Moravia. Ill–defined types of fired clay fragments have been recorded at Krems-Wachtberg, Moravany-Lopata, Jarošov, and hypothetically at Kašov and Cejkov (*Soffer and Vandiver 1997.383–402; Verpoorte 2001*). We can certainly add to the list the 'structural ceramics' deposited in Klisura cave in the Peloponnese in South-eastern Europe. The ceramics were interpreted as Aurignacian

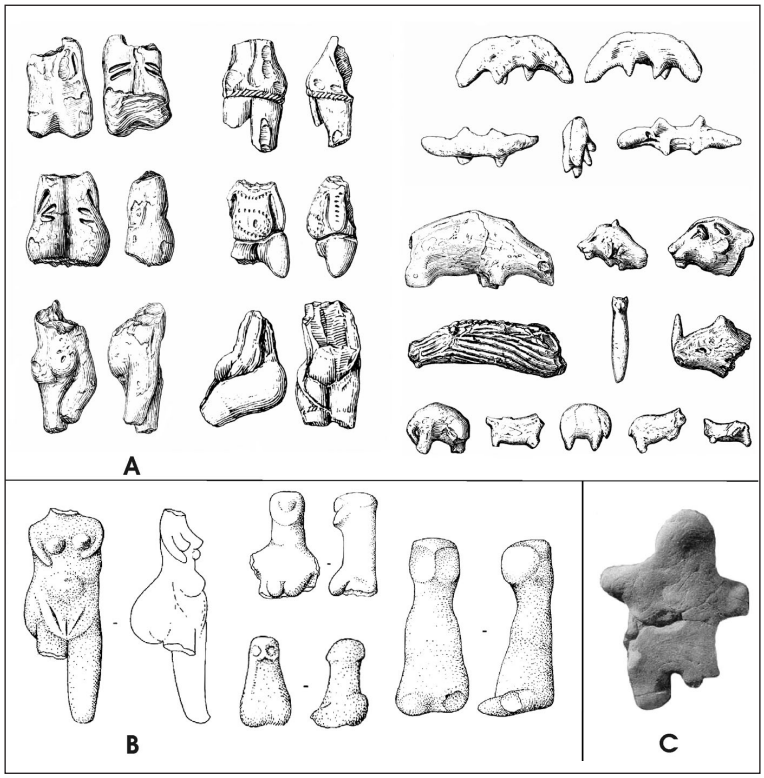

Fig. 7. Anthropomorphic and zoomorphic ceramic figurines from A: Dolní Věstonice Pavlov and Předmosti (from* Verpoorte 2001. Figs. 3. 6, 7, 8, 9, 46, 3.73, 8.1 and 54*), B: Mureybet (from* Cauvin 2000.25.Fig. 8*), C: Maininskaya (Maina) (from* Vasil'ev 1985.Fig. 2*).

***Fig. 8. Palaeolithic and Pre-Neolithic distributions of anthropomorphic and zoomorphic ceramic figurines, 'structural' ceramics and pottery in Eurasia. Sites, cultural contexts and radiocarbon dates of the first and the second are discussed in text. Pottery in South-eastern and North-eastern Asia is believed to be embedded in hunter-gatherer Initial Neolithic complexes: Osipovka and Gromatukha cultural complexes in Siberia; Odai Yamamoto I and Fukui cave sites in Japan, and Xianrendong, Miaoyan and Yuchanyan cave and open-air sites in Southern China. For ^{14}C dating and contexts see:* Derevianko and Medvedev 1995.13–14; Kurishima 1995.122– 128; Zhang 2002.1–13; Zhao and Wu 2000.236–238; Kuzmin 2002. 37–46; Keally, Taniguchi and Kuzmin 2003.3–14; Kuzmin and Shewkomud 2003.37–45.**

clay hearth structures, embedded chronologically from 34 000 to 23 000 years BP (*Karkanas et al. 2004.513–525*).

On the Russian Plain low-temperature-fired clay was reported at Zaraisk and Kostenki Gravettian sites. At the latter, located on the banks of the River Don, more than four hundred fragments were found, contextually associated with marl and ivory Venus figures, and animal statuettes (*Iakovleva 1999.125–134; Soffer, Adovasio and Hyland 2000.511–537; Soffer et al. 2000.814*). The most easterly figurine was found at an open air site at Maininskaya (Maina), on the left bank of the Yenisei River in Siberia (*Vasil'ev 1985.193–196; Maina on-line*).

The European assemblages are assigned to the Pavlovian, a local variant of the Eastern Gravettian technocomplex, and dated to about 26 000 BP (*Verpoorte 2001.86*). The ceramics at Kostenki are embedded in dates as early as 24 100 BP to as late as 18 000 BP (*Soffer et al. 2000.814*). Two dates are available for a ceramic figurine at Mayininskaya: at 16 540 ± 170 BP and 16 176 ± 180 BP (*Vasil'ev 1985.193–196; Vasil'ev et al. 2002.526, Tab. 1*). The most well known and supposedly the latest hunter-gatherer context of *chaîne opératoire* with anthropomorphic and zoomorphic ceramic figurines in Eurasia is embedded in an Early Mureybetian settlement context in Mureybet (IIIA) from the late eleventh and early tenth millennia BP. 'Female figurines in baked clay' and a 'nocturnal raptor' were associated with some in stone (*Cauvin 2000.22–28;* see also *Hansen 2005*). A lesser known ceramic fragment which was hypothesised to represent a Barbary Wild Sheep (*Ovis tragelaphus*) was found in an Ibero-maurisian context, dated to 19 800 ± 500 bp in Tamar Hat Cave in Algeria (*Saxon 1976.327–329*) (Figs. 7 and 8).

We may suggest, therefore, that ceramic technology had become 'inhabited' into the agency[3] of Eurasian hunter-gatherers long before the food production and farming social agglomeration appeared. Fired clay was a medium of artefact manufacture and manipulation which entailed active interferences in people's lives that depend on an ability to transmit or to acquire access to knowledge which obviously predates the transition to farming. We may hypothesise that it operated individually and collectively, but extended beyond the individual and their own lifespan.

The ceramic figurines in the Levant, Anatolia and the Balkans should be discussed in the contexts of hunter-gatherers' trajectories, where they were embedded in a continuum of traditions, symbolic systems and beliefs, as much as of the development and adoption of ceramic technologies. It is unlikely that they represent the materialisation of the ideological *conditio sine qua non* for the successful transition to farming, whether in the Near East or in Europe. Ceramic female figurines are 'predictors', to paraphrase King and Underhill, of the Palaeolithic hunter-gatherers' as much as the Neolithic farmers' haplogrups in Eurasia.

THE NEOLITHISATION OF SOUTH-EASTERN EUROPE AND THE TRANSMISSION OF SYMBOLS

It is worth remembering three postulates that have been casting a long shadow, to the extent that we continue to discuss the Neolithisation of Eurasia in terms of an abrupt replacement of autochthonous populations and related social structures, materiality and symbols.

Since Gordon Childe (*1951.76–77*) put forward the idea that ceramic technology and pot making are virtually universal characteristic of Neolithic communities, as well indicators of cultural identity, the appearance of pottery has been understood for decades as an exclusive marker of cultural discontinuity between the Late Mesolithic and Early Neolithic. The spatially restricted dispersals of selected ornaments attached to the pots reached paradigmatic status as the clusters of settlements comprehending painted pottery was thus believed to objectify the initial European Neolithic cultures and the confines of the region to be settled by Anatolian migrants first.

The second suggested that farmers introduce into Europe the ideology of 'domus' and related social and symbolic structures, which was based on the revolutionary process of the transformation of 'wild into cultural' (*Hodder 1990*).

The third proposed that the process was associated with 'theoretical culture utilising external memory storage' – new types of symbolic artefacts and their 'visual-symbolic' potential. In the scenario of cognitive evolution, hunter-gatherers have been hypothesised as unable to employ external symbolic storage devices (*Renfrew 1998.1–6*). This means in practice that new memory media and related material culture remain the domain of farmers who participate solely in the transition from preliterate to symbolically literate societies.

The initial elements of farming economy and 'Neolithic' materiality in the Balkans, however, were contextualised within hunter-gatherers' domestic and mortuary structures, which were believed to have been dominated by a social hierarchy that monopolised power and prestige and maintained and controlled inter-regional networks and integrative mechanisms. This was the agency, I suggested (*Budja 2001; 2003; 2004; 2004a*) which made possible the initial, almost simultaneous, distributions of domesticates and pottery, followed by the dispersals of prestigious artefacts listed in Rodden's and Renfrew's catalogue. It has to be noted that in the Western Balkans – the Adriatic Coast and the Dinaric hinterland, neither social hierarchical structures nor painted pottery, anthropomorphic and zoomorphic figurines and vessels, pintaderas, 'altars' and other prestigious artefacts have been identified in late Mesolithic and Early Neolithic site contexts. The region, although it adopted domesticates and pottery, did not enter into a network of interregional exchanges. This might have happened because the agency had not yet been articulated, and fragmented and isolated groups set up a network of economic, social and ideological barriers that stopped the circulation of goods and people over medium and long distances (*Budja 2004. 37–48;* see *Mlekuž in this volume*; for Peloponnese and Eastern Balkans see *Schubert 2005.239–253; Schwarzberg. 2005.255–273*).

In hunter-gatherer contexts in the Northern Balkans, pottery played an interactive role which was not reduced to the level of cooking pots and containers; they were multi-functional objects embedded

3 For the conceptualisation see Barrett (*2000.61-68; 2001.149*).

in both domestic and mortuary structures. They were deliberately incorporated into structures that have been hypothesised to have been related to ancestors and kinship, religious beliefs or practices, and shamanic rituals. I have already actualised paradigmatic structures embedded in trapezoidal buildings in Lepenski Vir, where pots were associated with infant burials, boulders coloured in red and black and sculpted in complex designs, figurative stone statues and deer skulls and antlers (*Budja 2004.71–75*). Almost identical pots have been reported in trapezoidal pit-dwellings in farmers' settlement contexts in Divostin, Banja and Blagotin-Poljna. The pottery in the latter was contextually associated with similar ritual structures – a new born infant skeleton and deer skull. Ceramic cereal grains, 'zoomorphic amulets' and anthropomorphic and zoomorphic figurines have been deposited in all three contexts (*Bogdanović 1986. 169–175; 1988.070; Budja 2003.118–124; Whittle at all 2002.66*) (Fig. 9).

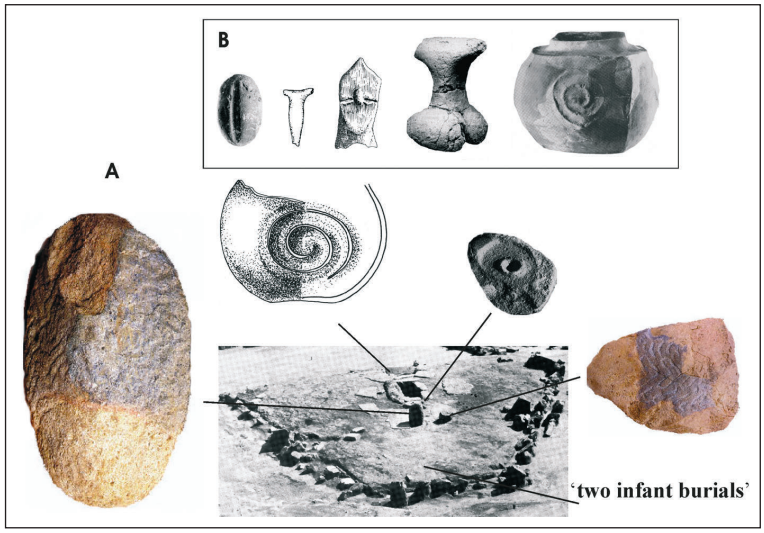

Fig. 9. Ritual structure in Lepenski Vir trapezoidal building No. 54 (A). Selected artefacts, mentioned in text from Divostin, Banja and Blagotin-Poljna (B) (from* Bogdanović 1986.169–175; 1988.070; Stanković and Leković 1993.178; McPheron et al. 1988.Fig. 11.1i, Plate I,m; Budja 2004.Fig.21*).

Also from funerary settings at Lepenski Vir, Padina and Vlasac come the burial structures which we may understand as reminiscent of the qualities or powers of particular shamanic personages. Five men, one woman and one child were buried in sitting positions with crossed legs. The body of the oldest man was burdened by the boulders, and a skull of an older man was placed beside the body of the youngest. The skull of an old woman and the skull of a large bovid were placed beside the body of a man buried in the trapezoidal building in an extended position (*Radovanović 1996.173–174, 17, 180, 209–210*) (Fig. 10). What all this indicates is that hunter-gatherer's social structures, which Jacques Cauvin relates exclusively to a new Levantine religion and ideology that make possible the transition to farming did exist in the Balkans and likewise participated in the process of Neolithisation autonomously.

It was no coincidence that along these structures a complex symbolic system was established. Symbols and construals, the basic units of ritual practices, were well visualised, whether carved and engraved on stone boulders, 'altars' and pots in domestic and funerary contexts, or painted on cave walls. By means of visualisation they became more potent storage devices, capable of storing profane knowledge and sacred principles. We have to emphasise at this point that hunter-gatherers' and farmers' cave paintings in South-eastern Europe have been overlooked and marginalised, although representing perhaps the most significant referentialities of symbols, construals and iconography, and their temporal continuity and spatial connections.

While the Climente II and Gaura Chindei caves are located within the hunter-gatherers' site distribution in the Danube Gorge, the Cervi cave is located a thousand kilometres to the south, near Porto Badisco in Lecce (the southern Apennine peninsula). Cave paintings demonstrate almost an identical canon in

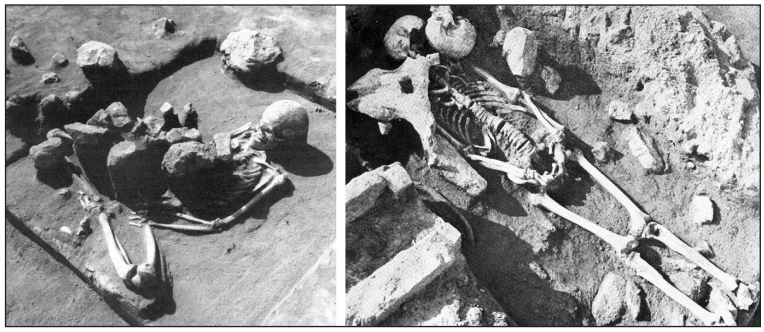

Fig. 10. Lepenski Vir burial structures (from* Srejović 1969.Fig. 69 *and* Radovanović 1996.Fig 4.2*).

Fig. 11. Cave paintings in Cervi cave, near Porto Badisco (above) and petroglyphs, carved and engraved on sandstone boulders and sculptures in Lepenski Vir (below) (from* Graziosi 1996.Plate 70 *and* Srejović and Babović 1983.8, 99, 121 and 125*).

the realisation of red and black symbols and iconographies with those carved and engraved on sandstone boulders and sculptures in the Lepenski Vir culture (*Graziosi 1996; Boroneanţ 1977.23–34; 1999 on-line; Budja 2004.59–81*) (Fig. 11). In discussing the hunter-gatherers' symbols in the Balkans I suggested identifying them as 'signs of all time' and interpreting them as entoptic motifs and their construals which might have been associated with religious beliefs and practices, altered states of consciousness and shamanic rituals.

Paradigmatic was the act of attaching spirals – an old symbol on the new media – ceramic vessels – that had been incorporated into existing hunter-gatherers' ritual practices and symbolic structures (Lepenski Vir). This principle was evidently maintained in farmers' contexts, as identical pots have been embedded in similar symbolic structures or associated with prestigious artefact sets in trapezoidal pit-dwellings, mentioned above. When painted motifs appeared in the Northern Balkans and Carpathians they were attached to vessels in extremely standardised forms, patterns and colours, and their distribution was restricted to 17% of the whole cluster of the Early Neolithic (Phase I) sites in the region. They were white at first, and they correlate perfectly well with the basic list of entoptics. I pointed out already that in Gura Baciului they are contextually associated with stone sculptures similar to those we met in Lepenski Vir (*Budja 2004.74–75*).

Ceramic seals (pintaderas) are even better indicators of the transmission of an 'old symbols' to a new media embedded in farmers' social structures. It is broadly accepted the seals were an Anatolian invention, since the Çatalhüyük and Bademagaci stamps predate all the others. But it is also true that the patterns on Early Neolithic stamps in the Balkans are very different from those in Anatolia. It is indicative that motifs incised on the face sides of the Balkan stamps continued to correspond perfectly with the symbols and/or entoptics (Fig. 12)

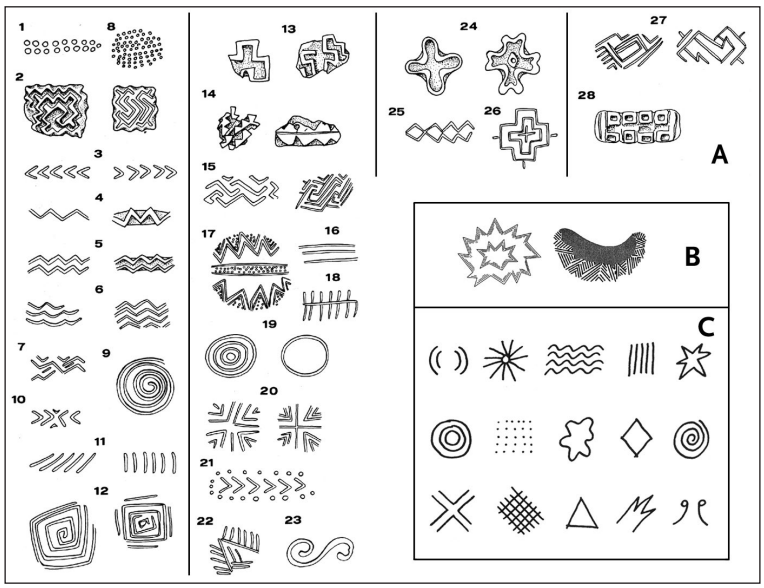

Fig. 12. Patterns on early Neolithic "stamp seals" in the Balkans (A) (from* Todorova and Vajsov 1993.Tab. 227*) and entoptic typical forms (B) (from* Oster 1970.87*).

we discussed in rituals dominated by hunter-gatherer social elites, whether visualised in funerary and domestic settlement contexts or in hardly accessible cave sites. They continued to be used in new subsistence and social arenas, where they became attached to artefacts (seals and 'altars') whose relevant functions are still not understood. In early Neolithic settlements they are contextually associated with new prestige items such as anthropomorphic and zoomorphic vessels, female figurines, 'exotic flint' and a half-metre long nephrite sceptre. Regional and inter-regional distributions of seals, I have suggested (*Budja 2003.115–130; 2004a.37–48*), they may indicate more structured and intensive patterns of social networks and the circulation of goods and people over short, medium and long-distances in the Eastern Balkans, the Peloponnese and Anatolia which followed the structural trajectories of hunter-gatherers into farmers.

CONCLUSION

The above suggestion is in agreement with the suggestions driven by population geneticists of a continuous paternal Y Chromosome gene flow, objectified in sub-haplogroup I1b* and (macro)haplogroups J and E in both directions. They are markers of neither 'demic diffusion', a slow and regular east-west spread of population from one contiguous area to the next, nor punctuated and isolated events of a long-distance pioneering migration, but of the continuous process of population dynamics in South-eastern Europe and Western Anatolia.

I believe that the dynamic of Neolithisation in South-eastern Europe was interrelated and overlapped with historical constraints, cultural inheritances and the social hierarchies of hunting and gathering communities in the regions. Early Neolithic 'agricultural frontiers' which were broadly accepted as the front lines of transferred exogenous farming populations may never have existed in the Balkans. The regional patterns of new dispersal of material culture and related spatial counters of the 'Neolithic package' distributions could have been simply archaeologically visible markers of social hierarchy and structure, the intensity of social networks and dynamics of the structural transformation of hunting and gathering communities in South-eastern Europe and Western Anatolia. There were two Neolithisation trajectories and two related, archaeologically and genetically readable, regional palimpsests in the Balkans.

Domesticates and pastoralism in the Dinarides and the Adriatic cohabited with a slow process of structural changes in subsistence, social relations and ideology within small autarchic groups. In the Eastern and Northern Balkans the process was faster, accelerated by hierarchies and maintained by dynamics in inter-regional networks of communication. It is clearly visible, I believe, in the overlapping spatial distributions of hunter-gatherers' and farmers' material culture and symbolic activity that range from entoptics to ceramic cereal grains. It is conventional to point to the power of tradition in maintaining symbols over generations, but we should not forget that it correlates with personal identities and maternal and paternal lineages in the Balkans, like everywhere in Eurasia, and with lineage clusters, the haplogroups of modern populations and their genealogical, chronological and spatial trajectories.

The Neolithisation processes in South-eastern Europe depended more on the social hierarchy of hunting and gathering communities, the intensity of social networks and the dynamics of structural transformation in the regions than on the transfer of population. Geneticists suggest that large-scale clinal patterns cannot be read as a marker of a single, time limited wave of advance from the Levant, but a multi period process of numerous small-scale, more regional population movements, replacements, and subsequent expansions overlaying previous ranges that happened during and after the Neolithic.

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back to contents

UDK 903'1(4-12)"633/634":133.4
Documenta Praehistorica XXXII (2005)

Mesolithic-Neolithic contacts as reflected in ritual finds

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ABSTRACT – *The beginnings of settled life in Central Europe were marked by a series of interactions between local foragers and immigrants of southern origin. The Carpathian Basin is the last region to have had direct contact with Balkan peoples in the early Neolithic. In the course of the interaction, not only did two groups of different origin and manners meet and merge: two ways of symbolic thinking, two kinds of cult life, two perceptions of space and time must have come face to face. We know much more about south-east European Neolithic cults and ritual life, as reconstructed from enormously rich finds of material consisting of figurines, house models, anthropomorphic vessels etc. In the western part of the Carpathian Basin there are local imitations of these finds, thanks to contact. However, the figural representations almost entirely disappear by the developed phase of the Linear Pottery culture in Central Europe. Thus, we may find some hints about the other, local way of thinking. The possible causes of this change and also different perspectives in the symbolic meaning of this process are discussed in this short paper.*

IZVLEČEK – *Začetek stalne naselitve v Srednji Evropi je zaznamovala serija interakcij med lokalnimi lovci in nabiralci in priseljenci z juga. Karpatski bazen je področje, ki je imelo v zgodnjem neolitiku neposreden stik s prebivalci Balkana. Med interakcijami se nista srečevali in mešali samo dve skupini ljudi različnega porekla in navad, srečala sta se tudi dva načina simboličnega razmišljanja, dve obliki kultnega življenja in dve dojemanji prostora in časa. Veliko vemo o neolitskih kultih in obredih jugovzhodne Evrope, rekonstruiranih iz izjemno bogatih materialnih najdb kipcev, vzorcev hiš, antropomorfnih posod itd. Zaradi kontakta se v zahodnem delu Karpatskega bazena pojavljajo lokalne imitacje teh najdb. V času razvite faze LTK figuralna plastika v Srednji Evropi povsem izgine, v čemer lahko prepoznamo namige o drugačnem, lokalnem načinu mišljenja. V članku bomo pretresli možne razloge te spremembe in tudi različne perspektive ter simbolični pomen tega procesa.*

KEY WORDS – Neolithic transition; Western Carpathian Basin; different cult traditions

INTRODUCTION

In the western part of the Carpathian Basin, i.e. Transdanubia, little was known about the Mesolithic-Neolithic transition until the last few years. In the Early Neolithic, the late Starčevo find material is fairly unified over an immense distribution area of the culture, including Croatia or Southern Transdanubia, whereas the Northern half of the region was supposed to have been unpopulated until the formulation of the Linear Pottery culture (Fig. 1). Most recently, on the basis of both scientific and archaeological evidence, it seems rather clear that we have found the traces of surviving late Mesolithic foragers still living in their traditional biotop, but coming into contact with the newly arrived Starčevo people, and adopting some of their major innovations. The analysis of the settlement structure, pottery, flints, geological and pollen samples, as well as the hydrological circumstances all speak for the

adaptation of pottery-making and the production, and possibly also for the adaptation of a (more) settled life (Fig. 2).

Thus, we believe to have found local forager settlements, late Mesolithic slowly adopting Neolithic inventions. Some transitional sites would also make a strong argument for assuming an interaction zone: the existence of a culturally and possibly ethnically mixed group in Western Transdanubia! The result of this mutual adaptation is the formation called earliest LBK in Transdanubia. The changes within the Mid-Balkan way of life and material culture were immense.

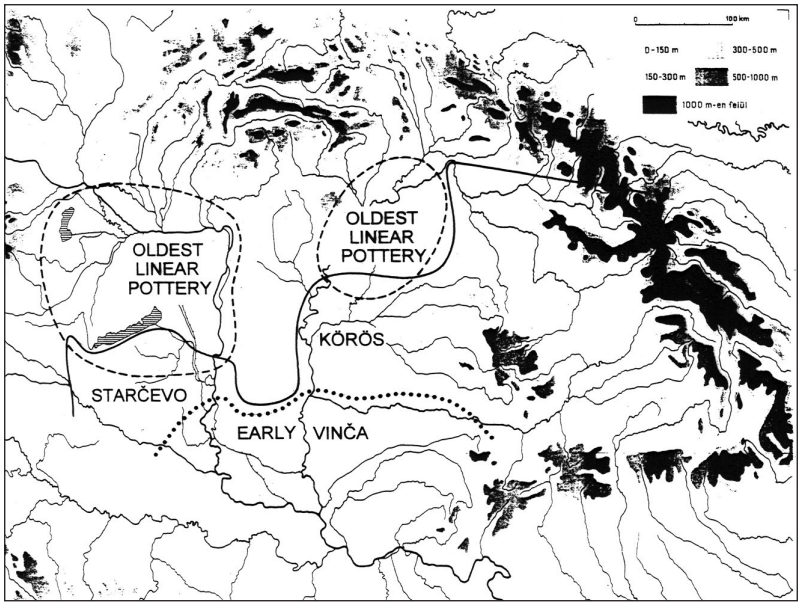

Fig. 1. Early Neolithic cultural distribution in the Carpathian Basin.

The arguments for a contact zone in Western Transdanubia would be much weaker without a real transitional settlement. The site called Pityerdomb, near the village of Szentgyörgyvölgy, has three basic features reflecting three different cultural formations. First, its flint industry is if a basically late Mesolithic tradition (The finds are presented by *Biró 2002; Biró, in press*). Secondly, amongst the pottery, some 15 thousand fragments and many complete vessels, the late Starčevo type kit and decoration is overwhelming. Third, the settlement consists of two houses, which considering their characteristics are Central European Older LBK long houses (*Bánffy 2000*).

Among these, the finds connected with ritual life and changes that can be observed in their appearance is of special importance. The animal figurine (Fig. 6), the anthropomorphic vessel (Fig. 5), the human foot (Fig. 8) and the altar fragments have good South-East European analogies, while the idol head (Fig. 4) and the altar fragment (Fig. 7) have both Balkan and Central European parallels, even if only in the early Linear Pottery horizon. Similarly to the pottery decoration, the early art relics also reflect the strong cultural impact of the South-East European Early Neolithic. If there was boundary and a long period of interaction, there must have been some kind of interaction regarding religious beliefs and cult practices.

The layout of the settlement, the location and the distance between the two houses reveals that there was no communal space at Pityerdomb. We did not observe any cult features, such as sacrificial pits, and because bones have not been preserved in the soil, we found no burials. The single clear indication of the intentional, conscious arrangement of cult finds comes from feature 11, in which we found the animal figurine; another rather uncertain case for the intentional deposition of an object can perhaps be made for feature 20, a human foot lying on the debris of the hearth in house II. These two instances would perhaps be sufficient, had the Pityerdomb settlement not been a site caught up in the process of the Neolithic transformation of Central Europe. Set against this wider background, it seems instructive to examine whether one or more specific features can be distinguished in the early Linear Pottery assemblages from Pityerdomb and other Transdanubian sites that can be regarded as the first indications of a change in the cult finds and the ritual practices of the Linear Pottery communities of Central Europe.

There were two distinct ways of life, material culture and, no doubt, religious beliefs and ritual practices in the mid-6th millennium BC in Europe. The climate and environment of South-East Europe and the southern part of the Carpathian Basin differed markedly from the other regions of the continent; the first studies in prehistoric religion, reconstructing a Magna Mater-like cult and associated fertility rites from the rich archaeological legacy of the first agriculturalists, were published in the 19th century. For many years, studies discussing these cults began with the Neolithic. Only a few isolated graves, occa-

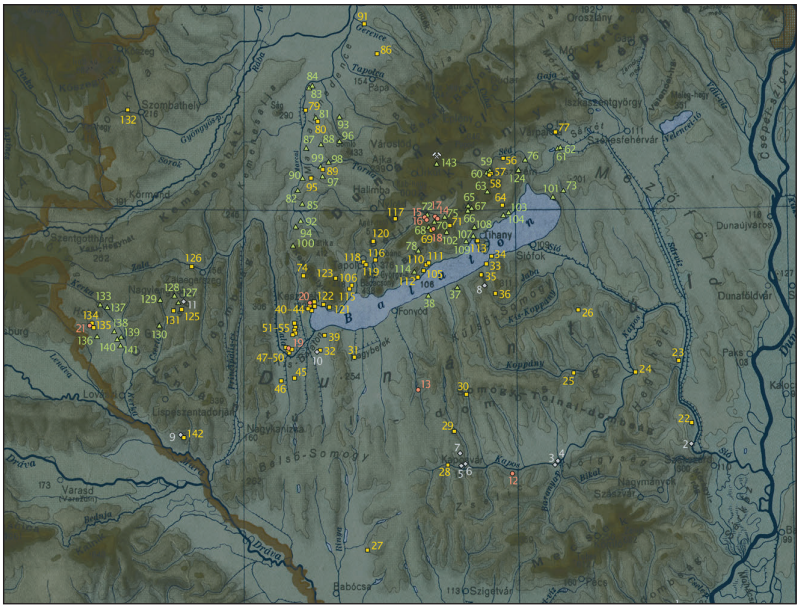

Fig. 2. Mesolithic (pink), Starčevo (white), early LBK (yellow) and classic LBK (green) sites in Western Transdanubia.

sionally with unusual grave goods, were known from the European Mesolithic, but these scattered finds were insufficient for drawing any far-reaching conclusions. Our knowledge of the ways of life and subsistence of Mesolithic hunter-gatherer communities has increased vastly during the past three decades. Accepting the tenet that the lifestyle of a given population is not independent of the nature of its beliefs, it seems worthwhile to examine this question, even though there is little in the way of direct evidence from Central Europe and the Carpathian Basin.

Countless studies and analyses have been devoted to the religious beliefs of the farmers colonizing South-East Europe and to the anthropomorphic and zoomorphic figurines, altars and house models on which these analyses were based. Many studies drew ideas and parallels from ethnography, psychology, the general history of religions, linguistics, philosophy, and even from modern politics, in their argumentation.

Gimbutas' controversial theory on early religion was based on Bachofen's studies of matriarchal societies and Frazer's monumental work citing thousands of ethnographic and ancient examples (*Bachofen 1978; Frazer 1965*). The pantheon of the Eastern Mediterranean and South-East Europe, as reconstructed by Gimbutas, populated chiefly by female goddesses, is still a rather arbitrary conclusion to say the least. Gimbutas' books paint an idyllic, almost utopian world of peace preceding the world dominion of men (*Gimbutas 1982; 1989; 1991*). It is quite obvious that Gimbutas contrasted the religion of the "Goddess" and her cult, practiced mainly by women, with her other pet theory, the influx of patriarchal Indo-Europeans whom she identified with the Kurgan people, and who subjugated the peaceful farming communities of Europe in the Early Bronze Age (*Cf. Gimbutas 1994*, a summary of her views, published posthumously). (As a matter of fact, most prehistorians also reject the Kurgan theory.) Her work can only be understood if these two theses are viewed together. The strong positivist critique of Gimbutas' 'Old Europe' theses has much in common with the arguments put forward by the advocates of the New Archaeology, according to which archaeology is not a special branch of historical studies, but rather a backward field of the natural sciences in which there is no room for imaginative interpretations.

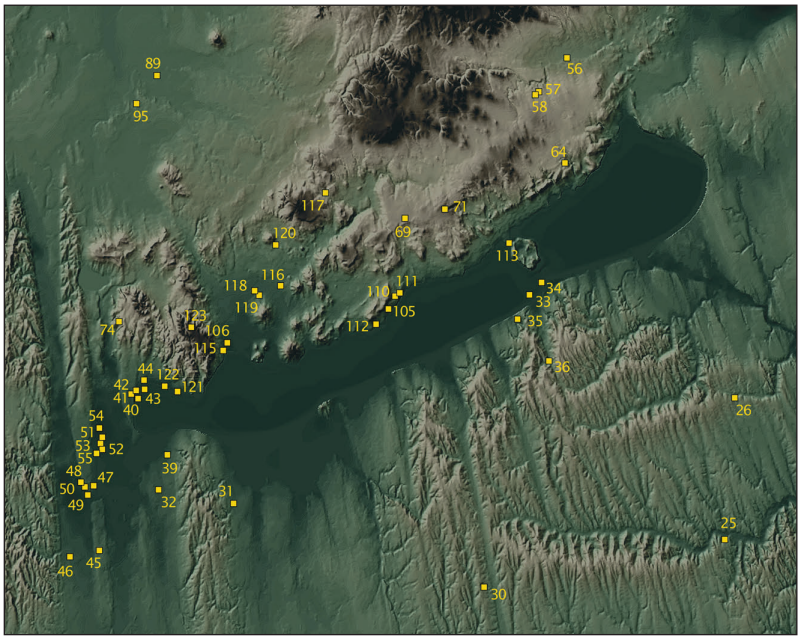

Fig. 3. The earliest Neolithic sites around Lake Balaton.

Binford argued that culture was nothing other, and certainly no more, than a response to environmental challenges (*Binford 1968*). In contrast, B. Trigger believed that the intricate system of cultural symbols could hardly be described with processes taken from biology (*Trigger 1989.350*). Offering a new interpretation of Gimbutas' ideas and, at the same time, sometimes challenging them, feminist gender archaeology was in essence one of the responses to processual critique, although often spiced with modern political undertones (*Walde and Willows 1991; Conkey and Williams 1991; Conkey and Tringham 1995; Tringham 1991*). The reaction to the positivism of Gimbutas' critics led to the rise of post-processual, 'reflexive' archaeology, as well as to countless new studies presenting and analyzing Neolithic finds and religious beliefs, enriching the already prolific works in this field. The most outstanding representatives of this approach regard the archaeological heritage and especially cult assemblages – containing little data and allowing wide scope for interpretation – as the fossils of a set of symbols, the integrated part of a bygone system of communication, and a reflection of spiritual contents in the material culture.

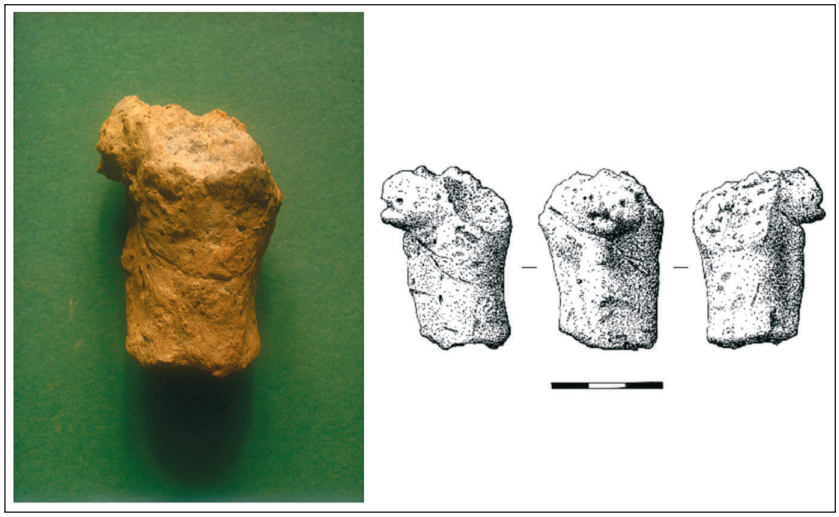

Fig. 4. Szentgyörgyvölgy-Pityerdomb – idol head.

A few moderate analyses were also born in the heat of these debates. For example, Renfrew refined the concept of cognitive archaeology, originally based on New Archaeology, on the strength of Hodder's critique (*Renfrew 1985; Renfrew and Zubrow 1994*). Renfrew and his followers argued that material culture was a more-or-less accurate reflection of the mindset of the one-time makers and users – they were content to attempt to understand the nature of this mindset and its impact on the actions of a given community. This is far from actually understanding the meaning of cult objects and cult phenomena, a field they left to post-modern archaeologists.

During the last decades, our perception of Neolithic religious beliefs has been shaped by the many research projects and studies on this subject. The Neolithic households of South-East Europe were the settings for ordinary, day-to-day activities; at the same time, these could have been vested with a symbolic, religious function. In the case of house models and altars it could be demonstrated that the different types were made at different times and for different occasions, since some objects depicted the house or the altar in their ordinary, secular form, while others in their festive, religious form (*Bánffy 1986; 1990–91; 1994; 1997*). I believe that Neolithic rituals and cult life were private matters for individual families, and that everyday acts were vested with a religious meaning by various rites that served to ensure the order of the micro-cosmos. The transformation of the ordinary, of the profane, into the festive and religious can be traced on various types of cult finds or, to use a different expression, on various *objets d'arts*. The Neolithic household provided a framework for

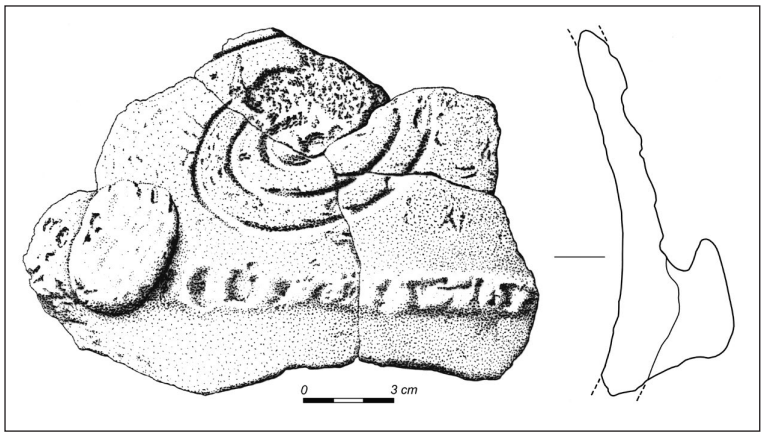

Fig. 5. Szentgyörgyvölgy-Pityerdomb – vessel fragment with a human hand shaped lug.

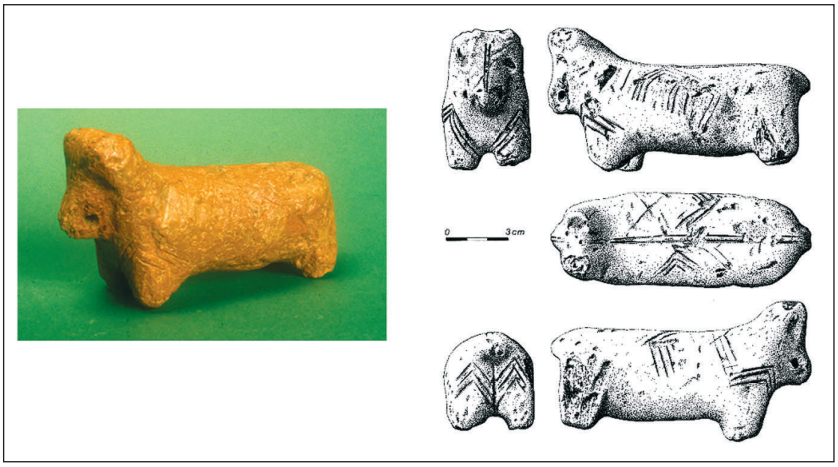

Fig. 6. Szentgyörgyvölgy-Pityerdomb – animal figurine.

certain aspects of life, such as gender roles both in the family and in the community, as demonstrated e. g. by Chapman's studies (*Chapman 1991; 1994*). Hodder's concept of domus is useful in this sense (*Hodder 1990*), as it describes the communal unit of the South-East European Neolithic where rituals were performed, and where the cult finds are found during excavations; the house and its yard, the space around it, were all important parts of the *domus*. It must be noted here that that this type of cult practice underwent a significant transformation when the central orientation of tell settlements was replaced by loose chains of farmsteads with north-oriented longhouses. The contrast between *domus* and *agrios*, the outer world obviously took on a different meaning in a closed settlement where everyday activities were conducted in communal spaces between houses, unlike a settlement where everything beyond the house was part of the *agrios*, of the external world.

This brief overview shows that cult finds and religious beliefs and, through them, the social organization of early farming communities have never failed to hold the interest of prehistorians during the past two centuries. Research on the Mesolithic in Central Europe stands in sharp contrast to this. Although there has been a welcome proliferation of studies on the Mesolithic environment, the population density of Mesolithic Europe, the assumed population movements during the Mesolithic, the subsistence strategies of Mesolithic groups and even the health of individuals based on skeletal finds, very little is known about the social organization and the beliefs of these communities.

Symbol-creating thought, called to life by the need for communication and the general need for co-operation, can be demonstrated for hunter-gatherer societies. Although the symbols themselves are arbitrary, and the meaning attributed to a specific symbol may vary in space and time; symbols were necessary for the organization of hunting and distribution, as well as for transmitting knowledge to younger generations. Mithen argued that a receptiveness to symbols can also be traced in the manufacture of purpose oriented tools instead of earlier, uniform implements – by removing the superfluous sections of an antler, a special tool suited only to fishing was created (*Mithen 1996a.185*). So, transformation itself is a symbolic event.

Rituals, an early form of religion, were most likely practiced by pre-Neolithic hunter-gatherer communities. The idea of the "awesome" and of the "sacred", the practice of conferring qualities transcending biological and everyday experience on various objects and phenomena, developed in all mobile communities. The core of any religion is comprised of two components: (a) the belief that inanimate objects in nature (water, rocks, the moon) possess the qualities of animate beings (humans, animals, plants): they too are born, live and eventually die; (b) the belief that all actors in the world may possess qualities that contradict the laws of biology: these in-

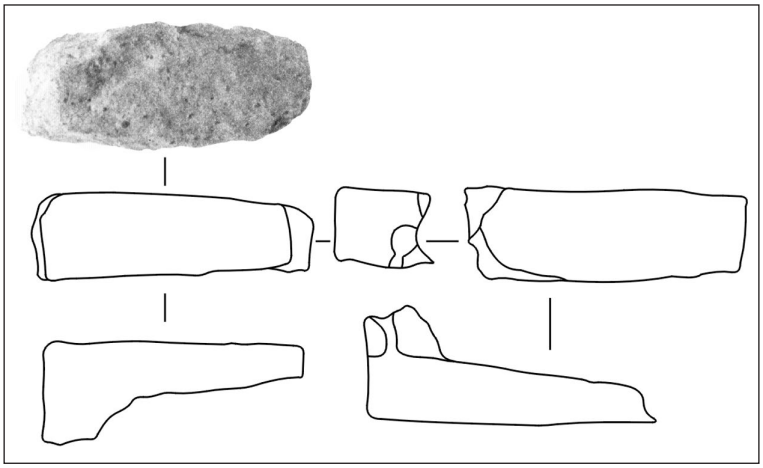

Fig. 7. Szentgyörgyvölgy-Pityerdomb – fragment of an altarpiece.

clude people after death, all beings that belong to a supernatural power and, later, deities. The archaeological evidence suggests that the mental structures described above emerged well before the Neolithic, and that they had an impact on mobile communities' perception of the world, from which it follows that rites, a series of repetitive acts ensuring the correct functioning and order of the world also made their appearance (*Mithen 1991; 1996b.86–95*; In a more recent study, Mithen lists five characteristics common to all religions: *Mithen 1998.98–99*).

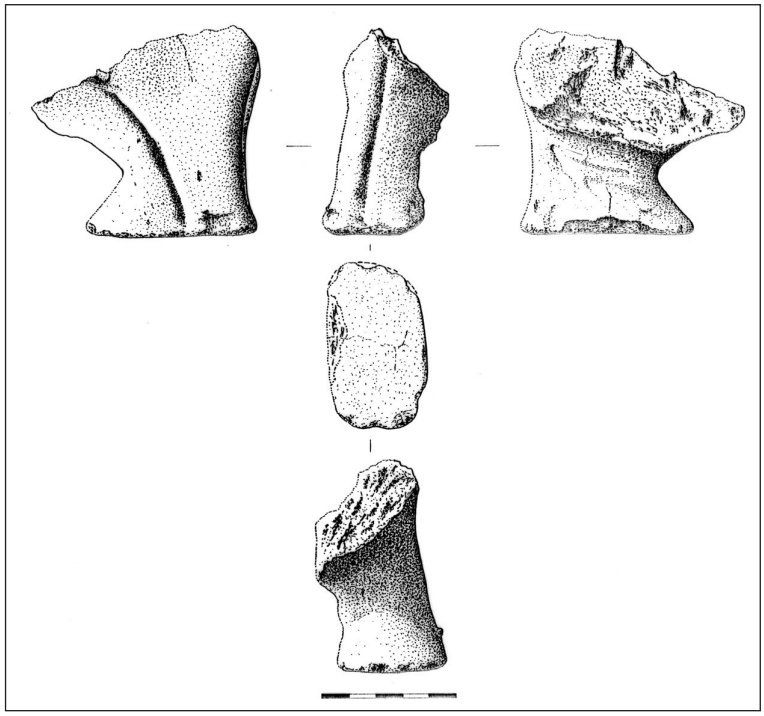

Fig. 8. Szentgyörgyvölgy-Pityerdomb – leg of an anthropomorphic vessel.

Animals were especially important elements of nature in the life of hunter-gatherer communities: they were a major source of food, their behaviour often forewarned of some danger, and by the Mesolithic some had become companions: the dog was domesticated by this time. The animal bone sample from Lepenski Vir contained a high number of dog bones. In Bökönyi's interpretation (*Bökönyi 1969; 1970*) dogs were domesticated for amusement and used mainly in hunting. In contrast, Ruth Tringham has argued that dogs were used for herding more or less domesticated deer herds. (*Tringham 1973.562*). Domesticated dogs have also been found in Moldavia at the Soroki site of the early Bug–Dniester culture (*Markević 1965*). We know that pigs and, in some areas, cattle were domesticated in temperate Europe during the Mesolithic (*Zvelebil 1995.86; Rowly-Conwy 1986.23*).

A hiatus can be noted during the centuries of the Mesolithic following the anthropomorphic representations of the European Gravettian. This may be one of the reasons that the study of idols practically begins with the Neolithic. Interestingly enough, figurines were not produced in the European Mesolithic, in spite of the fact that there was probably a greater need to express social organization and an incipient social ranking, one of the explanations cited as the ultimate reason for the creation of figurines, than in the Upper Palaeolithic.

Our knowledge of customs differing from day-to-day activities is rather scanty for the European Mesolithic. A number of Scandinavian burial grounds offer some clues as to the complexity of mortuary practices and their symbolism: Larsson has reported on a complete dog skeleton found in a burial, on incomplete dog skeletons found in three others, and on eight separate dog burials (*Larsson 1990.155*, Fig. 1). It would appear that domesticated dogs were not only seen as companions in the after-life, but were also buried in their own right. The assemblage of buried skulls found at Ofnet Cave in Southern Germany is not merely an indication of armed conflict and aggression (*Jochim 1998.212*). A total of thirty-three male, female and child skulls lay in a "nest of skulls". Over four thousand shells, native to the Central Danube region and the northern Mediterranean, lay around the female skulls. Similar Danubian shells were found near the skull burial at Höhlenstein–Stadel (*Jochim 1990.188–189*). Rähle (*1978*), also discussed the problems of origins). Apart from some dog burials in Scandinavia, only the "nest of skulls" in the German Ofnet Cave and in Höhlenstein can be mentioned, arranged with imported Danubian and Mediterranean shells.

These few examples suggest that symbolic thought and artistic creations can be assumed for the period preceding the shift to sedentarism and a farming economy in Europe. There is increasing evidence that an incipient social ranking can be traced in the perfection of tool manufacture and in the emergence of far-ranging contacts well before the advent of the Neolithic.

Interestingly enough, none of the objects that reached distant regions and left a trace in the archaeological record – various lithic raw materials, recent and fossil shells – were commodities necessary for basic subsistence. Good quality rock was available near most settlements, including Pityerdomb. However, the occupants of Pityerdomb procured cores for their tools from the Szentgál mine, lying at a distance of some 200 km. Similarly, about one-third of the stone tools used at the early Linear Pottery settlement of Brunn near Vienna were manufactured from the raw material mined in the Bakony; Gronenborn has noted that red Szentgál radiolarite was transported as far as central Germany (*Gronenborn 1994; 1997*). Recently, it was demonstrated convincingly that Szentgál rock reached Southern Moravia well before the dawn of the Neolithic: it has been found in late Mesolithic assemblages, offering an explanation for the quick neolithisation process, using already existing contacts. (*Mateiciucová 2002; 2004*). One possible explanation for the consistent preference of this rock type and the wide distribution of Danubian shells and, later, of Aegean Spondylus could be that there was a demand for commodities that were not readily accessible and whose possession was suitable for enhancing their owner's prestige and symbolizing social status. This would fit nicely with the suggestion that some rudimentary form of social ranking had emerged before the Neolithic.

It has also been suggested that the ownership of domesticated animals and plants were also a means of enhancing social prestige (*Mithen 1996a.223–224*). This assumption can obviously be challenged or downright rejected on the grounds that food production, the manipulation of the environment, was an economically useful activity. Yet, it has also been demonstrated that the life of farmers was more difficult and more toilsome in many respects than that of hunter-gatherers (*Tringham 2000; Radovanović 1996; Voytek and Tringham 1989; Mithen 1996b; Bar-Yosef 1984; Rozoy 1996, Gronenborn 1994; Bonsall et al. 2000; Bonsall et al. 1997; Bettinger 2001.167–172*). Sedentarism involved the accumulation of refuse, giving rise to epidemics. In view of the above, it seems premature to reject the interpretation of Neolithic innovations as prestige commodities.

Late Starčevo pottery and cult finds occur in many early Linear Pottery assemblages that should perhaps be better regarded as transitional assemblages. It is perhaps possible that the acceptance and adoption of the lifestyle, the clay vessels, the cult paraphernalia, and perhaps the beliefs of the newcomers from the south in the early phase of the Neolithic was motivated by considerations of prestige, rather than of economic gain.

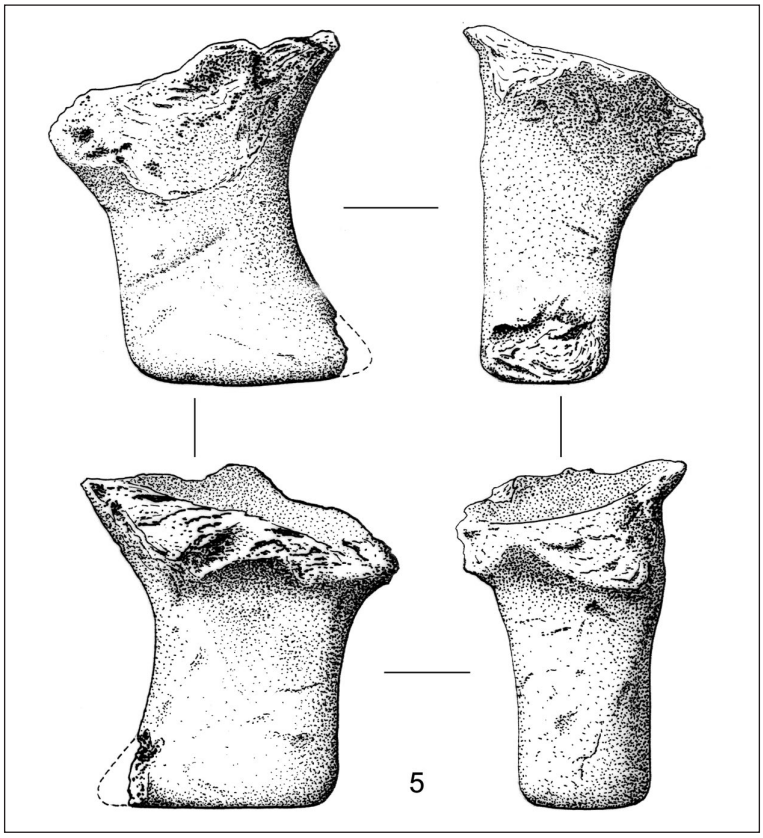

Fig. 9. Balatonszentgyörgy – leg of an anthropomorphic vessel.

One obvious consequence of the shift to sedentarism and to a production economy was the creation of food stores – the accumulation of foodstuffs no doubt stimulated the emergence of an incipient social ranking. The emergence of social ranking and of a set of beliefs differing from those of agrarian communities apparently began during the early Mesolithic. The Mesolithic landscape had its own symbolic landmarks, places of sacred power, such as the barren mountain peak towering above Lepenski Vir (*Bánffy 1990–91.205*); it seems likely that waters too had a special meaning. The settlement of Mesolithic communities in close proximity to water

cannot have been mere chance: rivers, streams and lakes cut by the earlier ice sheet were a major source of food and played an important role in their life. It seems to me that Lake Balaton was a locality with both a practical and symbolic meaning. (The marshland around Lake Balaton, where the early Linear Pottery settlements lie, was most unsuited to cereal cultivation.) Hunters-gatherers probably did not draw a sharp distinction between the animal and the human world, but viewed them as part of the same landscape.

The early farmers of South-East Europe brought with them a material culture rich in cult paraphernalia, reflecting a developed set of beliefs. A gradual transformation can be noted in the Carpathian Basin and especially in the Central European regions beyond the Carpathians. What are the indications of this transformation and can we suspect cultural impacts from the local Mesolithic?

In one of his studies on the transition from the Mesolithic to the Neolithic, Gronenborn claimed that some Linear Pottery symbols were rooted in the Mesolithic, (*Gronenborn 1999.173*) quoting various examples from Central European regions lying beyond the Carpathians. Gronenborn suggested that the cremation burials found on early Linear Pottery sites in Little Poland represent the Mesolithic tradition in the archaeological record (*Gronenborn 1999. 175. Cziezla 1992*). He regarded the burial of an adult woman at the Samborzec settlement as an excellent example of Mesolithic symbolism: the grave goods from this burial included a necklace of animal teeth and bone beads lying in the pelvic region, probably the remains of a belt (*Kulczycka-Leciejewiczowa 1988.176*). In Gronenborn's interpretation these were indications of a mortuary practice alien to the traditions of early Balkan farmers: the presence of animal teeth perhaps indicates the adoption of an animal identity, a practice differing significantly from the Linear Pottery traditions. He believes that the woman buried at Samborzec was a shaman (*Gronenborn 1999.178*). At the same time, the earth around the deceased woman's head was sprinkled with red ochre, a practice that fits in with the Balkan Körös–Starčevo tradition. The artistic relics of the late Mesolithic from Denmark generally take the form of stone engravings depicting various animals, birds and boats, as well as hunt and dance scenes with humans; however, the human specimens rarely include expressly female figures (*Larsson 2000*). The Mesolithic images of Spanish rock art were carved in a similar vein (*Beltran 1982*). Images resembling

Fig. 10. Kéthely – fragment from a human headed altarpiece (after* Sági–Törőcsik 1991*).

the Magna Mater or the Great Goddess of South-East European fertility cults have not yet been found in Mesolithic art and its artistic vocabulary (*Newell et al. 1990*).

The description and evaluation of the cult finds from Pityerdomb indicate cultural impacts from the Balkans. The same holds true for other figural representations from the region. It is possible, however, that idols with a tilted-back head can be regarded as a local type. Although indications of coiffure and hairstyle can be noted on early Neolithic idols from Thessaly, (*Papathanassopoulos 1996.Cat. no. 233; Gallis and Orphanidis 1996.Cat. no. 12–24*) the tilted-back head and coiffure of curly locks (sometimes indicated with tiny globules) first appeared at early Linear Pottery sites in Transdanubia. An extremely worn idol head from Pityerdomb perhaps represented this type.

Some other finds suggest that an individual who had just begun to familiarize himself with Neolithic innovations copied one of the cult devices of the Starčevo culture. A poor quality imitation of the Starčevo type human leg from Pityerdomb (Fig. 8) was found at the shore of Lake Balaton (Balatonszentgyörgy, Fig. 9). The altar fragment from Kéthely (Fig. 10), a site lying on the eastern edge of Little Balaton, can be assigned to a type decorated with human or animal heads resembling its renowned forerunner, the altar from Lánycsók (Fig. 11). The specimen from

Kéthely, however, was made from poorly fired and poorly levigated clay tempered with chaff. The effort to copy the Balkan cult object is also reflected in the fact that in contrast to the altar from Lánycsók and other South-East European pieces decorated with animal or human heads, two cereal grains denoted the eyes of the head on the Kéthely fragment. This suggests that cereal grains were a powerful symbol of agriculture and, also, of sedentism and food production. The use of this symbol probably also indicates a knowledge of and, perhaps, the adoption of the worship of the supernatural powers revered by the Balkan immigrants. The two grain eyes can perhaps be interpreted as a symbol of the wish to assimilate into the world of early farmers.

The other major change is the gradual disappearance of the idols' buxom forms, their corpulence and steatopygia, as well as of the representation of pregnant women and their replacement with angular, flat idols. Idols practically disappeared from Central Europe during the Linear Pottery period. A few idols were still made during the early Linear Pottery period, mostly in regions that, on the testimony of the archaeological finds, were colonized fairly rapidly by Transdanubian Neolithic communities, such as Eilsleben in the Elba–Saale region, Brunn II and Bad Nauheim–Niedermörlen in the Wetterau area to the northwest. The finds from these sites, especially from the two latter ones, reveal a striking resemblance to the formative Transdanubian Linear Pottery from Pityerdomb and to the late Starčevo site at Vörs-Máriaasszonysziget (*Schade-Lindig 2002a; 2002b*). Conforming to the general pattern of Neolithization, the distribution of cult finds reveals a mosaic patterning, rather than a steady and even diffusion. Figurines virtually disappeared during the Central European development. A rare idol from the Rössen or the Münchshofen group, contemporaneous with the Hungarian Late Neolithic and Early Copper Age, can probably be ascribed to Lengyel influences, i.e. to cultural impacts from the southeast (One idol of this type from the Münchshofen culture has been published by L. Kreiner. *Kreiner and Pleyer 1999*). House models, altars and anthropomorphic vessels are virtually unknown west of Lower Austria.

Fig. 11. Lánycsók – human headed altarpiece (after* Kalicz 1990*).

When searching for local, hunter-gatherer elements in the beliefs of the early Linear Pottery communities, we should have a closer look at the decoration on the back of Linear Pottery idols. O. Höckmann suggested that these herringbone and zigzag patterns were in fact a representation of skeletal bones, with the oblique lines symbolizing ribs and the vertical line between them representing the spine (*Höckmann 1985; 2001*). In his opinion, the symbolism of this "X-ray" style had more in common with osteopathy and bone magic practices of the northern hunter-gatherer communities, than with the beliefs of the South-East European farming groups. The depiction of the skeleton, or of individual bones, can be regarded as early vestiges of shamanistic beliefs (*Eliade 1982.esp. Chapter 5, parts 6–7: 159–161*). Höckmann also noted that in contrast to the emphatically female Balkan depictions, the imagery of Linear Pottery was genderless – only in rare instances was the female nature of idols indicated.

Accepting Höckmann's analysis, we may say that the Linear Pottery idols decorated with a herringbone pattern express the idea of South-East European clay figurines combined with the symbolism of the local population.

These clay figurines disappeared after a while. The distribution of the idols of Central European Linear Pottery is illustrated on Hansen's map on which the boundaries of early and late Linear Pottery distribution are also marked (Fig. 12). Not one single idol has yet been found in the late Linear Pottery distribution, a phenomenon that can be taken to indicate that the beliefs of the indigenous population proved stronger in Central and Northern Europe than the cultural influences from the south. Agriculture and pottery, as well as certain – modified – forms of house architecture survived and gradually transformed the original social structures. However, beliefs are by their nature highly conservative; it would appear that although the alien, Balkan influences were en-

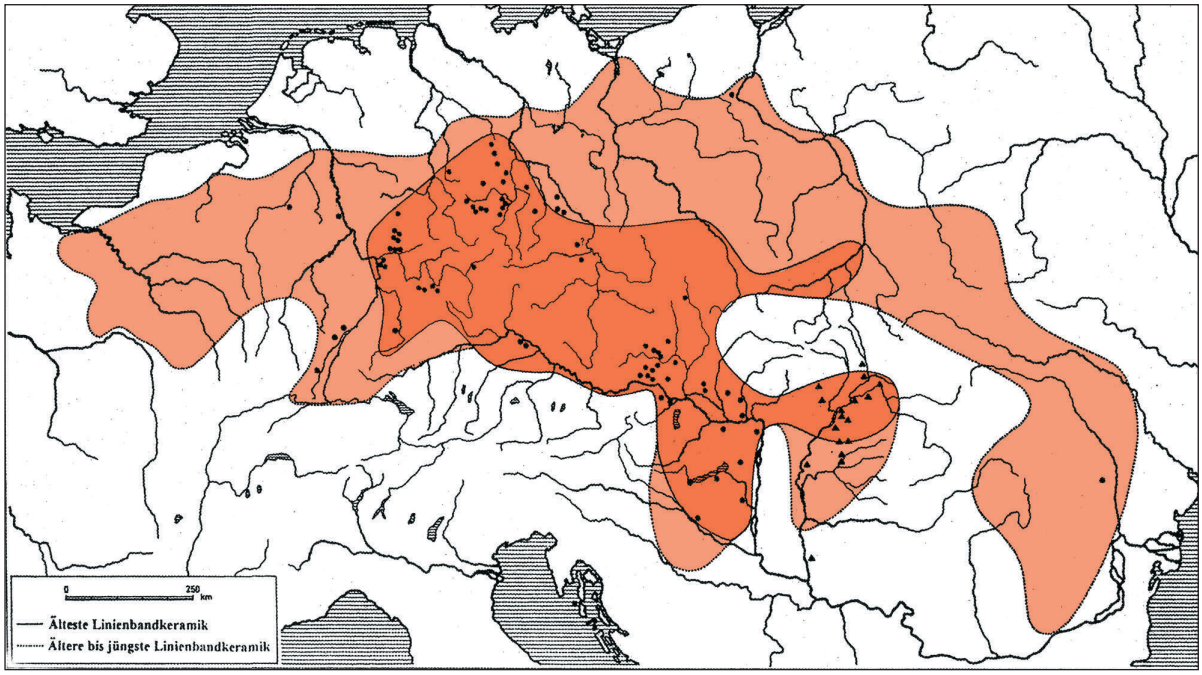

Fig. 12. Distribution of sculpture from the Linear Pottery culture in Europe (after* Hansen 2001.48*).

dured for some time, they eventually faded from the collective memory.

This would answer one of the important questions that hovers over Hansens's study: why did figurines disappear during the Neolithic development of Central Europe? My answer to this question is that the two highly conservative sets of beliefs clashed, and that the beliefs of the local hunter-gatherer communities eventually proved stronger in the life of the Central European Linear Pottery communities.

Finally, we should not complete this chain of inferences without mentioning one major theoretical thesis implicitly included in the argumentation. It has become fairly clear that the process of the Neolithisation in Transdanubia lacked any kind of violence and outbreaks of hostilities between local and migrating groups (*Bánffy 2004.Chapters 9 and 10*). When, however, assuming a clash of two different backgrounds of cult life and systems of beliefs, it is relevant not to take the same pacific procedures as evident. How is it possible that the fall of a highly developed South East European cult life, with all its rich and abundant paraphernalia, caused no conflict within the culturally and most probably genetically mingling groups? How can we reconstruct a new, self-confident Neolithic identity, without assuming an alien, "pagan", inferior contrast?

One possible solution lies in the nature of early religions. According to our recent knowledge, prehistoric systems of beliefs must have been permissive, rather than exclusive or eliminative. Both archaeological and religio-historical phenomena reveal many hints of this. Intercultural prehistoric finds and features over a vast area of Europe, within both settlements and cemeteries reflect on almost identical, at least very similar beliefs, with probably very similar 'god' figures participating, albeit under different names. There are many gods from a certain pantheon have their equivalents, differently named, in other systems, such as the various so-called Great Goddesses in various Middle Eastern and Mediterranean cultures. Even peripheral cultures outside of great archaic empires found no difficulty in naming and worshiping their neighbours' gods or goddesses, since they acknowledged that only the names were different (*Bánffy 2001*). In these cases, cultural differences are not reflections of the discriminating cult life of another group, but rather an opportunity to build a bridge by experimenting similarities lying behind two different traditions. The differences may have been based rather in the cult paraphernalia, and the series of actions, i.e. the rites, and not in the basic cornerstones of the beliefs.

The first attempts to create religions which claimed other cult beliefs as hostile, barbarian and thus forbidden, were that of Amenhotep IV/Ekhnaton in the 14th century BC, Moses for Judaism and in its wake, the Christian victory over permissive and syncretic Roman polytheism. In this way, all hypothetical events before these times, when two ethnic groups

with different religious beliefs met, can rather be reconstructed as a relieve for a better understanding between the groups.

In this sense, the picture of cult changes observable in Transdanubia is a good parallel to the general cultural changes observed on the basis of other archaeological and scientific methods. It corresponds to the general cultural processes. Hansen's map is able to show the basic diachronic change in religious customs: figurines, representing the survival of south east European paraphernalia. They were not destroyed or forbidden: the first generation(s) of ethnically mixed immigrants kept the old traditions. They slowly changed in accordance with the formulation of the developed phase of the LBK.

Although it would be highly premature to draw any inferences about the local foragers' religious beliefs, about its interference with Balkan cult life, it is highly probable that there are no radical differences in viewing the world. It did not that the symbols used differed, if the symbolic thinking was present in both types of communities. The differences may have been in how certain ideas were stressed, and even more in their outer forms. In other words: steatopygous female figurines or house models may have seemed strange to indigenous people in the Danube area, but the principles and purposes behind them may have been shared.

The ideas they represented were probably culturally translatable and mutually understandable. If this process possibly could have happened in this way, it would have had a wider meaning for the interaction of indigenous and immigrant groups. In this sense, the transitional forms and changes in cult practises at the beginnings of settled life may become an important element in the study of the whole process of neolithisation.

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back to contents

UDK 903'1(4-17)"633/634":330.342.11
Documenta Praehistorica XXXII (2005)

Homo habitus: agency, structure and the transformation of tradition in the constitution of the TRB foraging-farming communities in the North European plain (ca 4500–2000 BC)

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ABSTRACT – *The current generally accepted view of the dispersal of farming into Europe is that farming groups in the eastern Mediterranean colonised selectively optimal farming areas. The role of contact between indigenous hunter-gatherers and incoming farmers was very important to the operation of this process. This general view of the spread of farming at a broad inter-regional scale gives us our understanding of the origins of the Neolithic but merits closer examination at the local and regional level, as increasingly it is becoming apparent that the causes and motivations may have differed. In this paper, Mesolithic to Neolithic communities with evidence of the transition from hunter-gatherer to farmer will be examined at a regional scale, in the central part of the north European plain, focussing on Kujavia. Additionally, the theory of structuration will be applied in order to elucidate the transition process at this level.*

IZVLEČEK – *Trenutno splošno sprejet pogled na širitev kmetovanja v Evropo je, da so poljedelske skupine v vzhodnem Sredozemlju selektivno poselile najboljša področja za poljedelstvo. Stiki med lokalnimi lovci in nabiralci ter priseljenimi poljedelci so igrali pomembno vlogo pri poteku tega procesa. Ta splošen pogled na širitev kmetovanja v obsežnem medregionalnem merilu nam omogoča razumevanje začetka neolitika, vendar ga je potrebno natančneje preučiti na lokalnem in regionalnem nivoju, saj postaja vedno bolj očitno, da so bili vzroki in motivacije tu drugačni. V tem članku bomo na regionalni ravni preučili mezolitske in neolitske skupnosti ter dokaze o prehodu iz lovcev in nabiralcev v kmetovalce. Osredotočili se bomo na centralni del Severnoevropske ravnine, poudarek bo na Kujaviji. Poleg tega bomo s teorijo strukturizacije pojasnili proces prehoda na tem nivoju.*

KEY WORDS – *Hunter-gatherer; farmer; structuration; agency; north European plain*

INTRODUCTION

Today, there is a broad agreement that the dispersal of farming into Europe involved both the resident hunting and gathering communities and exogenous farming groups, originating in the eastern Mediterranean, who colonised selectively optimal farming areas. For the more widespread adoption of farming, the role of contact between foragers and farmers was very important, as was perhaps the greater demographic potential of farming communities either as incoming east Mediterranean/ Anatolian farmers, or foragers-turned-farmers within Europe.

This gives us a picture of the origins of the Neolithic at a broad, inter-regional scale but what was the motivation for the transition to farming at a local and regional level? What processes enabled the transition and the coeval development of a new cultural tradition? Could it be that causes and motivations

operating at the regional level may well have differed from the more general and diffuse conditions operating at broader geographical scales? In order to illuminate this, Mesolithic to Neolithic communities with evidence of the transition from hunting-gathering to farming will be examined at a regional scale, in the central part of the north European plain, focussing on Kujavia as the region in question (Fig. 1). The theory of structuration will be applied as a way of elucidating the course of this transition.

STRUCTURE, AGENCY AND THE CULTURAL INHERITANCE

At a regional and community level of discourse and decision-making, individual and collective motivations – reasons and justifications for doing things – must have been formulated into strategies by people who had a certain level of knowledge about their social and natural environment 'knowledgeable social actors'. The outcomes of such strategies must have been contingent on and validated by structural principles and dialectical social relationships within which such a community operated. The broad application of structuration theory helps comprehension of this complex process of discourse and strategic implementation of decisions, if the following conditions are considered.

Structural conditions: ecology of the area; the structure of relationships between humans and their resources; between people and categories of people themselves; systems of symbolic order. As Barrett notes, these structural conditions 'do not in themselves do anything' (*Barrett 2000.65*)

Structural principles: an activation of the overarching system of beliefs and norms informing human behaviour and motivation, acknowledged codes of practice, 'expressed in the agents' abilities to work on structural conditions in the reproduction and transformation of their own identities and conditions of existence. Structuring principles are therefore created in the active maintenance of traditions of knowledgeability whereby experiences are read with reference to the opportunities and constraints within which agents operate... Such a penetration of conditions is partial and prejudiced, coming as it does from specific history which maintains certain traditions of knowledge through discourses of social constraints, and the agents' own biographies' (*Barrett 2000. 65*).

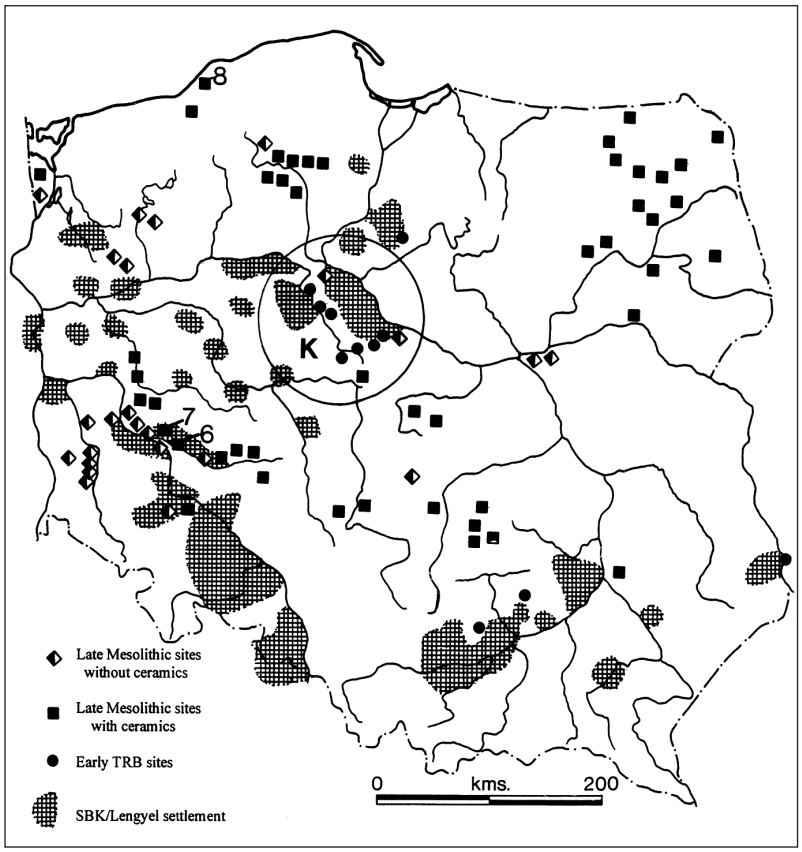

Fig. 1. Forager-farmer coexistence in Poland during the post-LBK Neolithic 4800–2800 BC. Kujavia marked by a circle. After Nowak 2001 and other sources.

Routine practice or habitus: unthought performance of tasks, 'embodied' within human habitual environment and physical self, so that as people go about their daily tasks, they may learn rules and constrains through movements of the body, or the reactions of others. The rules become 'embodied' in the sense that 'social rules and dispositions become embedded within mundane bodily practices, often non-discursively (*Hodder and Cessford 2004.18*). 'Habitus is neither conscious, nor unconscious, but is expressed (and reproduced) through embodied and routinised social practices' (*Jordan 2004.114*). Rules so created through routine practice – habitus – can help in the negotiation of disputes over movement, ac-

cess and rights in the community, and provide guidance in social reproduction of knowledge and traditions (*Bourdieu 1977; Giddens 1984; Parker 2000; Jordan 2004*).

An important dimension of social practices is the relationship with the past and the extent to which (routine) practices repeat earlier practices as a form of memory of them (*Hodder and Cessford 2004. 18*). This is especially so in non-literate societies.

Agency: 'is the means by which things are achieved' (*Barrett 2001.141*). This is defined as a deliberate and motivated human action, undertaken individually and collectively, and sometimes undertaken to modify structure. Agency is 'inhabited' in the sense that it requires both the physical matrix of a human body and human cognition to occur 'Agency is always situated in structural conditions which facilitate its actions because agency requires a medium through which to work' (*Barrett 2001.149*). Actions then are the work of knowledgeable human agents whose comprehension of their place in the world and their ability to implement them influences the course of action taken and its outcome both upon the world and upon the agent. It follows then that agency is historically and spatially contingent and that the concept of agency must therefore be conceptualised in terms which are historically situated and embodied. Spatio-temporal contingency and contextualisation within the available 'stocks of knowledge' represents then a key element of 'inhabited' agency (*Barrett 2001; 2000*).

At the same time, agency can be implemented by collectives as well as individuals: 'Certainly individuals act as agents and certainly agency operates through the bodies of individuals, but agency must also include the operation of collectives extending beyond the individual's body and their own lifespan' (*Barrett 2001.149*). The notion of 'collective agency' is potentially of great use to archaeologists (*see e.g. Jordan 2004*) for it may be used to comprehend much variation in cultural repertoire that hitherto fell under the 'ethnic' explanation of material cultures (i.e. the normative principle of perceiving archaeological cultures as signatures for 'peoples'). At the same time, the potential conflicts between individual agencies and a collective agency of a community may complicate our attempts at understanding (*Parker 2000; Jordan 2004.114–115*).

Historical constraint: these are sets of pre-existing conditions, either in terms of structure, routine practice or agency, within which individuals and communities operate and which form the temporal aspect of 'inhabitation' of agency.

Tradition and social memory: these are structural conditions which may be effectively activated as structural principles through agency: the deliberate and conscious employment and manipulation of cultural practices constituted in the past to perform task, to validate relationships, to claim or to negotiate for power and resources, to select and validate the reproduction of all aspects of cultural inheritance (social reproduction).

Cultural inheritance and intergenerational transmission of knowledge: social action is 'understandable in the context of knowledge and knowledge is something which is built, sustained and revaluated through interpretation' (*Barrett 2000. 66*). Material conditions are apprehended, recognised and put to practical use through available stocks of knowledge (*idem: 66–7*). Knowledge and material culture are forms of cultural inheritance that passed on through learning intergenerationally or between individuals and communities, and modified by innovation. This process is socially embedded structurally, modified by routine practice, agency and historical constraint, and generates material culture signatures and patterns as the outcome. It follows then that archaeological material culture could be 'read' and understood in part at least as a consequence of processes of learning and implementation of knowledge.

THE CONSTITUTION OF NEOLITHIC COMMUNITIES IN THE SOUTHERN BALTIC REGION (NORTH EUROPEAN PLAIN)

Throughout Late Glacial and Postglacial prehistory, the north European plain acted as a gateway for the dispersal of cultural traditions, human populations and languages to northern Europe. It is here and along the adjacent southern shores of the Baltic that major cultural traditions emerged, which then went on to influence the cultural, genetic and linguistic history of northern Europe as a whole.

The emergence of the TRB (Trichterbecker or Funnel Beaker) culture in Poland and north Germany, at the beginning of the Neolithic, was no exception. Focussing on this region more closely it is possible to identify events and processes that were active in the constitution of this cultural tradition, but their

relative contribution is a matter of some dispute. Some researchers regard TRB as essentially an intrusive cultural tradition, constituted under the influence of episodic migrations of Michelsberg/ Chassey/Cerny farming groups from west Atlantic Europe eastwards into north Germany, Jutland and Poland. There, as a result of cultural fusion and gene exchange with local population, TRB tradition takes shape. The local population is variously regarded as Rossen farming groups in north Germany or Lengyel farmers in Poland, but the contribution of local Mesolithic communities is thought to have been on the whole limited, even in Jutland, where farmer migration rather than local development is held to account for the emergence of TRB (*Klassen 1999; 2003; Skak-Nielsen 2004; Rzepecki in Larssen and Rzepecki 2002–2003; Rzepecki 2004*). According to other scholars, TRB is mainly a local development from earlier farming traditions – Rossen in Germany, Lengyel or related Danubian traditions (Stroke-Ornamented Ware, Polgar), brought about by gradual adaptation to local conditions. Hunter-gatherer groups played only a limited role in this process (*i.e. Czerniak 1988; 1994; 2002; Domańska 1995; Bogucki 2000; 2003*). A third view accords hunter-gatherer communities of the North European Plain a major role (*i.e. Sherratt 1990; Midgley 1992; Nowak 2001; Whittle 1996; Thomas 1996; Bogucki 1987; 1996*) to the point where they are regarded as the main cultural and genetic element in the constitution of the TRB at least in some areas of its distribution, as in Kujavia, Schleswig-Holstein, Zealand, or Scania (*i.e. Andersen 1973; Rowley-Conwy 1984; Niesiowska-Śreniowska 1998; Zvelebil 1996; 1998; 2004; Fischer 1982; 2002; Price 2000; 2003; Larsson 1985; 1988; Hartz, Heinrich and Lubke 2004*).

One of the most striking features of the conditions prevailing on the north European Plain was the long co-existence of farming and hunting-gathering communities. As Nowak notes

'During the LBK and post-LBK period, the Mesolithic communities were living in territories between the old-agricultural enclaves.... Such communities were characterised by microlithic flint tools and foraging subsistence. Their survival until 3500 BC is taken for certain by many scholars (*e.g. Kozłowski 1998.201–22*) in the whole region, not just in a few 'Polish' Ertebolle sites (*Galiński 1990; Ilkiewicz 1989; Kobusiewicz and Kabacinski 1998*). The main territories of the late Mesolithic settlement were lowland areas of Pomerania, the Masurian Lake District, northeast Masovia, Great Poland, Lower Silesia and some regions of central Poland ... Therefore, it was neither the LBK nor post-LBK groups but the TRB ones that made the Neolithization of east-central Europe almost complete.' (*Nowak 2001. 582*).

In some areas, such as Kujavia or Pomerania, hunter-gatherers and farmers, first of the LBK and later of the TRB cultural traditions, co-existed only a few kilometres apart throughout the Neolithic, i.e. between 5400 and 2200 CAL BC. Figure 1 maps out the mosaic of contact zones in the Polish (i.e. central) section of the north European Plain between foragers and farmers during the Neolithic. One way to characterise events and processes occurring throughout this period (5400 to 2200 CAL BC) can be as follows:

❶ Availability phase cooperative: LBK/Mesolithic – 4500–4000bc, 5400–4800BC

During this period, the people of the first Neolithic culture in central Europe, the LBK, colonised targeted areas of more fertile soil on the north European plain (*Midgley 1992; Bogucki and Grigiel 1983; Bogucki 1996; 2000; 2003*). It is generally agreed that this was a case of colonisation by immigrant farmers, which has recently been shown as more extensive than previously thought (*Bogucki 2000; 2003*). The arrival of the first farming communities initiated contacts with the local Mesolithic groups, who inhabited the region in distinct territories (*Kozłowski 1973, Kozłowski and Kozłowski 1986; Balcer 1986; Midgley 1992; Nowak 2001; Czerniak 1994*).

Evidence for forager-farmer coexistence can be found throughout the central part of the North European Plain, in Pomerania and Silesia, this includes for example the site of Dabki, in Pomerania, a coastal settlement which spanned the period between 4900 and 4000 BC (4200–3300 bc). The economy was based on fishing (pike, perch and bream); wild fowling (duck, goose); hunting (red deer, elk, aurock and beaver); marine fishing (salmon, sturgeon) and sealing. Domestic animals were mainly cattle, 6% at the beginning of the occupation, 23% at the end. Pig, possibly domesticated, was also present. Ertebølle-type pottery was found on the site as was imported late LBK pottery. In Lower Silesia, Chobienice, is a sand and gravel terrace near Kopanica Lake. About 100 pieces of pottery were found, including Ertebølle-type pottery as well as imported LBK ware. The sherds were associated with Mesolithic flintwork of Komornica tradition (*Kobusiewicz and Kabacinski 1998; Gumiński 1998*).

❷ Availability phase competitive: Lengyel/ comb ceramic/Mesolithic – 4000–3500 bc, 4800–4400 BC

This period is marked by the gradual erosion of hunter-gatherer symbols of identity, by the 'symbolic Neolithisation' of the hunter-gatherer communities, and by the commercialisation of economic strategies as hunter-gatherers continued to live side-by-side with the Neolithic farming communities (now of Lengyel cultural tradition – a cultural development from the LBK). This is marked by the gradual adoption of lithic technology typical of Neolithic farming communities, such as long-bladed industry, the importation of artefacts of social significance, into hunting-gathering contexts, such as shell ornaments and polished stone axes. That there was exchange between the communities was marked by the delivery of materials and food produce of hunting and gathering, such as fur and seal blubber, to farming communities (*Nunez 1997; Zvelebil, Dennell and Domańska 1998*). All these processes have one common theme: the adoption and transformation of originally a farming identity into a hunter-gatherer context (*Hodder 1990; Sherratt 1999; Thomas 1996*).

❸ Substitution phase: Late Lengyel-Polgar/ Early TRB – 3500–2800 bc, 4400–3600 BC

The genesis of the TRB culture east of the Odra (Oder) river in the eastern part of the north European plain shows patterns of change and continuity. The coalescence of the hunter-gatherer traditions on one hand and of Danubian (LBK, Rossen and Lengyel) farming traditions on the other, gave rise to the TRB culture in the lowland region between lower Elbe (Labe), Oder and Vistula between 4400 and 4200 BC (3500–3200 bc) (*Midgley 1992. 194; Balcer 1986; 1988; Czerniak 1988; 1994; Rzepecki 2004; Kosko 1980; Niesiolowska-Reniowska 1987; Nowak 2001; Price 2000*). There is clear evidence for regional variations in the emergence of the TRB, reflecting relative contributions of the ancestral farming and hunting-gathering communities in its constitution, as well as regional differences in the processes responsible for its formation. (*i.e. Midgley 1992; Larsson and Rzepecki 2002–03*).

Examples of forager-farmer coexistence, covering the period 4800–3600BC (i.e. competitive availability and substitution phases), include the site of Deby and other hunter-gatherer sites in Kujavia. Deby, located on dunes in a marshy area, contained Mesolithic Janislawice-type flintwork, domestic animals e.g. caprines, pig, cattle, imported chocolate flint from Holy Cross mountains in southern Poland (250–300 km away), and a fragment of a Lengyal vessel. The site has multiple episodes of occupation and is dated from the sixth to the end of the fifth millennium BC, (*Domańska 1998*). Similarky at Podgaj 32, located on sands along a river, there is LBK pottery and Mesolithic Chojnice-Pienki flinkwork, and similar association was found on several other sites (*Domańska 2003; Czierniak 1994*). Some of this evidence must be treated with caution, since there is some doubt about the stratigraphic integrity of the cultural layers within sandy deposits (*i.e. Kozłowski 1998; Schild 1998, but see Domańska 1998; 2003*).

❹ Consolidation west – substitution east: Later TRB/Combed Ware/Globular Amphorae/ Aceramic Hunter-Gatherers: 2800–1800 bc, 3600–2200 BC

This is a complex period, marked by two geographically distinct developments. In the western part of the area – broadly west of the Vistula basin, TRB eastern group continues to flourish. This is marked by the developed pottery, rich flintwork, the introduction of wheeled transport, and by further expansion of the culture (even though not necessarily the people) into areas hitherto occupied by hunter-gatherer communities.

The eastern part of the south Baltic zone of the north European plain – broadly east of the Vistula – experienced quite a different development. Instead of generations of separate coexistence and creolisation, we can identify the slow and staggered adoption of cultural trains and innovations, traditionally associated with the Neolithic by communities of indigenous hunter-gatherers. The use of ceramics was adopted first, between 7000 and 4800 BC (6000 and 4000 bc; *see Timofeev 1990; 1998; Dolukhanov 1979; Zvelebil and Dolukhanov 1991*). Elements of agro pastoral farming were adopted at a very slow rate over the following 2000 years (*Zvelebil 1981; 1993; Dolukhanov 1979; Zvelebil and Dolukhanov 1991*) and, in some regions, such as parts of Lithuania, even more recently (*Janik 1998; Antanaitis 1999*). Despite the presence of a low number of domesticates on archaeological sites from c 3000 BC, or 2500 bc and despite a major change in material culture marked by the Globular Amphorae and Corded Ware cultural horizon c 3000–2200 BC, 2500–1800 bc, the decisive shift to an agro pastoral economy in north-east Poland and the East Baltic began between 2600–2200 BC, or 2200 and 1800 bc in north-east Poland, but was not completed until the

first millennium BC (1500–700BC, 1200–500 bc) in the more remote parts of East Baltic (Lithuania, Latvia, Estonia). The rate of change to a farming economy was clearly very slow.

Between these dates, during the third and second millennium BC, there was a society based principally on hunting and gathering for subsistence, yet making some occasional use of domesticates and possibly cultigens from about 3000 BC, 2500 bc (*Rimantiene 1992; Vuorela and Lempiainen 1988*). The presence of domesticates in such low numbers has been explained as a result of wide-ranging trading networks, operating within the context of the Corded Ware/Boat Axe culture (*Dolukhanov 1979; Zvelebil 1993; Lang 1998*); while their limited use, which continued in some regions until the end of the second millennium BC, fits with the notion of their ritual and symbolic, rather than economic, significance (*Hayden 1990; 2003*).

Examples of forager-farmer co-existence are common east of the Vistula. This is not surprising, given the mosaic of foraging and farming communities and landscapes generated through co-existence over some 2000 years (consider for example, finds from Dudka in north-east Poland, or Sventoji sites in *Gumiński 1998; Rimantiene 1979; 1992; 1998*). But even west of the Vistula, hunter-gatherer sites remained operational alongside late Neolithic farming settlements. Chwalim, in lower Silesia has preboreal and sub-boreal layers, the latter dated to 3000–2200 BC (2500–1900 bc). Typologically and technologically there is a Mesolithic flint industry (Stawinoga points, scalene triangles, trapezes), and faunal remains include red deer, elk, bison; horse, otter, beaver, waterfowl, pike, catfish, turtle. The ceramics is similar to Globular Amphorae culture.

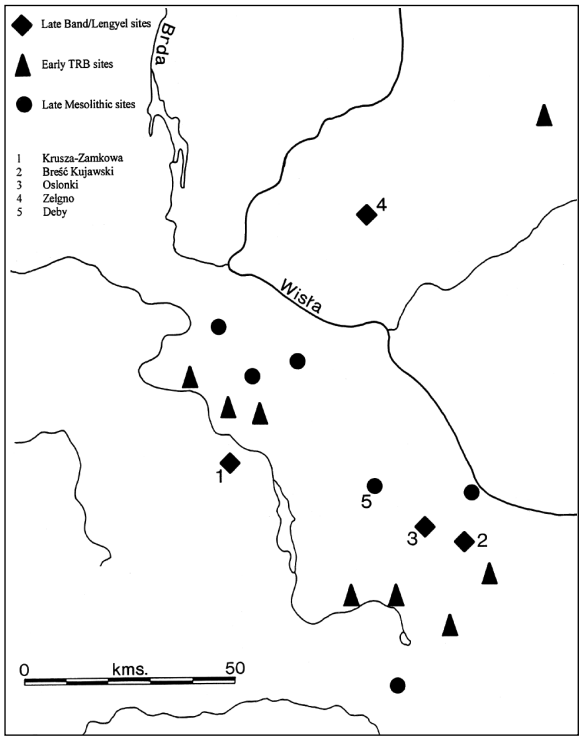

Fig. 2. Last Mesolithic, Lengyel and first TRB sites in Kujavia.

In summary, we can identify long-term coexistence between communities which can be characterised as hunting-gathering in terms of economic practice and traditions, and farming communities characterised by several cultural traditions. Viewed over the broad zone of central and eastern parts of the North European Plain, this social tradition lasted for more than 4000 calendar years, from 5400 to 700 BC (4400–500 bc), although regionally the duration was a good deal more limited and it can be separated into several phases defined by the nature of contacts between foragers and farmers.

INSTRUMENTS OF CONVERSION: CHANGING TRADITIONS IN KUJAVIA

Focusing on a single region within the Polish plain, Kujavia (Fig. 2), the evidence we have so far is:

❶ LBK sites in the region from 5400 BC

❷ Lengyel/SBK sites, also known as Late Band Ceramic or Brzesc Kujawski Group sites in the region 4800–4000 BC (4500–4000 BC according to *Czerniak 2002*).

❸ Mesolithic sites in the region contemporary with farming settlements, 5400–3700 BC, involving two traditions: Chojnice-Pienki (north-west Poland) and Janislawice (south-east Poland).

❹ TRB sites in the region, including the initial Sarnowo phase from 4400 BC, later Nowy Mlyn phase from 4100 BC (Nowy Mlyn c–14 dated to 5150–4950 bp) and the Pikutkovo phase from 4000 BC. Larssen and Pole Rzepecki (*2002–2003, see also Rzepecki 2004*) divide the TRB in Kujavia into two phases: TRB 1a, dated 4400–42000 BC, and TRB 1b, dated 4200–3800/3700 BC. TRB gradually replaces all other traditions including Mesolithic sites by ca. 3700 BC.

Within this region, direct evidence for exchange and contact between farming and foraging communities

can be found through, for example, cattle, pig and ovicaprid bones at the site of Denby in Kujavia (*Lasota-Moskalewska 1998*), on Mesolithic sites in Kujavia with replicated LBK pots (*Czerniak 1994; Domańska 1995; Kosko 1980*), in local Mesolithic flintwork and microlithic tools found in LBK sites (*Balcer 1986; 1988*), within a broader corpus of data indicating contact (see below, also *Midgley 1992; Zvelebil, Domańska and Dennell 1998*).

The emergence of the TRB between 4400 and 4000 BC (Sarnowo and Pikutkowo phases in Kujavia) marks the beginning of the widespread adoption of farming and the generation of a new cultural tradition. Here it is suggested that this represents a signature of a ***dual process of change***: the Lengyel farming groups going 'native' and merging with local hunter-gatherers culturally and genetically, and of the local hunter-gatherers adopting farming practices along with modified elements of the old (Danubian) farming culture. In the end, it is possible to detect erosion of Lengyel cultural traditions and their symbols of identity among the remaining earlier farming communities. This is evident for example in final phases at Brzesc Kujawski and Oslonki, between 4200 and 4000 BC. How was this process accomplished? It is at this point that structuation theory can be effective.

❶ *Agency by hunter-gatherers evident in trade and exchange*

From about 4800 BC, we can detect:

a) an exchange system in operation, involving local hunter-gatherer communities, Bzesc Kujawski Lengyel farmers, and farming communities in southern Poland (Fig. 3), where the BK farmers acted as middlemen in a complex trading network;

b) the ending of this system in the late BK phase, after 4200 BC. This is evidenced by an end to Spondylus shell exchange and copper completely disappears from the graves. There is a decline in flint imports of chocolate flint from Holy Cross mountains and of Jurassic flint from the Cracow region.

c) an increase in the presence of exotic flint traded from these regions in southern Poland on contemporary Mesolithic sites and on sites of the earliest TRB.

Both the Late Mesolithic and Lengyel communities used chocolate flint as a part of their exchange networks. Within the earliest, so-called 'Sarnowo' TRB

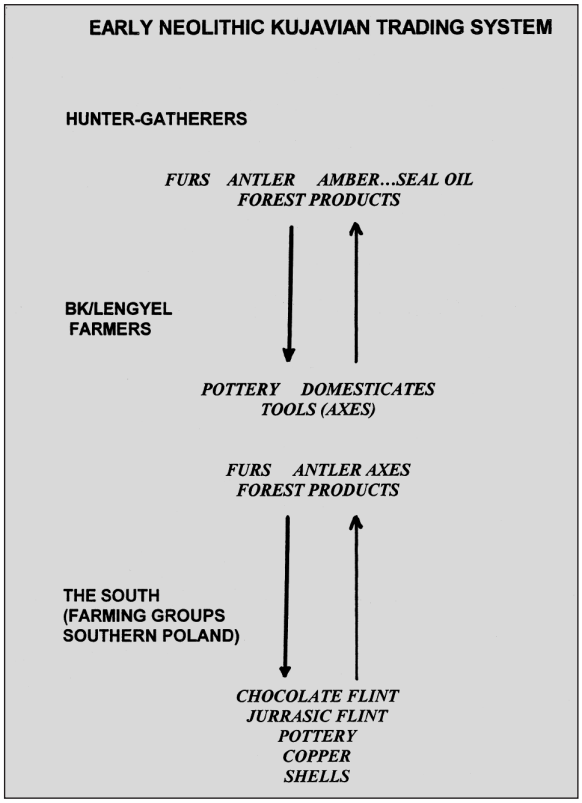

Fig. 3. Exchange system operating during the Lengyel period in Kujavia.

industry, that characterises the first two (ceramically defined) phases of the TRB in the region in Kujavia, the imported chocolate flint seems of greater importance than the local Baltic flint. For example, chocolate flint tools make up 85% of the tool assemblage at Sarnowo itself, elsewhere the numbers fluctuate between 40 and 60%. There is lack of debris from tool production, suggesting that the flint was acquired as semi-products or even as finished tools (*Midgley 1992.239–240; Larsson and Rzepecki 2002–2003*).

The question then arises, did the local hunter-gatherers establish direct routes of exchange, by-passing the Lengyel middlemen?

❷ *Agency by hunter-gatherers evident in the infiltration of BK Lengyel settlements*

a) Working of antler into T-shaped antler axes, technologically, functionally and stylistically regarded as a late Mesolithic activity (*Midgley 1992; Zvelebil 1994*) has been identified in the 'antler workshop house', no. 56, at Brzesz Kujawski (*Grygiel 1986; Midgley 1992*). On the basis of a whole range of associations, Grygiel argued that the manufacture of antler axes was carried out by craftsmen who came

from outside the Brzesc Kujawski community, probably from the TRB cultural tradition (*1986.261*). But as Midgley notes: 'The manufacture of antler axes has a long and well-established tradition in the north European Mesolithic and this field opens up the possibility of investigating an important area of the Mesolithic contribution' (*1992.399*). Was this then a case of itinerant Mesolithic specialists, or specialised Mesolithic craftsmen invited to join the Lengyel settlement, to perform specialised production of tools for the Neolithic community?

b) Associated with the same house 56, one pit, no. 893, contained pots decorated with ladder ornamentation typical of the TRB Pikutowo phase, but also of the Mesolithic ornamental patterns, dated into 5260±190 BP (ca. 4100 BC). Is it possible that these pots were decorated by individuals from outside the community, belonging to a Mesolithic tradition (*i.e. Grygiel 1986*)?

c) Bones of cattle appear to have been the main domesticate present on hunter-gatherer sites across the north European Plain (*i.e. Fischer 2004; Hartz, Heinrich and Lubke 2004; Zvelebil, Domańska and Dennell 1998*), and cattle later becomes the main domesticate on TRB sites. Ethnographic analogies describe San hunter-gatherers acting as hired labour tending cattle for Bantu pastoralists in southern Africa and receiving payment for their services in cattle too (*i.e. Gronenborn 2004; Fewster 2001; Wilmsen and Denbow 1990*). This suggests a mechanism for an interesting social transformation that would account for the presence of cattle on hunter-gatherer sites, the development of a prestige role of cattle as a resource associated with wealth, and the consequent shift to predominantly cattle husbandry in the TRB cultural tradition. Within this transformation, hunter-gatherers might have played an active role first as social actors infiltrating Lenguel farming settlements, and then developing an element of the Lengyel farming tradition – cattle breeding – in response to their own social and economic needs (*Zvelebil 1996; 1998; 2004, see also Bogucki 1996; 1998* for cattle acquisition through 'porous frontier' between foragers and farmers).

d) Hunter-gatherers (especially women) as partners in marriage to farmers (especially men).

The condition of hypo/hyperhyny – caused by women from hunter-gatherer communities departing to settle in farming communities as wives or partners of farmer men is well documented ethnographically (*i.e. Spielman and Eder 1994; Speth 1991; Bailey and Annger 1989; Zvelebil 1996*). Hypo/hypergyny can be a powerful vehicle of social and economic change. Forager-farmer exchanges in the across the North European Plain and in the Baltic region unfolded in the world of core-periphery relations, where the symbols of status were primarily or exclusively those associated with the farming societies. The argument for the female departure to farmers is based on the perception that life in farming communities was easier for women as food producers and childbearers, and/or that symbols of status and social position they confer on women can be easier to come by living with farmers rather than foragers (*Zvelebil 1996; 1998; Zvelebil and Lillie 2000*). At the same time forager women that would join the farming community would introduce their own cultural traditions and patterns of social behaviour that would be negotiated and reproduced within the new community through routine practice or through agency.

In Kujavia, Bogucki (*1996.304–05*) argued for exogamous relationships between farming communities, and such exchanges may have involved partnerships between forager women and farmer men. A study by Bentley et al (*2003*) of strontium isotope signatures among the Neolithic farmers in south-west Germany indicated that the first LBK farmers received their partners from a wide catchment, were patrilocal and inter-married with hunter-gatherer women along the agricultural frontier. While such study is yet to be carried out on the skeletal material from Kujavia, the appearance of Mesolithic motifs on the first TRB pottery, and of other elements in the material culture attributable to Mesolithic cultural code can be adduced in support of this hypothesis.

❸ *Agency by hunter-gatherers: subversion of the BK-Lengyel cultural code*

This is evident in the following aspects of material culture:

a) Houses: in BK Lengyel tradition, the construction of longhouses was strictly normative in terms of size, shape, (trapezoidal), orientation (north-south, north/west-south/east) with the trapezoidal end facing north or northwest. In the late phase of BK and Oslonki, houses also show variation greater than previously, with significant variations evident from the standardised trapezoidal structures of the previous period and from their orientation. This is in-

terpreted as subversion of the hitherto dominant cultural code, which, as Bradley argues, may have been determined by houses acting as mnemonic devices, built to face the LBK ancestral lands to the south or south-east, ('they seem to acknowledge an area of origin that had been settled in the past' idem 2002.28). Bogucki, on the other hand, argues that the narrower end was facing the prevailing winds, thereby determining orientation (*Bogucki 1996; 1998, for broader discussion, see Coudart 1998.88–90 and Bradley 2002.26–28*).

b) Burials: there is a change in the burial rite, marked by the abandonment of the previous standardised burial rite – a symbol of Lengyel identity – towards individuals interred in a variety of positions and orientations, including rubbish pits (*Bogucki 1998*). The same situation occurs at another Lengyel site, Racot, where the final burial is also 'untypical' of the Lengyel structural code (*Czerniak 2002*). While the standard form of burial in a Lengyel community was a flexed position, the burials towards the end of the occupation of Brzesc Kujawki included a variety of positions, including extended interments (*Bogucki and Grygiel 1993; Bogucki 1996; 1998*) – a practice prevalent among several Late Mesolithic forms of burial in north temperate Europe (*i.e Zvelebil 2003; Larsson 1993; Stutz 2003; Brinch Petersen and Meiklejon 2004; Zagorskis 1987, etc*). The first TRB interments are likewise in an extended position (*Midgley 1992; Larssen and Rzepecki 2002–2003; Rzepecki 2004*), although the cultural inspiration for the shift in practice from flexed to extended burial is a matter of debate (*i.e. Rzepecki 2004.227*).

At the same time, a reference to the earlier Lengyel social tradition, and appropriation of the status it conferred, can be seen in the burial of a woman at Pikutowo, an early TRB site in Kujavia, following the Lengyel symbolic code and buried with goods typical of the LBK and Lengyel traditions, such as Unio shell beads (*Czerniak 2002; Midgley 1992*). Is this a case of social memory employed at the foundation of the settlement claiming ancestral links with the Lengyel community? Or is this alternative personal identities, expressed at the foundation of first TRB settlements, some with links to the Lengyel tradition, others to the Mesolithic element within the emergent TRB?

c) subsistence practices: there is a sharp increase in faunal remains of wild species, especially fish, waterfowl, shellfish and turtle after 5150 bp (*Bogucki 1996; 1998*).

d) raw materials: there is a shift to local sources with which local Mesolithic communities were familiar, but there are also southern Polish flint imports.

❹ *Instruments of conversion – conversion of the LBK (Danubian) tradition and its transformation into TRB through agency, routine practice and structural transformation*

This is evident in the following aspects of material culture:

a) subsistence: is marked by the economic Neolithisation of hunter-gatherer communities, evident in the presence of two kinds of TRB sites: those with high percentage of domesticates, and those in earlier phases with low percentage of domestic animals (*Midgley 1992*). Sites with domestic animals show a shift from a cattle/caprine/pigs husbandry of the Lengyel period to a heavy dependence on cattle. Both changes may have been brought about through routine practice by hunter-gatherers turned farmers, the latter because it followed earlier routines from their time in a client-patron relationship as cattle herders with Lengyel farmers, a practice further enhanced by having social and symbolic value.

b) settlement shift: abandonment of earlier Lengyel permanent settlements (and their symbolic burial – see below) and their replacement by more seasonal single homesteads. For example, Brzesc Kujawski was abandoned ca. 5050 bp (ca. 4000 BC) (*Bogucki 1998*). This too follows earlier hunter-gatherer routines from the period of co-existence with Lengyel farming settlements, although there was also an element of deliberate social agency aiming at the transformation of Lengyel structural code, embodied in the construction and the regular form of Lengyel houses.

c) settlement shift: agricultural settlement extends to areas outside the fertile loess soils, loess/sandy soil ecotones, such peatlands, sandy soils, and glacial meltwater valleys. As many as 98% of the TRB sites may have been located on a hitherto uninhabited terrain (*Rzepecki 2004.219*). This can be seen as a functional response to economic changes (*i.e. Bogucki 1996; 1998; Nowak 2001*), but such changes in subsistence altered the structural conditions under which the new subsistence could operate.

d) Changes through agency and routine practice can be also detected in the lithic industry: the flint-

work shows at least three, possibly more, regionally constituent aspects, derived from the Lengyel Neolithic tradition and from the regional Mesolithic traditions (*Balcer 1980; 1988; Domańska 1995; Niesiolowska-Reniowska 1987; Nowak 2001; Larsson and Rzepecki 2002–2003*). These changes appear to reflect three kinds of activities:

(i) novel patterns of mobility and raw material procurement by the TRB communities
(ii) continuation of routine practice in the manufacture of stone tools,
(iii) selective adoption of LBK/Lengyel elements in tool type (sickles, reaping knives) and the technology (long-blade industry) through agency.

e) The same process of retention of routines and institution of change applies to ceramics: TRB vessels resemble in shape and form Lengyel/Late Band Ceramic vessels, but motifs are different, and similar to those of the decorated Mesolithic items. This may reflect a dual process is in operation – retention of earlier Neolithic form and shape for practical reasons, through routine practice (habitus), but an imposition of a new symbolic code – a hunter-gatherer one – through a deliberate act of enculturation and through agency. Unlike shape or form, decoration became an emblemic statement by hunter-gatherers-turned-farmers who, by this symbolic shift, adopted the Neolithic ceramics as a part of their cultural identity.

f) houses and burials: TRB houses were small rectangular structures or semi-subterranean houses which was a radical change from the preceding longhouse tradition. At the same time, there is the first construction of long barrows.

The shift from longhouse to long barrow is a much debated issue. Was this an 'instrument of conversion' (*Sherratt 1999*) – a strategy by incoming farmers intended to draw the local hunter-gatherers into their cultural tradition, by bringing 'domus' into 'agrios', (*Hodder 2000*), and employed effectively as a monumental metaphor with which to seduce the natives into compliance with a farmer worldview (*Sherratt 1990; 1999 in Rzepecki 2004*)? Bradley suggests that this was an outcome of a shift in routine practice, the process of decay of an abandoned longhouse will resemble a long mound, suggesting the idea of a long barrow, while at the same time the abandonment forms a memorial to its inhabitants. This is entirely credible; people were buried within longhouse ditches at abandonment. Long mounds then, instead of longhouses, would keep this practice of a memorial, but in a different place, in situations where houses could not serve this purpose, probably because they were continuously rebuilt and maintained (*Bradley 2002*).

To take this argument a step further, we may be dealing here with a case of organised forgetting of the old Danubian tradition – a deliberate break with the social memory of the Danubian tradition by hunter-gatherers-turned-farmers in an effort to establish new cognitive principles and codes of symbolic behaviour. In practice, this involved a symbolic burial of the longhouse and with it the earlier tradition, by turning the house into a long mound and bringing the dead within it.

Thus the construction of the TRB long barrow instead of a long-house (or over a house as at Sarnowo, literally) represents the dead entering the house, thereby producing a tomb, and their entombment symbolizes the death of an earlier tradition. This is expressed in several features, notably in the differential, often reversed orientation between longhouses and long barrows (*Bradley 1998.44–48*). At the same time, as Barrett notes in another context, the TRB people 'by sharing a common architectural frame of reference', in this case the long house transformed into a tomb, acknowledged the ancestry and continuity with the earlier Danubian tradition (*Barrett 2001*).

CONCLUSIONS

Despite the coarse spatial and temporal resolution of the evidence available today, the conditions described here suggest a very gradual incorporation of foraging communities with those of farmers after an extended history of contact, occurring within a structural framework of conditions and principles. Different frameworks were operated by hunter-gatherers and farmers, of which the structural principles were more incompatible between the two communities.

In the situation of contact, hunter-gatherers were responding to the needs of the farming settlements and to their own social needs by commercialising their operations. Within such a framework, hunter-gatherers would play the role of suppliers of specialized goods and services, such as products of hunting, fishing, and sealing, and act perhaps as herders in client-patron relationships.

At the same time, hunter-gatherers maintained their cognitive principles. The inter-marriage between the two communities would result in the breakdown of the early farming (LBK and Lengyel) social and ideological structure, witnessed, for example, in the final stage of the Brzesc Kujawski and Oslonki settlements in Kujavia (*Bogucki 1996*), and a subsequent development of a new foraging-farming community, identified archaeologically as TRB. This process was accomplished inter-generationally, as one generation replicated and combined the cultural traditions of earlier foraging and farming generations, in an act of cultural creolisation.

In this process, the role of agency as a historically and regionally embedded action by individuals and collectives was imperative. People as agents of change engaged in deliberate effort to manipulate conditions of possibilities set and operated by the farmers of the Lengyel cultural tradition and to change them. This was a dialectical process involving both communities. At the end they did so by:

- adopting practical, technological innovations;

- subverting and enculturating existing practices and routines of daily life and introduced new structural condition and principles in the process;

- rejecting symbolic codes and structural principles of the Lengyl community and imposed a cognitive structure more familiar to the indigenous hunter-gatherer community;

- validating and retaining certain earlier routine practices operating in the ancestral cultural traditions, both in Lengyel Neolithic and the Mesolithic.

The replication of this pattern in different parts of the Polish Plain during some 2500 years between 4400 and 1800 bc may account at least partly for the cultural variability of the TRB horizon and of the later, Globular Amphorae and the Corded Ware traditions. A significant consequence of the repetition of this process in time was that in the more remote sandy areas, the lakelands and peatlands in Pomerania, Kujavia, Lower Silesia, Masovia and Mazuria (i.e. north-east Poland), the last hunter-gatherer communities continued to operate as culturally distinct and coherent communities until 2200 BC, 1800 bc, when they finally became a part of the Globular Amphorae and Corded Ware cultural horizon at the threshold of the Bronze Age.

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back to contents

UDK 903.3(5-011.5)"633/634":159.922.1:291.37
Documenta Praehistorica XXXII (2005)

Sexual symbolism in the Early Neolithic of the Southern Levant: pestles and mortars from WF16

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ABSTRACT – *WF16 is a Pre-Pottery Neolithic site in the Southern Levant that has produced an important collection of ground stone artefacts. These include one explicit and one ambiguous representation of a phallus – the latter may be a human head and shoulders. The authors note the visual similarity of certain pestles from WF16 to phalli and suggest that such artefacts and their use may have been imbued with sexual metaphor. As such, the most potent references to sex, reproduction and fertility in the early Neolithic may not be the exotic figures claimed to be 'Mother Goddesses' but located in the most mundane of domestic artefacts.*

IZVLEČEK – *WF 16 je predkeramično neolitsko najdišče v južni Levanti, v katerem je bilo veliko število terilnih kamnov. Ti artefakti vključujejo tudi nedvoumno in dvomljivo predstavitev falusa – dvomljiva morda predstavlja človeško glavo in ramena. Avtorji so opazili vizualno podobnost nekaterih tolkačev iz najdišča WF 16 s falusi in domnevajo, da so ti artefakti in njihova uporaba prežeti z metaforo spolnosti. Glede na to, morda niso najmočnejše aluzije na spolnost, reprodukcijo in plodnost eksotični kipci, ki naj bi predstavljali »mati boginjo«, temveč so skrite v najbolj vsakdanjih artefaktih.*

KEY WORDS – *WF16; Pre-Pottery Neolithic; ground stone artefacts; sexual symbolism*

INTRODUCTION

Excavations at the Pre-Pottery Neolithic site of WF16 in the southern Levant have produced a suite of ground stone objects of cylindrical form (*Shaffrey, in press*). They range from a 51 mm long representation of a human phallus to a relatively non-descript piece of stone of similar dimensions which has been catalogued as a utilitarian 'processor'. These form the ends of a continuum of artefacts which are relatively more or less phallic in form, the majority of which have been catagorized as artefacts for the pounding (processors) or grinding (pestles) of plant material. Such artefacts are found at Neolithic and many pre-Neolithic sites in the Southern Levant and document the increasingly intensive processing of wild, cultivated and then domesticated plants that formed the transition from hunting & gathering to farming (*Wright 2003*). In light of the explicit representation of a phallus at WF16, we consider whether such activity may have been imbued with sexual metaphor.

THE PRE-POTTERY NEOLITHIC A IN THE SOUTHERN LEVANT

The Pre-Pottery Neolithic A in the Southern Levant is a period of critical cultural and economic change from the mobile hunter-gatherers of the late Pleisto-

cene to the village based farmers of the Pre-Pottery Neolithic B (*Kuijt & Goring Morris 2002*, Fig. 1). Kathleen Kenyon first identified this transitional period in the lowermost strata of Tell el-Sultan at Jericho, below the collapsed mud-brick buildings of PPNB and later prehistoric periods. Although the size of the Jericho PPNA settlement, and the presence of a stone tower, have not been matched elsewhere, the character of PPNA structures were better defined at the open area excavations at Netiv Hagdud, c. 50 km from Jericho, where annular buildings up to 7 meters in diameter were fully exposed and an assemblage of barley grains, most likely from wild but cultivated plants, was recovered (*Bar-Yosef & Gopher 1997*). By the late 1980s several PPNA sites were known in the vicinity of Jericho on the west bank of the Jordan Valley that appeared to be a core area for early Neolithic developments. During the 1990s the excavations at Jerf el Ahmar (*Stordeur et al. 1997*) supplemented those at Mureybet (*Cauvin 1977*) to expand our knowledge of the PPNA in the north and demonstrated the existence of a rich animal symbolism and buildings that appeared transitional from the circular structures of the PPNA to the rectangular buildings of the PPNB, similar to the transition reported during the PPNB at Beidha (*Byrd 2005*). The significance of the northern Levant for the development of Neolithic ideology was further illustrated by the discovery of Göbekli Tepe in southern Turkey, a unique hilltop Neolithic site with monumental standing stones engraved with wild animals (*Schmidt 2001*).

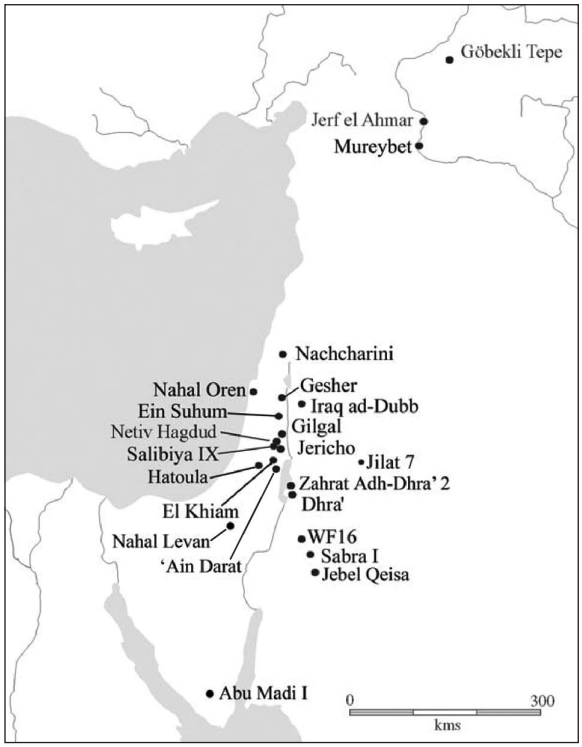

Fig.1. Pre-Pottery A Neolithic sites in the southern Levant, and sites in the Northern Levant referred to in this chapter.

In light of these excavations, the southernmost reaches of the Jordan Valley appeared marginal to the development of the Neolithic. But since 1997 excavations have taken place at three PPNA sites on the east side of the valley, at the southern reaches of the Dead Sea. Dhra' has now been shown to be more extensive than previously believed with at least one well-preserved mud-walled building (*Finlayson et al. 2003*), while the newly discovered Zahrat Adh-Dhra has been dated to the end of the PPNA period, contemporary with PPNB sites further north (*Sayej 2004*).

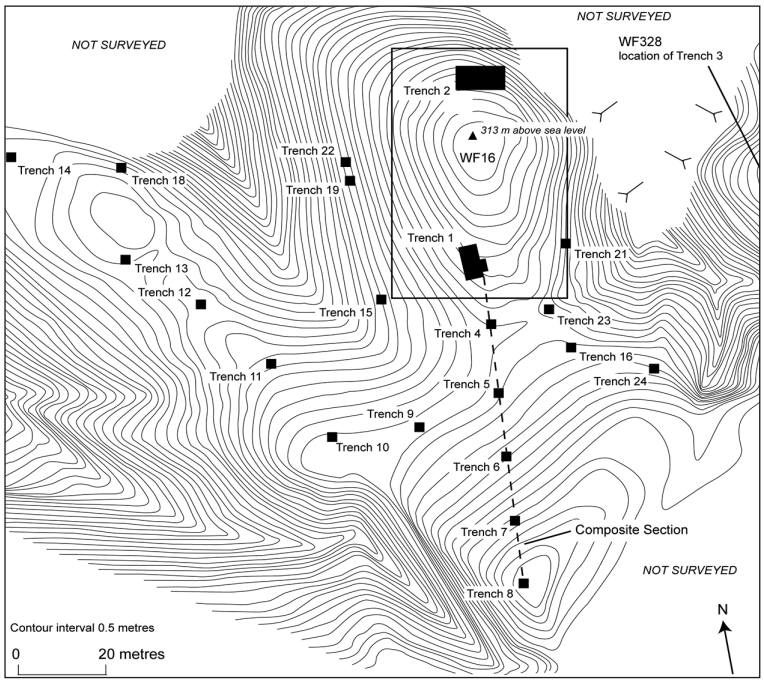

Fig. 2. Location of test-trenches excavated at WF16, April 2001.

WF16 is the most substantial and best preserved of the known PPNA sites East of the Jordan Valley (*Mithen et al. 2000; Finlayson & Mithen, in press*). Following its discovery in 1996, site evaluation was undertaken by surface collection, test-trenches and geophysical survey between 1997–2001 (Figs. 2–4). The latter revealed a complex array of structures, equivalent in size and complexity to those from Netiv Hagdud, while the excavation has de-

Fig. 3. North facing section through feature F8 within Trench 2, WF16, September 1998, showing burial pit 243 to the right of the picture.

Fig. 4. Excavation of Trench 3, WF16, September 1999, looking north. Pit 342 that contained a human burial is visible in the mid ground, adjacent to an arc of walling.

monstrated up to two meters of stratified deposits within which faunal remains are relatively well preserved for a site of this period. These indicate that capra sp. had been the principle prey item, whereas gazelle dominates the faunal remains from PPNA sites elsewhere in the southern Levant where data permits such conclusions.

IDEOLOGY AND ECONOMY IN THE PPNA

The relatively well-known female figurines from Neolithic contexts of the Levant and Anatolia have frequently been described as 'Mother Goddesses' and assumed to be associated with an ideology that stressed fertility and reproduction, seemingly appropriate for the new farming lifestyles. Cauvin (*2000*) championed this idea, arguing that a shift from a Natufian zoomorphic to a PPNA anthropomorphic art can be detected and interpreting rather ambiguous figurines from Salibiya IX and Gilgal in the Jordan Valley as female forms. He stresses their similarity to slightly later female figurines from Mureybet, and argues they were the precursors to the female figurines excavated by Mellaart at Çatalhöyük that have come to epitomise the image of a 'Mother-Goddess' (*Mellaart 1967*). Cauvin (*2000*) emphasised that all figurines from early phases of the PPN that indicate sex are female, with a masculine

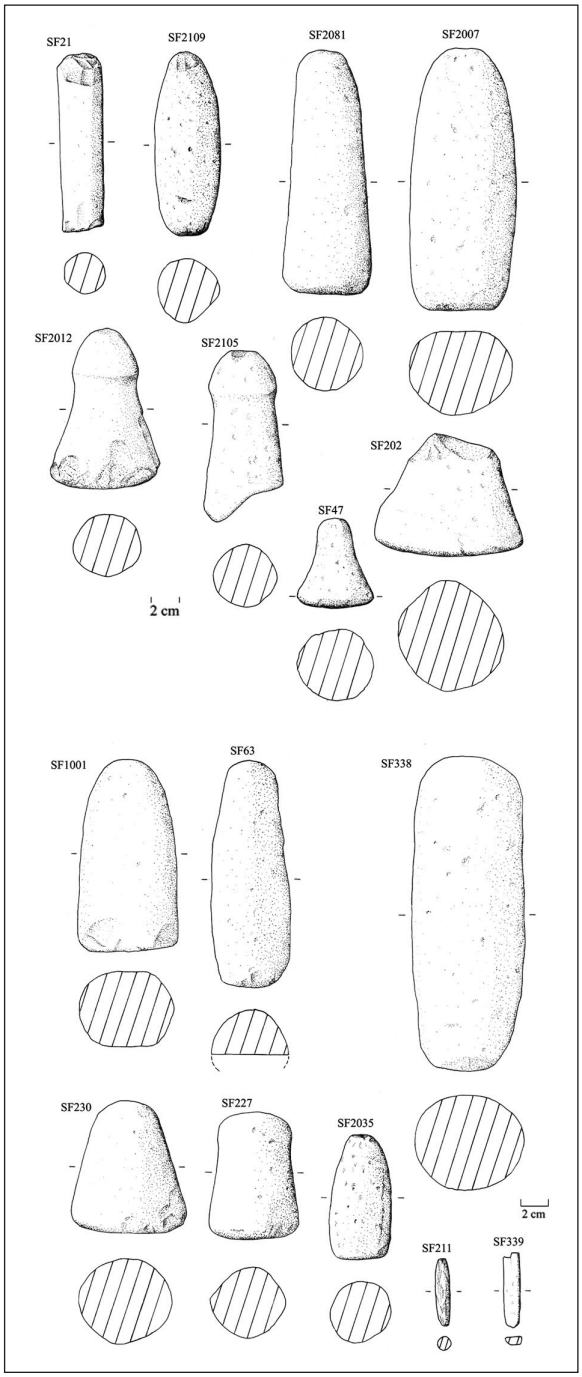

Fig. 5. Pestles from WF16.

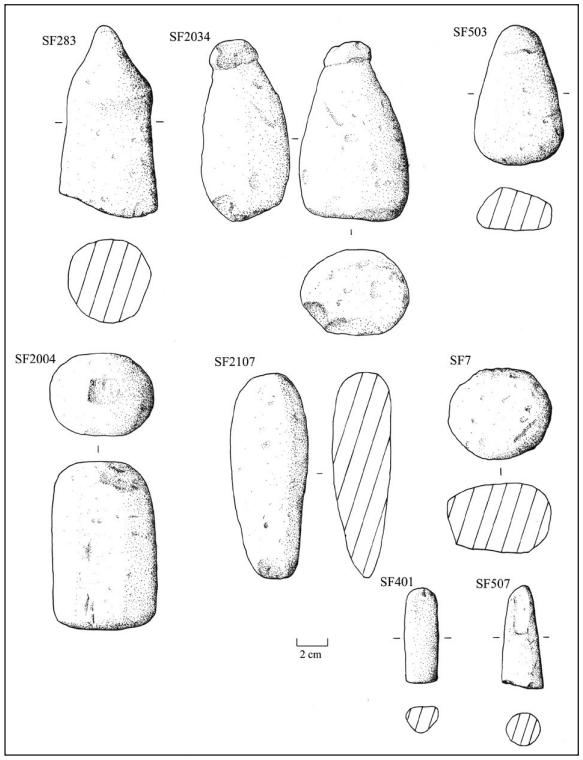

Fig. 6. Processors from WF16.

aspect only appearing in the PPNB, although he focuses on the bull image for that period, with small ithyphallic figurines from Munhata as the only explicitly male figurines. In contrast to his assumption of female identities for PPNA figurines, he assumes a male identity for the 'Ain Ghazal statues with no sexual distinctions.

Cauvin was writing not only before the discoveries of zoomorphic art at the early Neolithic sites of Jerf el Ahmar and Göbekli Tepe, but also before the critical re-evaluation of the art of Çatalhöyük that has questioned the interpretation of female figures as Mother Goddesses. Indeed, rather than a wholesome ideology of bountiful fertility that of Çatalhöyük seems more likely to have based on fear of nature, violence and death (*Mithen 2003.88–96*).

GROUND STONE ARTEFACTS OF THE PPNA

Ground stone objects are usually abundant at PPNA sites, coming in a wide variety of forms that predominantly fall into the categories of mortars, pestles and processors (*Wright 1993*). Many of these forms are also common during the preceding epipalaeolithic and following PPNB periods, indicating long-term continuity and gradual development of plant processing technology (*Wright 2000*). Some forms are relatively distinct to the PPNA; most notable are cup-holed mortars, which have a central hole between 8–9 cm diameter and 5–7 cm, deep, presumably used to catch finely ground material or liquids. The test-excavations and surface collections at WF16 produced 201 items of portable worked ground stone artefact and 25 large mortars that cannot be easily moved (e.g. Figs. 5–8), several of which were positioned within the floors of structures. While some of the ground stone artefacts might have been used for grinding pigments, no direct evidence for this has been recovered and we assume that they were primarily used for processing plant foods.

Macro-plant remains were not well preserved at WF16 but indicate that a wide variety of plants including cereals, pulses, fruits, small-seeded grasses and legumes had been exploited. As such this is typical of PPNA assemblages from elsewhere. Although there are no unambiguous examples of domestic plants from PPNA contexts, it is often assumed that wild plants were being cultivated, such as by watering, weeding and transplanting.

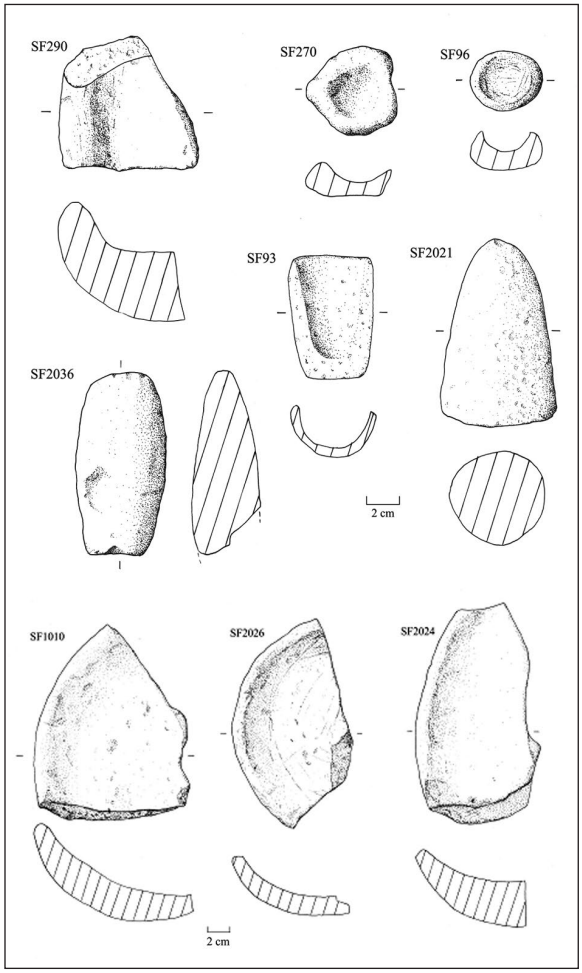

Fig. 7. Mortars, Vessels And Celts from WF16.

As with other PPNA sites of the Southern Levant, WF16 has produced a small number of so-called 'art' objects that have geometric designs or are anthropomorphic in form; the rich animal imagery present in the northern Levant at this date appears absent (Figs. 9 & 10). One of these objects is the lower torso of a person with well-pronounced hips but no clear indication of gender (Fig. 9:SF1007); another is a realistic-looking phallus, made from fine-grained limestone, 51 mm long and 28 mm in diameter (Fig. 9:1005); a third object might also be a partially carved phallus, discarded/lost prior to being detached from the stone base (Fig. 10). Alternatively this might be the representation of a head and torso, or a deliberate mingling of the two.

While these artefacts are categorised as 'art', 'decorative' or 'symbolic', objects, other pieces of ground stone which are categorised as pestles and processors also have a visual resemblance to phalli. Two 'knobbed' and two 'tapered' processors are particularly striking (Fig. 5: SF102, SF2105; Fig. 6:SF283, SF2034), but by their very nature all pestles and processors are essentially phallic in form. Had there not been at least one explicit phallus at WF16, one would have no basis for suggesting that this visual resemblance may have also been apparent to the PPNA people and that the preparation of plant foods might have been associated with sexual metaphors and symbolism.

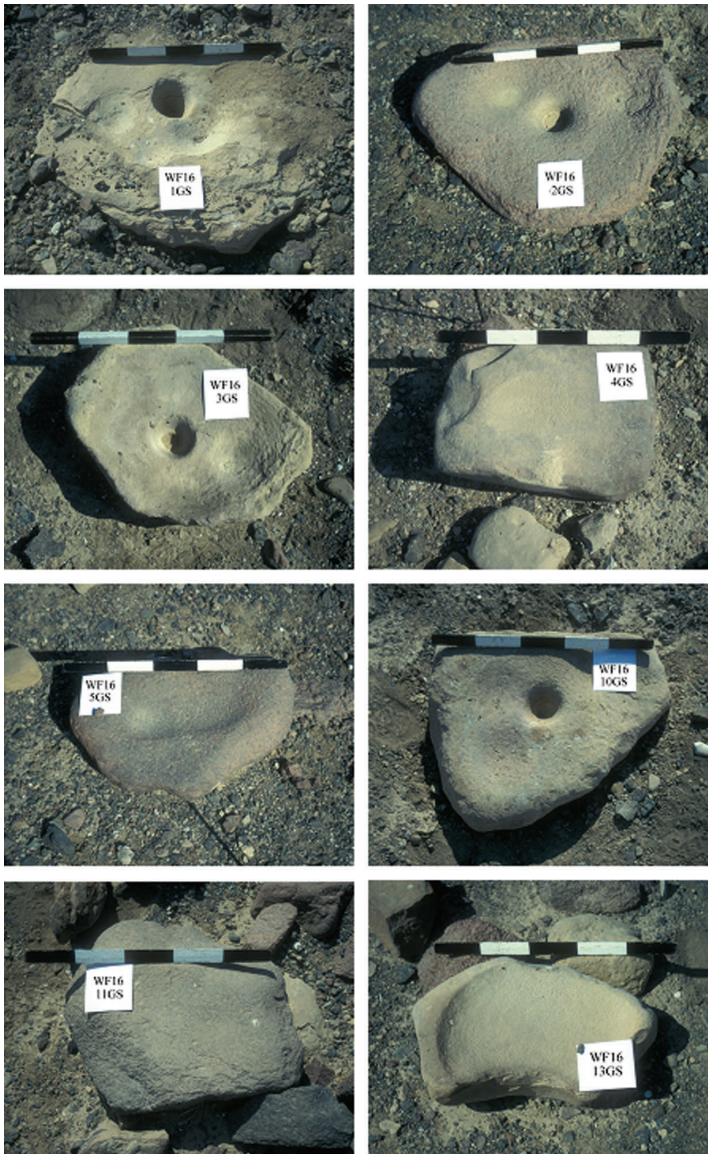

Fig. 8. Sample of Grinding Stones from WF16.

In this light, one can reassess some of the stone objects listed by Cauvin as female figurines, including statuettes from Salabiya IX, Nahal Oren, Gilgal and Mureybet, and suggest that some aspects suggest at least a sexual duality. (The possible female symbolism of the grooved stones, so-called shaft straighteners, is not discussed here, as so far these are not associated with plant processing).

SEXUAL SYMBOLISM AND THE PREPARATION OF PLANT FOODS

While we have no direct access to the symbolic world of the PPNA, plant processing equipment, procedures and products have been frequently associated with sexual symbolism throughout history. In the Old Testament Job (31:9–10) uses the analogy of a mortar and pestle for grinding grain as a metaphor for sex; Jacobsen-Widding (*1992*) describes how all domestic artefacts of the Shona people of Zimbabwe are imbued with sexual meanings on the basis of their shape (male, erect; female, round and compact). She describes how a Shona man must not sit on a mortar lest he becomes impotent, while sitting on a mortar and straddling a pestle was a cleansing ritual thought to ward off impotence in Senegal (*Fofana 2004*). Marshall (*2000*) described a suite of stone artefacts from the Northwest Coast of America between 3000 BP and the nineteenth century that include functional items such as bowls with explicit sexual imagery. Within modern Jordan, cultivation is still replete with sexual imagery, with the name for the stilt/sole of the ard being dhakar (male/

penis), and only men are allowed to till the land. The relationship between ard and land is seen as similar to that between men and women (*Palmer 1998*). There is a conflation between ideas of fertility and reproduction in the land and in people. It is intriguing that this relationship between plant food production and sexual symbolism may pre-date the domestication of plants, but at a time when people may have begun to cultivate wild crops in terms of sowing, tending and harvesting.

With regard to food itself, Camporesi's (*1992*) study of Italian peasant society has explored the existence of sexual metaphors in greatest depth and described bread as 'the most grandiose sexual metaphor' ever invented. Bread is, he argued "a reproductive and sexual image that is daily ingested, assimilated and digested...Bread serves as an emblem of both male and female reproductive organs, an edible metaphor of the phallus and the vulva, both in the (feminine) ellipsoid loaves and in the numerous loaves of phallic form" (*1992.16*). Camporesi also explains that it is not just cereals that are replete with sexual imagery: fresh broad beans in the pod symbolise the phallus, and the dried bean the testicle.

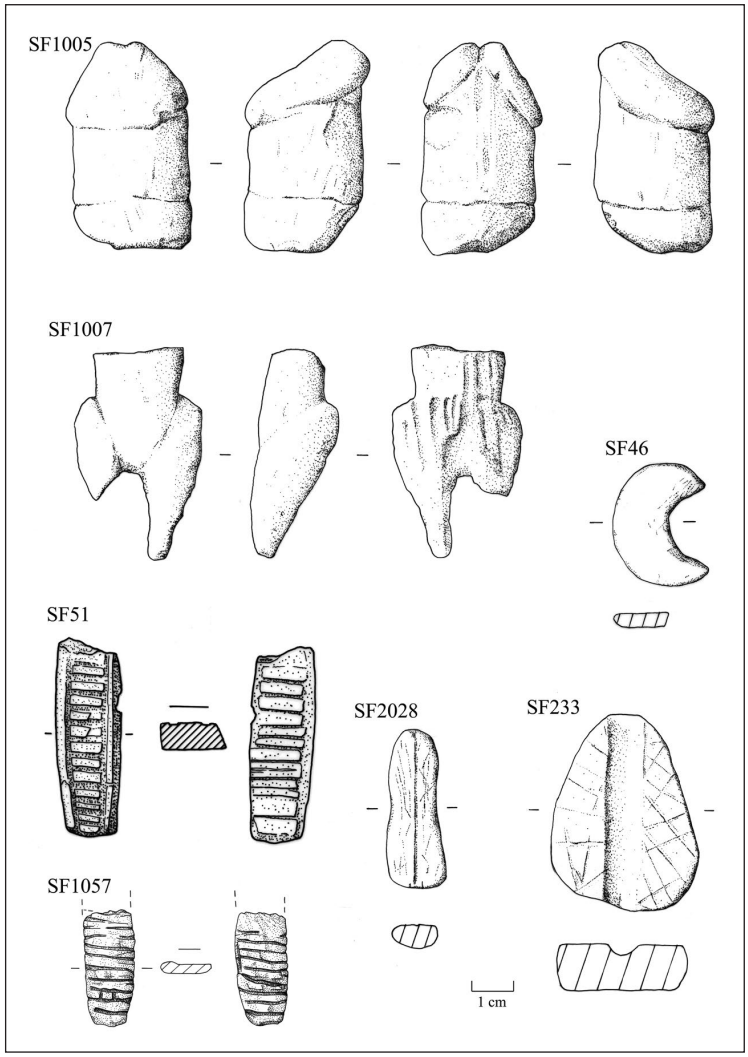

Fig. 9. Non-Utilitarian Items from WF16.

Rather than focussing on either the plant material or the plant processing equipment itself, we should perhaps be concerned with the process of transformation involved in the production of plant-based foods. Here we might draw an analogy with the symbolism often associated with iron-production in traditional African societies (*Haaland 2004*). This is often overtly sexual, apparent to an outsider by the use of the same term for the tuyere, the nozzle through which air is forced into the furnace, as the male sexual organ, and by describing the furnace itself as the womb of a woman. When the iron bloom is removed the smelters say the woman/furnace is giving birth, and the slag is seen as the afterbirth. The Fipa of Tanzania explicitly associate the blowing of the bellows with heavy breathing during intercourse and openly recognise the metaphoric connection between biological reproduction and cultural production of iron.

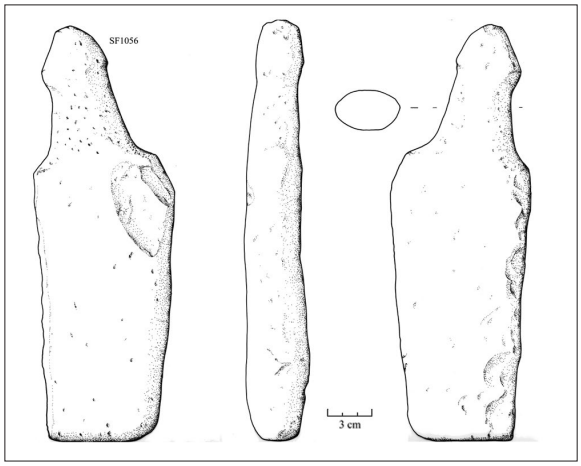

Fig. 10. Non-Utilitarian Ground Stone Item from WF16.

Similarities between processing ore into iron and seeds into food are readily apparent: both involve

equipment that has physical resemblances to the male and female sexual organs (pestles/tuyere as phalli, mortars/furnaces vulvas/wombs), which only become meaningful when brought into contact with each other in a manner that involves physical excursion (grinding, bellowing). Both involve the transformation of natural things, usually by the combination of solids and liquids and by the use of fire.

METAPHORICAL MINDS OF THE EARLY NEOLITHIC

We have no direct evidence that processing plant material in the early Neolithic was imbued with sexual metaphor other than the physical resemblance of pestles to phalli at WF16, and the presence of at least one stone phallus at the site. But in light of the sexual symbolism of plant processing and plant foods throughout history and in diverse cultural contexts, we believe this is inherently likely. Thinking and acting by metaphor is the key characteristic of the modern mind (*Mithen 1996*), especially those metaphors that draw upon the human body (*Lakoff & Johnson 1999*). Metaphorical thinking is likely to have been particularly prevalent during the period of major cultural and cognitive change that marked the transition to agriculture. This does not, of course, have any bearing on the utilitarian function of the pestles and mortars from WF16 and elsewhere during the PPNA, and we are not suggesting that an ideology involving sexual symbolism was a causal factor in the transition to agriculture. We simply intend to note the possibility that the most potent references to sex, reproduction and fertility during the early Neolithic may not be the exotic looking figurines claimed to be Mother Goddesses but located in the most mundane of 'domestic' artefacts, illustrations of which rarely escape from the specialist pages of excavation monographs.

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back to contents

UDK 903.1(560)"633/634":291.37
Documenta Praehistorica XXXII (2005)

The language of symbols in prehistoric Anatolia

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ABSTRACT – *The conceptual and ritual background of symbolism in the prehistoric art of Anatolia should be investigated within the socio-economic background of the pertinent Neolithic and Chalcolithic societies. Since the adoption of farming did not totally replace the more traditional modes of subsistence, it is doubtful that the supernatural world-order envisaged by earlier hunter-gatherers would have been entirely altered by new spiritual concepts.*

IZVLEČEK – *Konceptualno in ritualno ozadje simbolizma prazgodovinske umetnosti v Anatoliji moramo raziskovati znotraj socialno ekonomskega družbenega okolja neolitskih in bakrenodobnih družb. Ker poljedelstvo ni povsem nadomestilo tradicionalnih načinov pridobivanja hrane, tudi novi duhovni koncepti verjetno niso popolnoma spremenili pogledov prvotnih lovcev in nabiralcev na nadnaravno ureditev sveta.*

KEY WORDS – *Anatolia, Neolithic, Chalcolithic, symbolism, shamanism, decoration*

Elements of conceptual symbolism observed in the prehistoric art of Anatolia should be analyzed within the context of the social and economic characteristics of the Neolithic and Chalcolithic societies. Parallel to the agriculture, and cattle and sheep rearing that characterize this era, forms of more traditional economic strategies based on herding, seasonal hunting and gathering continued at different levels of intensity among most sedentary communities. Since the adoption of farming did not totally replace earlier modes of subsistence, it is somewhat questionable that the supernatural world-order envisaged by earlier hunter-gatherers would have been entirely altered by new spiritual concepts that emerged during the ascendancy of agriculture. In fact, in the Neolithic and Early Chalcolithic repertories of symbols incorporated in decorative compositions applied on ceramics, pottery and other mediums, there are certain motifs that seem to have their origins in earlier periods. The prehistoric rock drawings from the Latmos area in western Turkey (*Peschlow-Bindokat 1995; 2003*) clearly demonstrate that painted female figures, probably symbolizing fertility/proliferation, retained their meaning for thousands of years (Figs. 1–2). In this case, there seems to be a clear connection between the springs in the general area of the painted rock outcrops and the male and female figures, represented individually, in couples or groups. Equally significant is the fact that the tradition of painting these types of anthropomorphic figures, some perhaps going back to the Late Epipaleolithic/Early Neolithic, continued well into the Early Chalcolithic period. In this case, this could suggest that the tradition of seasonal or periodic gatherings for conducting communal fertility-related rituals may have originated in the period before farming became the principal subsistence economy of most sedentary communities in prehistoric Anatolia.

Curiously enough, even among some contemporary traditional communities in the rural countryside of Anatolia, rituals for the purpose of invoking rain are sometimes called “the bride”, “bride of rain”, and “bride of the sky” (*Acıpayamlı 1978.11*). Thus, references to a young woman/young bride in connection with sources of water and certain fertility-related natural events continue to this day.

Additional symbolic motifs painted on rock surfaces include hands, feet or fingers, as well as a number

of enigmatic linear drawings. This type of cult-related ritual symbolism also occurs on some of the Çatalhöyük wall paintings (Figs. 2b, 8a–8b) and Hacılar-type ceramics. Originally, all these symbolic forms may well have belonged to the repertory of deep-rooted semantic signs used by ritual practitioners, that is, shamans[1].

To return to the question of continuity pertaining to concepts of the supernatural, some scholars maintain that Neolithic subsistence economies largely based on food production would have changed the cosmic logic of earlier periods. The new understanding of the universe would have consisted of human and social logics overlaying old concepts (*Bischoff 2002.240*). In other words, in the cosmology of early farming societies experimenting with agriculture while still maintaining a measure of hunter-gathering, the earth would have been considered the source of all life's elements. Along this line of thinking, it is assumed that in configurations of the cosmos as perceived by shamans, figures of women, leopards, bulls and rams could have symbolized the earth, vultures the sky, and snakes, the underworld (*Bischoff 2002.241–242*). What one should ask is to what extent "cosmic conflicts" such as storms, earthquakes, lightning, forest and bush fires, the eruption of volcanoes and so on as experienced by prehistoric farmers were explained as originating from the earth and represented in symbolic art forms.

The Neolithic and Early Chalcolithic societies of Anatolia, like their contemporaries in neighboring regions, created locally distinct ornamental motifs applied to a range of utilitarian and non-utilitarian artifacts. In the decorated ceramic assemblages of the late seventh to the late sixth millennia BC in Central Anatolia, one can find some of the best illustrations of symbolism. Since rituals are generally symbolic in character, most scholars have considered symbolism in prehistoric art to be the artistic expression of spiritual beliefs[2].

The 'Hacılar-type painted wares of Pisidia, or those of Can Hasan II/Çatalhöyük-West designs found in the Konya plain demonstrate a regional conformity in the use of space, as well as the combination of motifs into pre-conceived patterns. In addition, there are also non-repeated, unusual, designs that fall into the category of an 'imagined' or 'fantastic' style, as seen in some of the Hacılar painted pottery (Figs. 3–4). The type and arrangement of geometric, linear and other designs on Neolithic-Early Chalcolithic pottery (Figs. 5–7a), including seals (Fig. 7b) and other utilitarian and non-utilitarian artefacts from certain regions of Anatolia, share certain conceptual similarities with equivalent assemblages from Southeast Europe. Consequently, some of us researching the manifestation of spiritualism in the prehistoric art of Anatolia also presume that certain types of decoration applied to various media may have had semantic content (*Yakar 2003*). If so, we may speculate that individual or group of motifs arranged in different configurations and contexts would have expressed different things. It is rather doubtful, however, that vessels decorated with symbolic designs would have been considered animated or even sacred when not used in rituals. While we may propose that certain compositions could have possibly conveyed visions, experiences, observations and messages of a spiritual, philosophical or mundane nature, our ability to decode the sign value of such abstract mo-

Fig. 1. Latmos rock paintings (after Peschlow-Bindokat 2003).

1. For more details on symbolism in shaman ceremonies, see Bischoff (*2002.240–244*). For more general studies on symbolism and contextual meaning, see Hodder (*1982; 1987; 1989; 1995*).
2. Verhoeven (*2002.235*) proposes a new model for the analysis of ritual, stressing the importance of symbolism especially, since many rituals are characterized by an elaborate use of symbols.

Fig. 2a (left). Latmos rock paintings (after* Peschlow-Bindokat 2003*).
Fig. 2b (up). Symbols with unknown meanings on a wall painting from Çatalhöyük-East.

tifs is very limited. Moreover, some geometric/linear compositions on wall paintings or ceramics could have been abstract renderings of visions experienced during altered states of mind and at least partly retained in the memory bank[3].

Our south-east European colleagues have long been trying to "decipher" the meanings of certain abstract motifs and ornamental compositions decorating prehistoric ceramics and a variety of objects. A recently published monograph on *Early Symbolic Systems for Communication in Southeast Europe* compiled and edited by Lolita Nikolova (*2003*) is among the innumerable and creative attempts at tackling this problematic issue. One point of broad agreement has to do with the conceptual treatment of material culture among prehistoric communities. We can assume, on the basis of shamanic world views, that in prehistoric societies, too, certain artefacts, because of their shapes and decorations, may have been perceived charged with life forces, which on certain occasions demanded special attention. Such artefacts may have served as symbolic media of communication between the human and spirit domains.

A second point of agreement concerns the shamanic concept of a tripartite universe that might have existed in the Neolithic societies' understanding of cosmology. Nevertheless, it is rather difficult to construe the cosmological iconography of prehistoric societies by attributing symbolic values to geometric and linear compositions executed on a range of utilitarian and non-utilitarian artefacts. The diffusion of such material culture artefacts to more distant neighbouring territories brought about the transmission of symbols with ritual and cosmogological semantics to other cultures. The question is, did such exported or borrowed ornamental compositions keep their original symbolic values?

Constantly repeated ornamental schemes are proof of adherence to culturally and, perhaps, socially significant codes of decoration. Beyond this third point of general agreement, there is little consensus regarding the decoding of prehistoric symbols. For example, it is difficult to substantiate that a certain decorative design retained its semantic or symbolic value over many generations. Another problem relates to symbolic values attached to geometric signs or linear/curvilinear motifs. For instance, did double spirals or entwined snakes depict expressions of male and female unity?

We all agree that explaining the acquisition of particular imagery in prehistoric art is not a simple mat-

3. Referring to geometric patterns such as multiple arcs, zigzags, and notches incised on the surface of some Upper Paleolithic period statuettes in Germany, Dowson and Porr suggest that these motifs may have hallucinatory origins found in shamanic art (*2001.Fig. 11.6*).

ter. In particular, distinguishing between a multitude of what we term encoded messages of a spiritual and conceptual nature and symbolic expressions of a social nature is an almost impossible task. Nonetheless, there is no reason to doubt that in some cases, behind each individual motif or composition there would have been an impulse to express a certain idea or observation, or even a spiritual insight. In other words, behind their particular aesthetic effect lay encoded expressions of ingrained beliefs, especially those pertaining to the visualization of supernatural and cosmic worlds. We may further presume that certain symbolic spiritual motifs applied to receptacles or objects would have prescribed and conveyed appeasing messages to ancestral spirits who might have been assumed to be ever-present among the living.

Abstaining from such a speculative debate may be wise. However, this will not advance our efforts to grasp how the realms of the "profane" and "spiritual" or the "living" and "dead" could had been understood or referred to in prehistoric societies. Among contemporary non-literate ethno-cultural entities, the realms of the dead and living constantly interact.

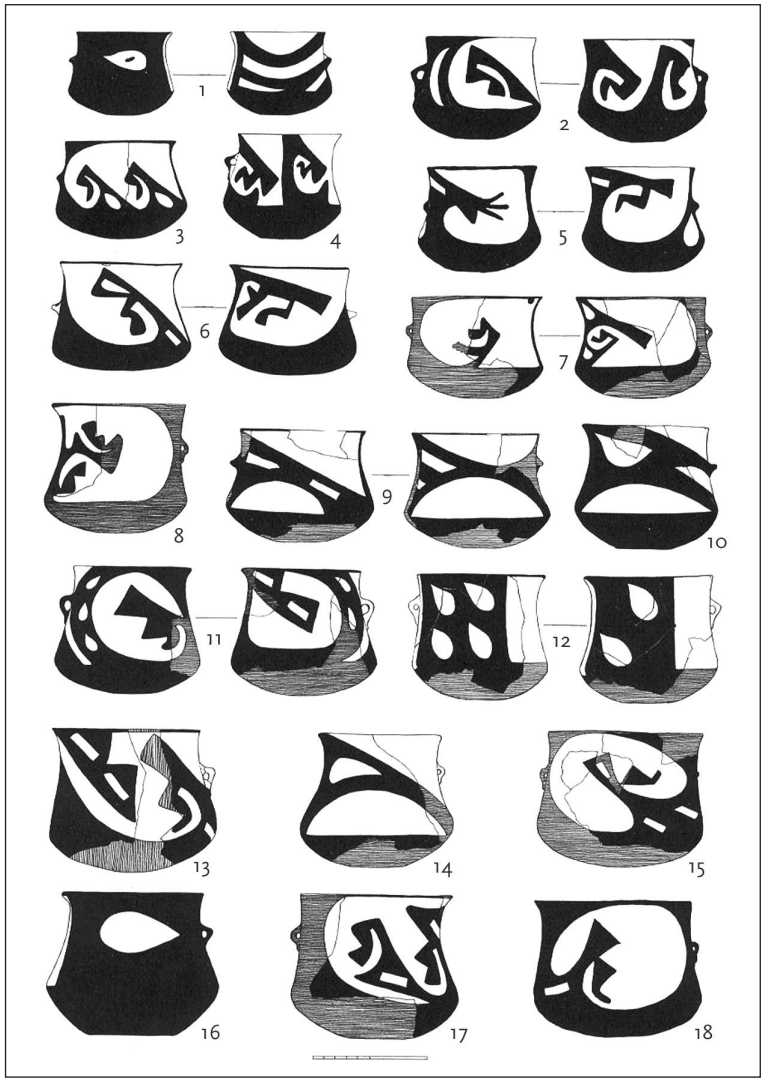

Fig. 3. Hacılar Early Chalcolithic painted pottery with "fantastic" designs (after Mellaart 1970.

Therefore in decoding prehistoric motifs from Anatolia, recourse to ethnographic analogies could provide a better understanding of the significance of symbolism. No matter how logical, attractive and persuasive the decoding of certain signs may be, their assumed meanings are very difficult to substantiate even with the help of ethnographic analogies[4].

In discussing the use of prehistoric symbolic art in various media, we should also consider designs applied to clothes and tattoos. Tattooing and other forms of skin decoration by painting, skin penetration or scarification probably known in the distant past still exist among many cultures in the world. For example, the oldest direct evidence of ancient tattooing is found in the form of a few dots and lines on Egyptian and Peruvian mummies. While most of these may have been markers of social rank, others were probably considered to have protective, preventive, and curative properties. A few may have also carried cryptic messages and pronouncements of a spiritual nature. However, so far frozen Scythian burials provide the best examples of symbolism in ancient tattooing. The example of the Pazaryk nomad chieftain in the Siberian Altai Mountains, dating from around 400 BC, is one of the better-known examples (*Rudenko 1970*). In this case, the tattoos

4. Leshtakov suggests that ornamental compositions without 'ritual and cosmological semantics' are constructed mainly from crosses, circles, swastikas, rhombuses, meanders, spirals, and bucranium motifs, in various versions and combinations. Following this line of thinking, Todorova is convinced that multi-level symbols are traditionally associated with ideas of birth and growth, the change of seasons, the four cardinal points, and eternal movement (in *Nikolova 2003*).

Fig. 4. Painted motifs probably with symbolic values. Early Chalcolithic pottery from Hacılar (after* Mellaart 1970*).

seem to have been prescribed socially and/or ritually. These were no doubt outward signs of the ethnic, political and religious identity of the individual. Certain ornate visible tattoos could have served as indicators of status, descent, group membership, and so on. Among them, hybrid compositions such as a lion-griffin with a long tail twisting into a snake's or bird's head terminals are part of a rich repertory of supernatural forces long present in the iconographic art of the ancient Near East. Another Pazyryk burial chamber in the no-man's-land between Russia and China produced some 11 years ago the famous mummy known as the "Ice Maiden of the Gorno Altai". Apparently no ordinary woman, perhaps a shaman, her body revealed ornamental tattoos on the shoulder and right hand thumb, perhaps identifying her elevated rank in Scythian society (Fig. 12). We may presume that other, simpler tattoos, including those not visible, would have likely served therapeutic and spiritual purposes. Indeed, the man from Kurgan 2 of the Pazyryk necropolis has skin marks which are believed to represent traces of therapeutic treatment. A line of only three pinpoints to the right matches a vertical line consisting of eleven pinpoints to the left of the lumbar spine. In addition, an arc-shaped line of six pinpoints was tattooed on his right ankle. The correspondence between the therapeutic tattoo marks of the nomad ruler and those on the Iceman (named Ötzi) from Paso di Tisa on the Italian Tyrol (Tisenjoch or Hauslabjoch) dated to the late fourth millennium BC is striking[5]. On the body of the Iceman these were applied by puncturing the skin with a bone awl and using powdered

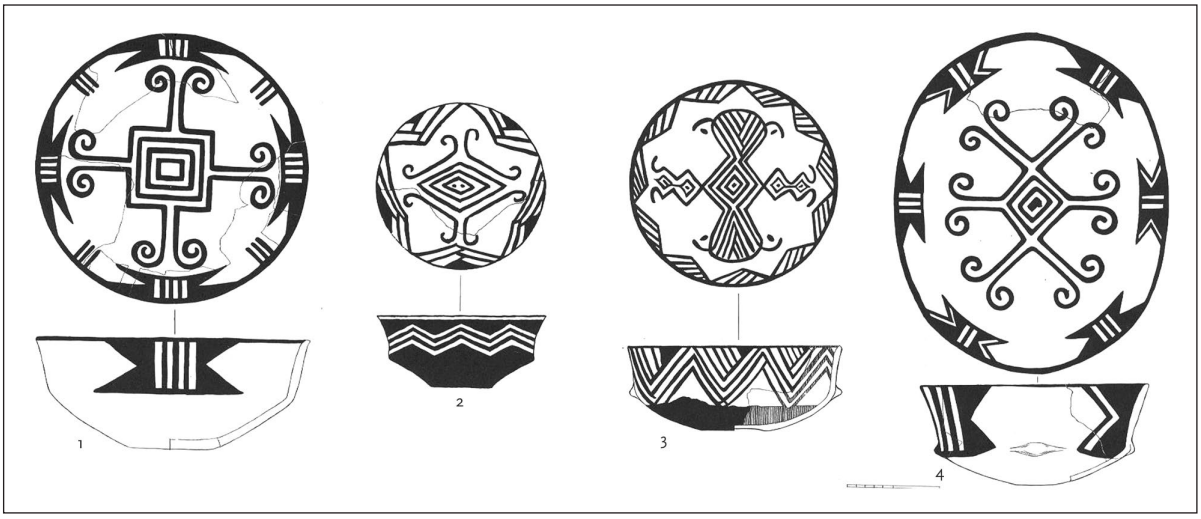

Fig. 5. Hacılar. Early Chalcolithic pottery painted with linear designs (after* Mellaart 1970*).

5. The tattoos on the Iceman's body are numerous: 1) four groups of lines to the left of the lumbar spine; 2) one group of lines to the right of the lumbar spine, 3) a cruciform mark on the inside of the right knee, 4) three groups of lines on the left calf, 5) a small cruciform mark to the left of the Achilles tendon, 6) a group of lines on the back of the right foot, a group of lines next to the right outer ankle, and 7) a group of lines above the right inner ankle (*Splinder 1994*).

charcoal mixed with saliva or water that produced a blue tint (*Splinder 1994*). No particular pattern was discerned arrangement of the tattooed marks[6]. In addition to a small, cruciform-like design that was tattooed twice on the left of the Achilles tendon and on the inside of the right knee, short lines were applied on most other body parts, especially limb joints (Fig. 11). Considering the wear-and-tear signs at the knee joints and both ankle joints, and signs of *osteochondrosis* and also a slight *spondylosis* on the lumbar spine, the tattoos were therapeutic in purpose.

Fig. 6. A variety of bucranium motifs on some Early Chalcolithic painted pottery (after* Mellaart 1970*).

Returning to decorated ceramic and stone vessels, seals, talismans, or even occasionally the walls of domestic and cult buildings in Neolithic and Chalcolithic Anatolia, we are faced with the task of decoding their linear, curvilinear or geometric compositions. Ethnographic data pertaining to the use of symbolism in art as practiced by distinct ethno-cultural entities, especially those that once practiced or still practice shamanism, could help to explain deep-rooted notions encoded in ornamental schemes. Ethnographic analogies suggest that some of the highly visual and evocative symbols in prehistoric art may have referred not only to cosmology and the supernatural, but probably to profane issues also.

Since, Western and Central Asiatic tapestries are rich in symbolism, certain abstract motifs seen on traditional nomadic *kilims* from central and eastern Anatolia require a closer look. It is important to point out that most of these designs are also found on *kilim* decorations originating in Transcaucasia and Caucasia. More than any other medium, these ornamental compositions best illustrate the semantics of symbolism in conceptual art. The repertory of motifs, their arrangement, colours and weaving techniques vary slightly from one geo-cultural or ethno-cultural entity to another. The fact that certain motif and colour compositions are highly characteristic of certain localities or regions once inhabited by culturally distinct tribal groups indicates that also in the distant past ornamental compositions such as those on ceramics may have also been used for ethno-cultural group identity.

The infinite range of motifs on *kilim*-type tapestry shows some variation in design and composition according to the ethno-cultural identity of the people that produce them. Therefore, stylized nomadic motifs seen on *kilim*-type tapestries and on seals are designs indicating ethno-cultural identity. Moreover colour and design compositions, and particular weaving techniques are considered the property of geo-

6. The groups of lines to the left of the lumbar spine are arranged vertically, starting from top down with a group of four, followed by two groups of three, followed in turn by a gap, and finally by another group of four. A group of four line tattoos was applied to the right of the lumbar spine at exactly the same height as the gap on the left-hand side.

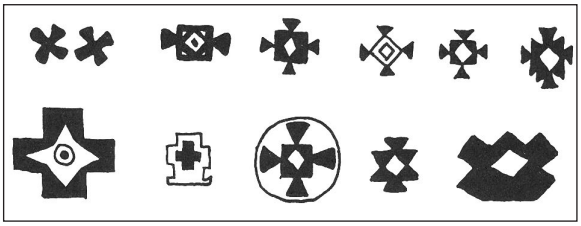

Fig. 7a. Star or rosette-like motifs with unknown symbolic values applied on Hacılar Early Chalcolithic painted pottery (after* Mellaart 1970*).

culturally defined groups. Although each woven motif has a precise meaning, the original notions, stories, or messages conveyed by their combinations or pattern arrangements barely survive in the collective memory of those who continue to produce them. Although some groups consider certain motifs and designs as their own, attributions based solely on motifs could sometimes be misleading, since others frequently borrow them to create their own distinct designs. Therefore, the possibility that in the distant past certain motifs could have been adopted, with or without modification, cannot be ruled out. In such cases, we may assume that the resultant motif or pattern could have acquired another meaning.

In geometric design, which is a very old tradition, motifs are highly stylized natural subjects composed of vertical, diagonal and horizontal lines. Curvilinear and floral designs, on the other hand, are more recent; they do not appear on Islamic rugs until the early 16th century.

On old Chinese and Tibetan rugs and carpets, artistic inspiration from the beginning derived from religious doctrines such as Taoism and Buddhism. Therefore, the significance of the design is far from obscure, since almost every motif has a well-known symbolism. Messages conveyed relate to "happiness', "longevity and good things", "happy marriage", "purity" "conjugal happiness" "fertility", and "power and adaptability" (*Bamborough 1979.47*). Although these Far Eastern symbols are quite different in form from those seen on oriental *kilims*, the substance of the desires and aspirations relayed by them are rather similar.

Fig. 7b. Linear designs on seals from Çatalhöyük-East (after* Mellaart 1962*).

Motifs with semantic values can best be seen on nomadic *kilim*-type tapestries produced in a geographical belt extending from Anatolia to Central Asia in the east and the Balkans in the west. The decorative patterns on nomadic *kilim* and the stamp seals of the Yörük, Türkmen and Afşar tribal groups in Anatolia clearly demonstrate that particular arrangements of abstract motifs often relate to group identity. They are schematizations of elements taken from the natural environment, as well as representations of objects of daily use. Much like pictographic script, they are sometimes arranged in chang-

Fig. 8a. Concentric circles and triangular forms painted on walls. Çatalhöyük-East (after* Yakar 1991*).

Fig. 8b. Concentric circles painted on a wall. Çatalhöyük-East (after* Yakar 1991*).

ing combinations to express different notions and emotions. Various arrangements and colour compositions among the Yörük, Türkmen and Afşar nomads, and settled nomads often carry messages and even express a certain sense of humor that is crucial in maintaining a peaceful and prosperous life in the tent and encampment. Since colours also have a significance of their own, they can alter the meaning of a motif (*Durul 1987.52*). Blue generally symbolizes hope, purple grief; and black and sometimes white are colours of mourning. Orange and red express life, love and the like. In many regions, green expresses "life purpose", "goal" etc.

The rich variety of abstract motifs on *kilims* comprises no fewer than five groups. In each group, the symbolic value of only a few motifs may have preserved their original definitions.

Humans are always stylized (Figs. 9–10). Human body parts, sometimes in pairs, are common in decorative schemes. While big ears symbolize wariness of eavesdroppers, the eye is considered to have a protective property against "evil".

Representations of women in highly stylized forms are particularly popular in traditional *kilim* decorations. There is a great variety of female figures, each naturally having a different meaning, and not only symbolizing the essence of "fertility" or "marital bond". Mature women are depicted with large hips, and married women with hands on their loins. Social and mental statuses such as pregnancy, insanity, or bizarre maidens, unmarried, or engaged girls, are emphasized by slightly different details and postures[7].

Most representations of men symbolize strength and heroism. A particular design of a male with unnaturally formed legs depicts "mother's son" or "hanımoğlu" in Turkish (*Durul 1987.26*), and carries the message of "lacking in manly character/attributes" in other words, it refers to "feeble man".

Zoomorphic and entomological motifs include goat, sheep, dogs, turtle and a variety of birds. There are also figures that represent flocks and flocks on the move, such as flocks of geese and flocks of geese on the move, caged birds, fighting cocks, dogs' footprints, cats' ears, wolves' mouths, ears, teeth and spoor, foxs' ears, donkeys' ears, squirrel teeth, frogs, scorpions and flies. It is important to note that the

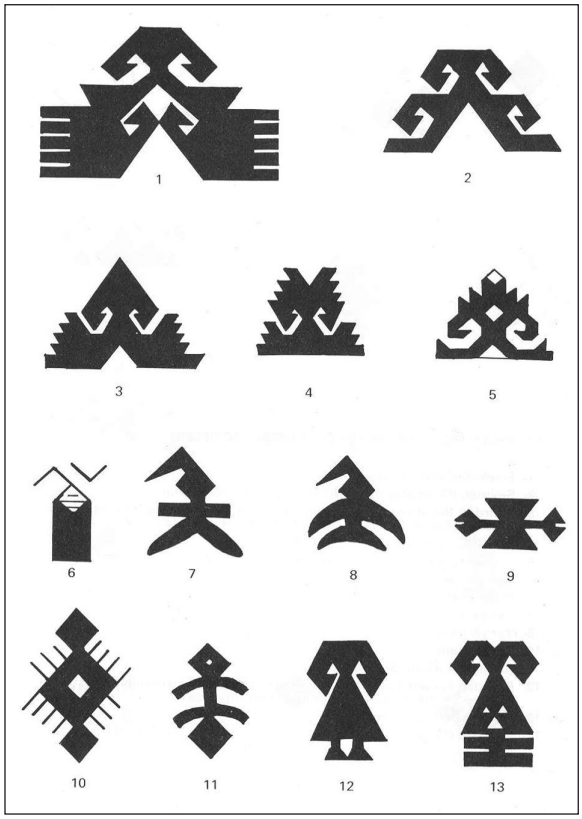

Fig. 9. Semantics of symbols – stylized female figures on Afşar, Turkmen and Yörük kilim (after* Durul 1987*): 1. Mature woman; 2. Young girl (Yörük symbol); 3. Young girl (Afşar symbol); 4. Young girl (Yörük symbol); 5. Young girl (Turkmen symbol); 6. Deranged woman; 7. Maiden (Yörük symbol: Eskişehir-Karakeçeli tribe); 8. Maiden (Yörük symbol: Eskişehir-Karakeçeli tribe); 9. Young girl (Turkmen symbol); 10. Untamed girl; 11. Maiden (Yörük symbol: Eskişehir-Karakeçeli tribe); 12. Young girl (Afşar symbol); 13. Young girl (Afşar symbol).

dimensions of the motifs are not in proportion to the size of the subjects depicted. The abstract illustrations of whole animals and insects could depict the natural environment of the habitats occupied by these nomads. Moreover, these also illustrate the subsistence activities of the nomads, such as herding and so on, and dangers posed by wildlife. However, except for ram and scorpion heads, the original symbolic value of the body parts of animals remains largely an enigma. Ram heads stand for "brave rams", which in turn symbolize "bravery" or "a brave man" among the Afşar tribesmen. The scorpion head is a symbol of bad luck.

Flora constitutes the third group of representations. Like fauna, this group illustrates the natural envi-

7. For details and illustrations, see Durul (*1987.23–24, 26–27, 41*).

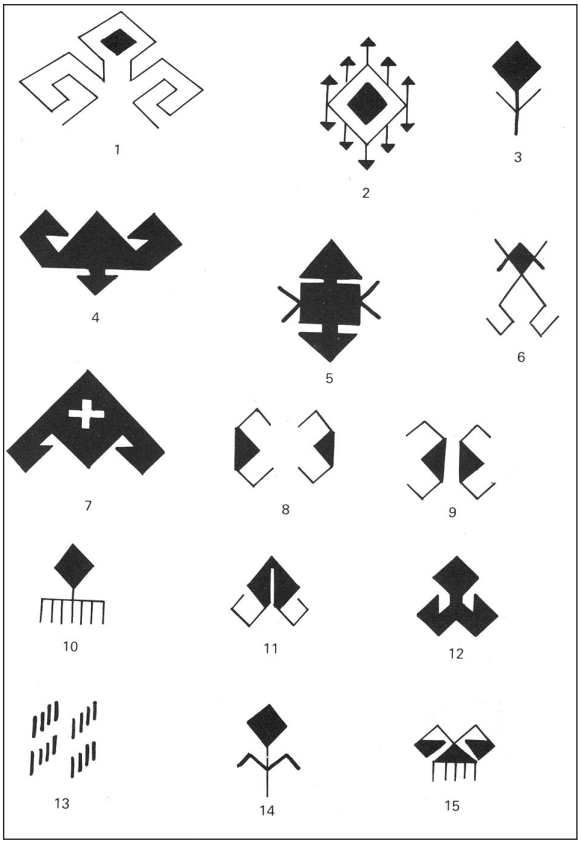

Fig. 10. Semantics of symbols – stylized human figures on Afşar, Turkmen and Yörük kilim (after* Durul 1987*). From left to right: 1. Strong man; 2. Procession of mounted guards of the bride; 3. Good omen and prosperity among the Bayat tribe in the Emirdağ region; 4. Strong man; 5. Procession of mounted men protecting the bride; 6. Split legs; 7. Strong man; 8. Offended friends/lovers; 9. Opposition between friends/lowers; 10. Assertive woman; 11. Pregnant woman; 12. Tribal sign of the Dodurga Oğuz; 13. jealousy/gossip; 14. Sign of good omen and prosperity among the Bayat tribe in the Emirdağ region; 15. Split legs.

ronment and reflects to some extent the subsistence activities of the group. Motifs include stylized plants, willow branches, leaves, flowers, pines, bunches of grapes, ears of grain, stacks of grain, etc. Among some tribes, a willow branch represents sorrow.

Geometric and linear patterns constitute the fifth group. Among the designs, continuous vertical lines, meanders and zigzags represent water/streams/rivers. In addition to a diagonal lattice, lozenge, the zigzag pattern termed "cattle's urine path" (Turkish: "sığır sidiği yolu") is quite common among pastoral nomads. For present day Turkmen, Zaza or Kurdish groups in Anatolia this motif describes the environment of camp-sites where herds of cattle moving up and down to pastures in files create narrow paths that are further marked by flows of cattle urine.

It is important to stress that such linear patterns are rather common not only on prehistoric pottery, but also occasionally on wall paintings (e.g. Çatalhöyük). The meaning of such linear compositions among the Neolithic communities of south-eastern Europe or Anatolia can only be guessed.

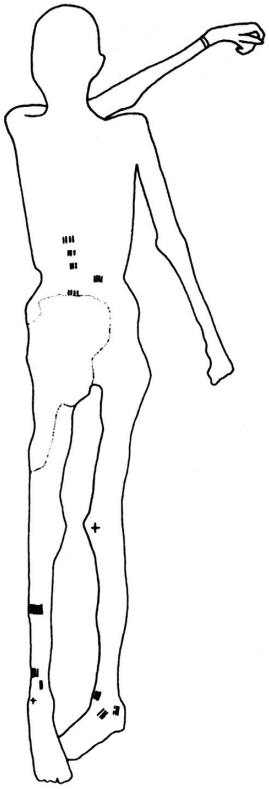

Fig. 11. Tattoos on the body of the Ice Man (Ötzi) (after* Spindler 1994*).

It is obvious that in each of the five categories there are individual motifs, especially those found on sacks of cereals and on most hanging *kilims*, that conceptualize good luck, blessing, prosperity, abundance, love's path, protection from bad luck and evil, etc. A relatively large number of motifs and compositions in all five categories simply

Fig. 12. An animal figure tattooed on the Siberian Scythian burial (after* Rudenko 1970*).

depict details in the natural and social environment of the group. In addition, more mundane situations or feelings pertaining to jealousy, or even gossip about family, clan or tribe members, for instance lovers, estranged lovers, or mother's son, are also expressed in symbols[8].

For tribe or clan members, motifs decorating woven textiles provide a sort of coded language not easily understood by outsiders. For instance, a *kilim* woven for a bride-to-be, or a new bride on her way to her husband's encampment or village could possess a kind of symbolism not easily understood by those outside her clan. Such *kilims* and embroideries are of personal value and therefore meticulously kept like cherished documents.

To sum up, ethnographic analogies strongly suggest that also in Neolithic societies susceptibility to the powers of nature would have necessitated the invention of various forms of precautionary measures, some requiring preventive/curative group rituals. An event outside the established order or course of nature would have been treated as "undesirable", "dangerous", or "destructive". Special acts and observances devised to cope with forces of "good" and "evil" must been considered "sacred", and performed according to special codes of behavior. The association of such ceremonial procedures with beliefs in supernatural forces, ancestral spirits, and possibly other kinds of spirits/ghosts would have required the performance of rituals. However, having observed that the performance of cult rituals did not or could not 'always' bring about the desired results in maintaining regularity in natural processes, additional acts of communication, persuasion, magic healing could have been devised and performed. Such ritual acts could also have required the use of objects sanctified by symbols and figures. Since ethnographic studies demonstrate that in animistic societies, animals, plants and objects, being part of peoples' surroundings, possess souls or spirits, we may assume with some confidence that in prehistoric societies certain objects decorated with such motifs would have been considered animated during rituals.

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8. For details, see Durul (*1987.5:8, 17:4, 6:1, 16:5, 22:8, 22:13*).

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back to contents

UDK 903.3(495)"633/634":291.37
Documenta Praehistorica XXXII (2005)

Symbolic behaviour at places of social activity beyond the domestic area in the Ionian Neolithic

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ABSTRACT – *This paper suggests a reassessment of the role of caves during the Neolithic in Greece. Some of these cavities could have hosted performative and ritual events, or other kinds of social and/or symbolic activities and, therefore, could be treated as forms of monuments. These issues are discussed on the basis of Drakaina Cave, located in the Poros Gorge on Kephalonia Island in the Ionian Sea. The archaeological evidence of the cave (e.g. the construction of lime plastered floors, the deliberate deposition of associated artefacts) is traced on three main scales: symbolism, monumentality, and the significance of the cave's landscape for Neolithic society. Moving away from the site, it is argued that the gorge of Poros itself was a powerful topographic feature, constituting a symbolic resource in the landscape and, thus, a valued site which contributed to the formation of the biography, identity and politics of the Neolithic community in the region.*

IZVLEČEK – *V članku predlagam, da se ponovno oceni vloga jam v grškem neolitiku. V nekaterih izmed njih so se morda odvijale predstave, obredi ali drugačne oblike socialnih in simbolnih dejavnosti, zato lahko te jame obravnavamo kot oblike spomenikov. O tem razpravljamo na primeru jame Drakaina, ki se nahaja v soteski Poros na otoku Kefalonija v Jonskem morju. Arheološko vsebino jame (konstrukcije z apnom tlakovanih tal, namerna depozicija artefaktov) raziskujemo na treh glavnih nivojih: simboliki, monumentalnosti in pomenu jamskega okolja za neolitsko družbo. Širše gledano skušamo dokazati, da je bila tudi soteska Poros s svojimi topografskimi značilnostmi vir simbolizma v pokrajini ter pomembna točka, ki je prispevala k nastanku biografij, identitet in politike neolitskih skupnosti na tem področju.*

KEY WORDS – *Neolithic; Drakaina Cave; Ionian Islands; symbolic behaviour; landscape and monuments; social memory and identity*

INTRODUCTION

Recent debate on archaeological theory has shifted interest towards reading material culture as part of the symbolic realm of a society (*Hodder 1986*). Moving from the study of the physical properties and practical uses of artefacts towards the search for more abstract symbolic meanings, many archaeologists have attempted to unravel and interpret the various ways through which a community expresses and constructs itself in time and space (*e.g. Hodder 1991; 1995; Thomas 1996.55–83*). However, many studies consider specific types of artefacts, such as figurines and ornaments, as the main objects of research on symbolic meaning (*e.g. Gimbutas 1982; Séfériadès 1995; Nikolova 2003.chps. 6, 9, 10, 14, 15*). Moreover, such categories of material culture are thought to be the dominant symbols of Neolithic society and, consequently, the main mediators of social meaning. Meanwhile, other scholars suggest that the conceptual universe of a community could be directly accessible through other fields of analysis, such as architecture, or spatial arrangements and, thus, space and place (*e.g. Parker-Pearson and Richards 1994; Kotsakis 1998*).

In recent times, even the meaning of the term Neolithic has radically changed; at present, it is synony-

mous with the development of new concepts of identity, community, time and space (*Hodder 1990; Thomas 1991; Whittle 1996; Bradley 1998. 21*). In other words, the Neolithic is not merely regarded as an 'economic entity', based simply on a switch from a hunting and gathering economy to new strategies of survival which supported the establishment of food production (*Edmonds 1999*). What is distinctive about this period is that social groups interacted with the landscape (*Whittle 2003*), constructing new social environments and creating 'homelands' through the practice of building and dwelling in settlements, land cultivation and exploitation, and a variety of social events (*Bailey 2000*). In this respect, the 'landscape' cannot be considered as a terrain of economic significance only, supporting the survival of a community (*e.g. Crumley 2002; Hill 2004*). According to J. Thomas (*2001. 181*), it can be considered as "a framework for integrating many different forms of information and different aspects of human life". As C. Tilley (*1996.161*) suggests, the landscape is comprised of a series of locales (places), with particular social significances and embedded meanings. Actually, the meaning is produced in these loci by the dynamic interplay between people, artefacts, events and places (*Thomas 2001.181*). Architecture, myths, feasts, rituals, and almost any form of past action, are capable of binding people to certain places in which specific meanings are constructed and experienced (*Basso 1996. 57; Tilley 1996.162*). Monuments are such loci of special significance. Their study has gained ground in recent prehistoric studies, especially with regard to Neolithic Europe (*e.g. Tilley 1994; Bender 1998; Bradley 1998; Edmonds 1999*). In Greece, a developed interest in similar perspectives is not yet evident. A few approaches that discuss such issues restrict themselves to the study of habitation spaces, focusing on the social and monumental character of tell settlements (*e.g. Kotsakis 1999; Nanoglou 2001*). Indeed, it is accepted that the great typological variety of monuments (i.e. long mounds, cairns, causewayed enclosures, henges, barrows, chambered tombs etc; see *Thomas 1991; Bradley 1998*) which marked the prehistoric landscapes of many European regions (e.g. Britain, Hungary, Ireland) seem to be absent from the Balkans. We should perhaps consider other places as loci of such monumental value in the Neolithic landscapes of this region. In recent years, the boundary between an 'artificial' or 'built' monument and a 'natural' landmark as perceived by a social entity as a place of special value has been called into question (*e.g. Bradley 2000*). Mountains, forests, clearings, rivers, lakes, swamps, rocks, and a variety of other 'natural' features may have been associated with particular events and activities (*Tilley 1994. 38–9*) and, in this sense, they could be seen as webs of meaningful places in the landscape (*Tuan 1977. 239*). J. Barnatt and M. Edmonds (*2002*) have recently discussed some Neolithic and Bronze Age caves in Britain, where funerary and ritual activity is evident, which could be treated as monumental sites.

Fig. 1. Map highlighting the location of Kephalonia Island, western Greece.

A similar approach could be proposed for caves in Greece used in the Neolithic and, therefore, we should reassess the role of caves during this period. Some of these cavities could be valued locations and, thus, forms of monument. As it is widely accepted (*e.g. Renfrew 1984.178–182; Hodder 1984; Thomas 1991.37; Tilley 1996*), monuments constitute places of symbolic content, signifying both abstract and specific qualities. For instance, it would be interesting to explore how social memories and values are inscribed upon certain monumental loci, such as some caves in the Neolithic of Greece. Performative and ritual events, as well as other kinds of social and/or symbolic activities which might have also taken place in caves, could have strengthened social coherence and identity, or even supported acts of remembering and forgetting (*van Dyke and Alcock 2003.2; Harrison 2004*).

Fig. 2. Satellite image of Kephalonia Island showing the gorge of Poros, where Drakaina Cave is located.

I discuss this issue here on the basis of a particular cave in Greece, known as Drakaina Cave, where symbolic behaviour seems to be evident.

DRAKAINA CAVE AND ITS NEOLITHIC CULTURAL RECORD

Drakaina Cave is located in the south-eastern part of Kephalonia Island in the Ionian Sea, Western Greece (Figs. 1–2). The cavity lies at an altitude of c. 70 metres, in the impressive, steep-sloped Poros Gorge, at a modern village on the nearby coast.

At present, Drakaina forms a rock shelter extending over an area of approximately 90 square metres. Its geological history is complicated. High-tectonic activity in the region has resulted in the collapse of its roof, probably since late prehistoric times. Nevertheless, during its cultural history, Drakaina must have been an open cavity, occupying an area of no more than c.100 square metres.

The site has been excavated systematically since 1992 by the Hellenic Ministry of Culture – Ephorate of Palaeonathropology-Speleology (*Chatziotou et al. 1995; Chatziotou and Stratouli 2000*). Human activity on-site started at about the mid 6th millennium cal BC, and has continued for many generations during the Neolithic, up to the beginning of the 4th millennium cal BC, based on radiocarbon dating (*Stratouli et al. 1999*). Periodically, the cave hosted cultural activity for an even longer time, up to the mid 3rd millennium cal BC (that is, the Early Bronze Age II). This period was followed by a long period, in which the cave was not occupied, as indicated by the accumulation of a naturally-induced layer lacking any evidence of archaeological remains. From the late 7th century BC to the beginning of the 2nd century BC, the cave became a place of cult activity. More precisely, it was used as a local temple dedicated to Nymphs and Pan. Thereafter, the cave was abandoned until recently, when it was used as a sheepfold.

In Drakaina, an unusual practice for cave sites is documented: the construction of a series of lime plastered floors (Fig. 3) during both the Late Neolithic (ca. 5600/5500 – 4800 cal BC) and the Chalcolithic (or the Final Neolithic, in terms of Aegean periodisation; c. 4800 – 3700 cal BC). According to the micromorphological analysis conducted on-site (*Karkanas 2002; Karkanas and Stratouli in preparation*), the main raw material used for the construction of these floors was marl, in addition to pure Neogene limestone taken from outcrops in the vicinity of cave. After its collection, this material was transformed into lime through firing processes, i.e. into a new, light solid material, which made it rather easy to bring into the cave. There, it was mixed with water, and applied to the underlying deposit. Finally, as recorded in some samples, the surface of the floors was coated with pure lime, that is, with a form of plaster. The whole process seems to indicate that the manufacture of the lime plastered floors in Drakaina Cave was a product of special care and planning.

The careful investigation of the floor units has allowed us to conclude that, at least in some cases, the floors comprised stones (Fig. 4) and fragments of artefacts, such as large parts of grinders. In other cases,

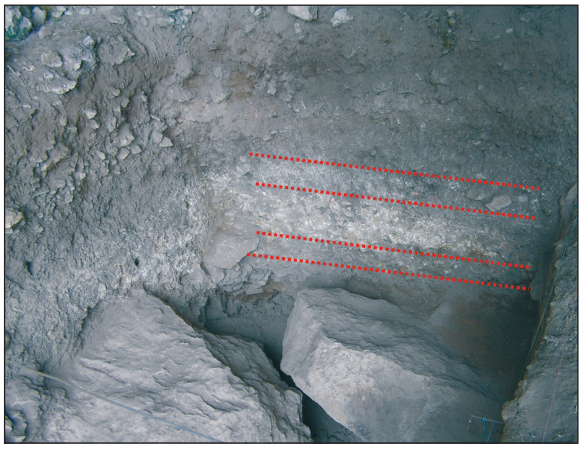

Fig. 3. Stratigraphic profile of Drakaina Cave, indicating the approximate level of constructed lime plastered floors.

the floors included small stones from the cave environment and some quantity of clay, along with some chert flakes and small pieces of animal bone. In a few cases, the floor units incorporated fragments of architectural remains. Some of these pieces, judging from the plant, or wood impressions on them, may have been parts of sturdy wall constructions, traces of which have not been documented on-site, pointing to the fact that they were probably brought into the cave from nearby settlement(s) and deliberately deposited into the cave. In addition, other artefacts, such as half pots, or fragments of pottery, were also deliberately deposited in the floor sub-surface.

Based on the same micromorphological analysis, the deposits between the plastered floors comprised large quantities of dispersed wood ash, charcoal fragments, other charred plant material, and pieces of burnt bone. These were considered to be indicative of raked-out fire installation material (*Karkanas 2002; Karkanas and Stratouli in preparation*).

In addition, the deposits related to the floor sequence provided us with a large number of cultural remains. The bio-archaeological material comprises thousands of animal bones, the vast majority from domesticated species (*Chatziotou et al. 1995; Kotzambopoulou in preparation*). At least in certain cases, it is apparent that the recovered animal bones, which were mostly fragmented and burnt, or 'coated' with ash, were closely related to the partially preserved features of a possible fire installation function. A wide range of molluscs was also present, in addition to a few remains of fish and crab. All aquatic faunal remains in Drakaina could have been collected or fished near the cave (*Theodoropoulou in preparation*). Although the site has been systematically sampled for environmental data, Drakaina has provided us with a rather poor plant/seed assemblage. Three or four species of wheat were recorded,

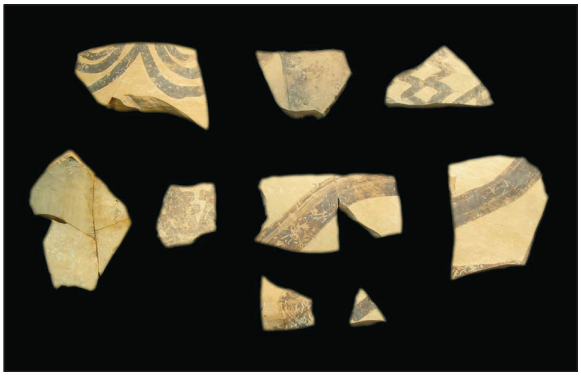

Fig. 5. Pottery fragments of dark-on-light ware from Drakaina Cave.

Fig. 4. View of the sub-surface of one of the constructed floors in Drakaina Cave. The stones depicted probably form part of the floor construction.

as well as two species of barley, a variety of pulses (which seem to have been as equally important as cereals), and a few fruits. No evidence of grain storage was documented on-site; most of the material involved seems to have been extensively processed before being brought into the cave and so could have been served easily for consumption, with no, or very limited preparation on site (*Sarpaki in preparation*). The general picture of the bio-archaeological remains unearthed in Neolithic Drakaina allow us to assume that various foodstuffs were consumed on site at intervals, probably during formal, or other feasts (*cf. Dietler and Hayden 2001; Pearson 2003*), and by no means during routine visits. In order to investigate these issues further and supplement the information provided so far, we have planned a more systematic micromorphological study of the deposits under question, coupled with chemical analysis, and organic residue analyses on pottery.

Also, the Neolithic deposits at Drakaina include a variety of artefacts, such as some large pots and numerous small and medium-sized clay vessels. Most are

Fig. 6. Sherds of bichrome painted pottery from Drakaina Cave.

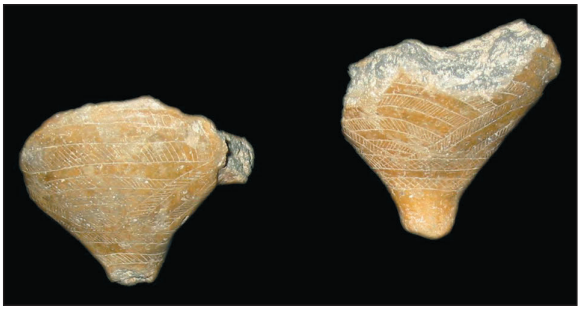

Fig. 7. Zoomorphic legs with incised decoration belonging to a so-called 'Danilo-scoop' from Drakaina Cave.

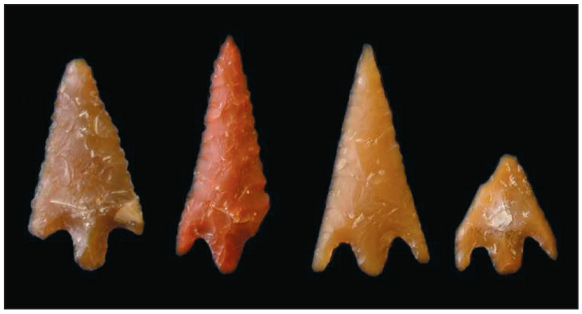

Fig. 8. Bifacial retouched projectiles from Drakaina Cave.

of 'good' quality, like those of black-burnished ware, or those of several patterned wares, that is, painted urfirnis, dark-on-light, polychrome, and painted crusted wares. Some of these vessels, according to their technological characteristics and raw material provenance analysis, are not of a local origin (*Kiriatzi in preparation*). It is worth noting that the largest quantity of pots, in particular those with patterns are extremely fragmented (Figs. 5–6). Thus, there are vessels represented by one, or a few sherds only. For example, the assemblage of painted urfirnis consists of approximately 140 sherds from some 35 different pots (*Stratouli and Goudi in preparation*). The same pattern is attested for other categories of decorated pottery, including the so-called 'Rhyta' or 'Danilo-scoops', a well-known type of vessel, with four zoomorphic legs and extended incised decoration (Fig. 7). This pattern of high fragmentation points to the practice of deliberately breaking pottery (*cf. Chapman 2000*). In some cases, it seems possible that pieces of painted/decorated pottery were deliberately brought to the site in fragments and deposited there. The same practices apply to other categories of artefact found in the cave.

Furthermore, a large number of chert tools, such as scrapers, burins, and macroblades, which were either fragmented or complete, was unearthed in Drakaina Cave (*Andreasen in preparation*). One such interesting lithic assemblage provided us with 187 projectile points of various morpho-functional classes (Fig. 8) (*Metaxas in preparation*). It should be stressed that, despite the evidence for in situ chert tool manufacture, some skillfully treated projectiles seem to have been brought into the cave as finished objects. This applies especially to projectiles of red chert which are of a local provenance, as well as to those of honey chert, a raw material which may have been imported to the island. Some other artefacts, such as several small-sized stone celts made of gabbro (Fig. 9), as well as discoid or cylindrical beads and button-like stone ornaments, the latter being made of talc (Fig. 10), were also transported to the island through inter-regional networks (*Stratouli and Melfos in press*). In addition, many beads made from various local shells, several fragmented rings/bracelets, and a few anthropomorphic pendants of *Spondylus gaederopus* were deposited in the cave. Finally, it is worth mentioning the occurrence of a large assemblage of ground stone tools, comprising nearly 450 artefacts. This assemblage consists of grinding tools used in stable or mobile mode, small and large hammer-stones, and a great variety of pebble tools used for abrasion and/ or smoothing. A large number of these implements bear stains of reddish pigment, while other tools are coated with red dye (Fig. 11), or carefully encrusted with it (*Bekiaris in preparation*).

Symbolic and monumental aspects of the site

I now attempt to discuss further the archaeological record of Drakaina Cave, aiming to trace the meaning of practices that are evident in it, on three main scales: the symbolic behaviour at the site, the monu-

Fig. 9. Celts made of gabbro from Drakaina Cave.

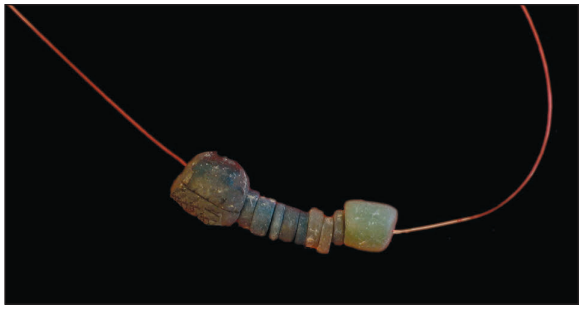

Fig. 10. Discoid and cylindrical beads made of talc from Drakaina Cave.

mental character of the site, and the special significance of the site's landscape for Neolithic society.

The making of lime plastered floors in Drakaina Cave was undoubtedly deliberate, a practice that has not been documented in any other cave of the Greek Neolithic. The floors of Drakaina Cave seem to be extended constructions, built at intervals in a similar technique – in other words, repeated in the Neolithic sequence. Through this act of deliberate construction in a cave, i.e. within an originally natural setting, people have radically affected and transformed this space (and its landscape) into a meaningful place (*Thomas 1991.35*). Thus, it is obvious that the construction of the floors in Drakaina was a practice of special significance. For instance, such a practice could be related to the community's intention to create new relations with the site, or to seal and 'secure' its past, or even to bury and transform it into a memory by forgetting it (*Bradley 2003.224; Harrison 2004*).

The floors in Drakaina point to long-life constructions, comparable to the stable built features of a domestic area. Whatever the character of this practice might be, its repeated pattern over time indicates

Fig. 11. Stone grinding tool coated with red dye from Drakaina Cave.

a formal practice that seems to be well embedded in the tradition of its makers. Therefore, the use and (re)construction of the floors might be associated with particular social needs and/or events which had serious effects on Neolithic society (*cf. Boivin 2000*).

Undoubtedly, the construction of the floors itself reflects the intention of the community as a whole, or of a part of the community, to create bonds with Drakaina Cave, and, therefore, through the cave, with its socialized landscape. In this practice we may see incorporated the signature of the cave's users, whose settlements must be sought near the site. Recent surveys have recognized scatters of Neolithic finds in the broader and/or even the immediate area of the cave (*Randsborg 2002*). Until now no Neolithic settlement has been identified in the vicinity of Drakaina, but based on the findings of the cave itself (e.g.

Fig. 12. View of the gorge of Poros.

ground stone tools made of various local rocks (*Melfos in preparation*), or the presence of large pots), it is more than likely that during the use of the cave there were settlement(s) nearby.

In fact, in the lime plastered floor construction in Drakaina we may read a system of symbols of particular meaning with which the members of the Neolithic community were familiar. This symbolic behaviour seems to have been reinforced by the deliberate deposition of architectural remains in the subsurface of the floors, as well as by the deliberate deposition of highly-fragmented decorated pottery, of various chert tools of exceptional quality, of ground stone tools marked by red pigment, and of a variety of ornaments or other special small finds related to the floor deposits. Such behaviour seems to incorporate many features of the identity of the cave users, in particular, various aspects of their social life and culture, including features of their habitation, sub-

Fig. 13. Partial view of the Tzannata basin including the western part of the gorge of Poros.

sistence strategies, and complicated exchange and communication networks, which supported the reproduction of society.

The content of the Neolithic deposits in Drakaina Cave could be related to a series of events, such as ceremonies, rituals, feastings, or other kind of gatherings, which took place in the cave and which may have contributed to the formation of the character of the site and its identity, while being of essential significance for the personal and collective biographies of the social group(s) that used it. The meaning of the symbolic behaviour under discussion may be associated with the so-called 'technology of memory' (*Edmonds 1999.7*), i.e. to what a society can absorb, reuse and rework by means of its interaction with particular monuments, as well as with practices of special meaning. Drakaina Cave could have been a valued site, probably a monument of social memory.

Such significance could be attributed to Drakaina Cave due to its specific location in the Poros Gorge (Fig. 12), which links the coastal zone with the Tzannata Basin, a small, well-defined basin, rich in several resources, including grazing and cultivable land, water sources, woodlands, and a variety of rocks (Fig. 13). The Gorge forms an exit towards the sea on the eastern part of the island and, thus, it connects Kephalonia with the Greek mainland through the Ionian Sea, which in this region is an easily crossed channel. From this point of view, the sea was not a barrier keeping people in isolation. On the contrary, it brought people together, making it possible for them to participate in inter-regional exchange and communication networks. It is worth noting that the cultural deposits at the cave comprise almost the whole range of local resources, as well as raw materials and/or craft products (e.g. made of gabbro, obsidian, talc), which were transported to the island by sea. Based on their provenance analyses, these originated from the Pindos Mountains and more precisely, the Grevena area of Western Macedonia, from the area of Argolid in the Eastern Peloponnese (*Stratouli and Melfos in press*), as well as from Melos (see obsidian) and Naxos (see marble) in the Southern Aegean (*Kilikoglou in preparation; Melfos in preparation*).

To sum up, I view Poros Gorge as a landmark in itself, a distinct topographical feature of the landscape, as a powerful resource for the society's symbolic system, having a special significance for the creation and reproduction of social power relationships in the region (*Tilley 1996*). It was probably an essential component of the formation of a distinctive Neolithic culture in this area. Thus, Drakaina Cave, as part of the Gorge and its marked landscape, contributed to the formation of the biography, identity and politics of the Neolithic community in the region.

ACKNOWLEDGEMENTS

This paper is based on the Drakaina Cave research project supported by the Hellenic Ministry of Culture and the Municipality of Eleios-Pronnoi (Poros). I am particularly grateful to the Institute for Aegean Prehistory and to the I. F. Kostopoulos Foundation for their funding over the last few years. I would also like to express my gratitude to Makis Metaxas, Dimitris Vandoros, and Kostas Zapantis, as well as to other friends from Poros for their financial and moral support during the Drakaina excavations. Finally, I would like to thank Tasos Bekiaris for the information he provided on related literature.

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back to contents

UDK 903.2(495)"633/634":291.37
Documenta Praehistorica XXXII (2005)

Tracing symbols of life and symbols of death in Neolithic archaeological contexts

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ABSTRACT – *Since Early Neolithic several miscellaneous objects seem to have served for self decoration keeping though a symbolic meaning as they are found in certain repeated types which must have been recognisable and accepted by all as ¨signifiers¨ of social and ideological information. This inventory was enriched during the following Middle Neolithic, while in the Late and Final Neolithic they seem to be, at least some of them, if not all, the result of systematic production for commercial purpose as they were made in Greece but destined mainly for the markets of Europe, where they were found usually in graves as symbols of social and financial gradations, and in this sense they also funcioned symbolically as ¨signifiers¨.*

IZVLEČEK – *Verjetno so od zgodnjega neolitika naprej nekateri predmeti služili osebnemu krašenju, čeprav so ohranili simbolni pomen. Izbrani tipi predmetov, so bili prepoznani kot nosilci socialnih in ideoloških informacij. Ta inventar je postal bogatejši v srednjem neolitiku, v poznem neolitiku ter ob koncu neolitika pa so začeli nekatere, če že ne vseh, sistematično izdelovati v komercialne namene. Izdelovali so jih v Grčiji, vendar so bili večinoma namenjeni za evropski trg, kjer so jih kot simbole socialnega statusa pogosto našli v grobovih.*

KEY WORDS – *Neolithic; Greece; shelf decoration; symbols*

INTRODUCTION

When discussing symbols and symbolism we must refer to objects and behaviours that could function in the same way for all concerned, those who owned a particular object (or behaved in a certain way) and those who faced them. Thus we should emphasize certain items found in Neolithic contexts in Greece which we believe have a symbolic meaning. Symbolic objects are known since the Palaeolithic in Europe and in Greece and, though they form a very limited record in comparison to the Neolithic, they are very important for the history of symbolism. In the Neolithic, however, dozens of miscellaneous objects could be categorized as having a symbolic meaning. Facing them as isolated items of art only, we could not explain their presence in a total context. But if we have the opportunity to study a whole assemblage from one excavated site, or if we repeatedly find rather similar objects from several sites in a geographical unit, then we can 'see' in them behaviours and symbolisms reflecting general beliefs, more or less common, among wide-ranging populations. Within a different environment the same kind of objects can have quite different meanings and symbolisms. In this paper we will indicative some such objects from Neolithic excavations in Thessaly which I believe must have functioned as part of a symbolic code of communication.

THE INVENTORY

Symbolism in Neolithic times seems to be expressed in several ways: among them, self-decoration was practiced by mobile items which have been preser-

ved today as beliefs and indications of life and of death that cannot be recognized in other ways.

Self-decoration would certainly not have been a basic need, in the sense of food gathering/producing or pottery making. Nevertheless, such objects are found as early as in the Upper Palaeolithic period. In the early stages, self-decoration objects were made of animal bone (usually teeth) and seashell – that is, of objects that were found in nature, and were processed by means of drilling a hole in them so as they could be hung.

During the Early Neolithic period in Greece, self-decoration objects were of clay or stone, usually in simple forms which sometimes were resumed under the same type, and appear to have remained in more or less the same forms into the Middle Neolithic. Their use became more widespread in the Late Neolithic, when there was extended use of the seashell *Spondylus gaederopus*, from which specific 'types' of self-decoration objects were made.

Neolithic self-decoration objects (*Kyparissi-Apostolika 2001*) exhibit a great variety of motifs and materials. The natural environment impressed the people of the Neolithic, and their objects depicted fruits and crops and imitated the tools and artefacts by which they were surrounded. Neolithic people wore finger-rings, bracelets and necklaces that resemble those worn by primitive peoples today, and indeed also by civilized peoples; these were superbly crafted and demonstrate the technical knowledge and tools of the period. Although formal classification of these objects would do an injustice to its enormous formal variety, it may perhaps be divided on the basis of form into: anthropomorphic, zoomorphic, imitations of fruit, items of domestic furniture, bracelets, finger-rings, 'earrings', beads, 'buttons', plain objects, normally in natural or slightly sophisticated shapes, usually with one, and rarely with two or three holes, and also fibulae for fastening belts. Shells also seem to have been pierced and worn, mainly seashells, but also freshwater shells, which normally retained their natural form.

Most of the self-decoration objects have a hole which enabled them to be hung as pendants, while others, like bracelets, seem to have been worn on the body or sewn onto clothing. Some of them seem to have had profound meaning for the life of these people, as we find them repeatedly, and some of them share common features in rather long distances. In Greece, in contrast to the rest of Europe, these kinds of object are not found in graves, and hence are related to life rather than death. (Here we must stress that Neolithic grave finds are still very rare in Greece).

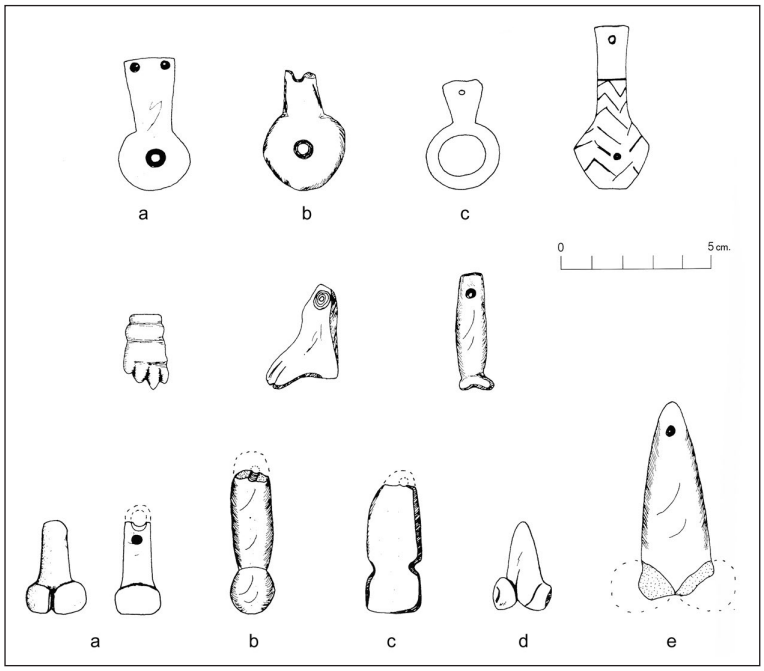

Fig. 1. Upper row: Anthropomorphic pendants: a, b, Stone ring-idols from Dimini; c, gold ring-idol from Theopetra cave. Middle row: Immitations of hand/leg (?) and two legs, from private collections in Thessaly (K. Theoporopoulos and St. Papanikolaou). Bottom row: Phallic representations: a, from Theopetra cave; b, d, from the above private collections; c, e, from the Museums of Almyros and Dimini respectively.

Among the anthropomorphic pendants (Fig. 1), special mention should be made of the ring-idols, which are thought to have been representations of the human form. Their original shape should possibly be sought in the Aurignacian period (Arcy -sur- Cur, France, *Marshack 1990.465, Fig. 17.4*) In Greece, two stone ring-idols have been found in Thessaly, at Dimini (Fig. 1. a, b) (*Chourmouziadis 1979*), and one of terracotta at Pefkakia (*Weisshaar 1989.Pl.XVII, 1*). Four more stone ones were discovered elsewhere in Greece (one at the Kitsos cave in Attica (*Vialou 1981.Pl. L–1*), one at the lacustrine settlement of Dispilio in Kastoria (*Chourmouziadis 1996. Fig. 14β*), and recently two at the Neolithic settlement at Strofilas on

Andros *Televantou 2004.Fig. 20*). A few gold ring-idols have also been found: one at Sesklo (*Tsountas 1908.350, Fig. 291*), one in the Theopetra cave (Fig. 1. c) (*Kyparissi-Apostolika 2000.234, Fig. 14. 20.3; 2001.Pl. 34.23*), two in the area of Aravissos, Yiannitsa, and one in the Thessalian Plain between Volos and Larissa (*Grammenos 1991.109, Pl. 30. 3,4*). The latter two cases were chance surface finds. Four more silver rings of the same type have been discovered at various sites in Greece, mostly in caves: one at Alepotrypa in Diros (*Papathanassopoulos 1996.Fig. 299*), one at the cave of Euripides on Salamis (*Lolos 1998.64, no. 62; Mari 2003*), one from the cave of Eileithyia in Crete – although referred to as later, belonging to the proto-Minoan I–II period (*Marinatos 1932.98, Fig. 9; Makkay 1976.257–258, Fig. 21*), and one from Poliochni on Lemnos (*Bernabò-Brea 1964.359, 376, Pl. CLXX, 3, CLXXVII, 25*). Two similar ring idols made of copper were found at the Late Neolithic site of Makriyalos in Pieria (*Pappa et al. 1998*). These clearly recall similar gold jewelry from the Balkans (*Makkay 1985; 1989*), and large numbers of them have been found at the cemetery of Varna in Bulgaria (*Nikolov 1988.221, Figs. 22, 153, 163*). All the above-mentioned finds were from Final Neolithic layers in Greece.

The discovery of this type of object in Greece is significant, and points to trade with the Balkans. A whole treasure, though, of some dozens of such gold objects (*Dimakopoulou 1998*), was recently seized by the police in Athens, creating a new problem concerning their origin. In the relevant bibliography, there is a debate as to whether the stone and clay examples are earlier than the metal ones (*Makkay 1989.39*), or whether they are cheap imitations (*Kyparissi-Apostolika 2001.56*) like the clay bracelets of Anza in Serbia, which imitated the shell ones from the Aegean (*Gimbutas 1976.242–256, Figs. 215–16*).

The presence of this type of pendant from the Black Sea area to Crete, the southernmost part of Greece, and the Aegean islands as far as Anatolia, assumes that this represents a symbol easily recognisable those who saw and used it. Additionally, as it was found in a rich context in the Balkans (the graves at Varna) and made of precious material, usually gold, later less commonly of silver and bronze, it certainly reflects the high economic status of its owners. Moreover, the fact that assemblages of whole treasures of them are sometimes found together, strengthens even more the notion that they were symbols of wealth and power. In Greece, however, as they are not grave goods we cannot confirm such a hypothesis. Additionally, apart from mobile objects, they are found as decorative motifs on the pottery from Dimini (*Hourmouziadis et al. 1982.80, Fig. 50*) and painted on the rocks in the Cycladic island of Andros (*Televantou 2004*), which reinforces our opinion that they were symbols comprehensible to everyone in this period.

Phallic representations (Fig. 1. bottom) as pendants are known in Greece from Late Neolithic layers (*Vialou 1981.Fig. 284; Sampson 1993.202, Fig. 199; Kyparissi-Apostolika 2001.58, Fig. 2:24, Fig. 33:24*), while in some cases they are surface finds, or come from private collections, and in these cases we cannot be sure about the layer of their origin. Phallic representations are very common throughout human history, the oldest dates from the Aurignacian period and is carved on a bison horn found in the rock shelter at Blanchard des Roches in Sergeac, Dordogne in France (*Art et Civilisations 1984. Fig. 23*). Still today, phallic representations are popular and certain festivals dedicated to them. In the Neolithic period, it seems more than certain that they also have functioned as sexual symbols.

Depicting arms and legs (Fig. 1. middle row), usually with some apparent health problem (e.g. fewer fingers than usual) recalls the *ex votos* dedicated in Christian churches and they certainly must be reckoned as functioning symbolically.

Zoomorphic

Among the various forms of zoomorphic pendants (Fig. 2), of special interest are those depicting the face of the animal, which is always the same (Fig. 3). These objects are circular, with one convex surface, at the centre of which there is invariably a low, nipple-like projection. They were suspended by means of two holes, normally pierced near the edge. In my opinion, the facial features could be those of a pig, since it has a totally distinct snout, which I believe is rendered by the protrusion, while the eyes are indicated by the two holes. This type is found all over Thessaly and also in other parts of Greece, such as Agios Petros in the Sporades (*Efstratiou 1985.46, Pl. 46b*), the Franchthi cave in the Peloponnese (*Jacobsen 1976.83*) and the Tharrounia cave on Euboea (*Sampson 1993.Fig. 216*). These objects come from excavations of all the Neolithic phases, from the Early, Middle and Late Neolithic, while in Thessaly a good number of them come from private collections and we cannot be sure about their strati-

graphic horizon (*Kyparissi-Apostolika 2001.64–66*). These pendants give the impression of a mask rather than a naturalistic representation of the animal, and they could work as amulets reflecting earlier times when hunters were metamorphosed into animals by means of and hides in order to trick animals and kill them. These imitations of old masks could have worked as amulets in Neolithic times, helping hunters in pursuit of wild pig.

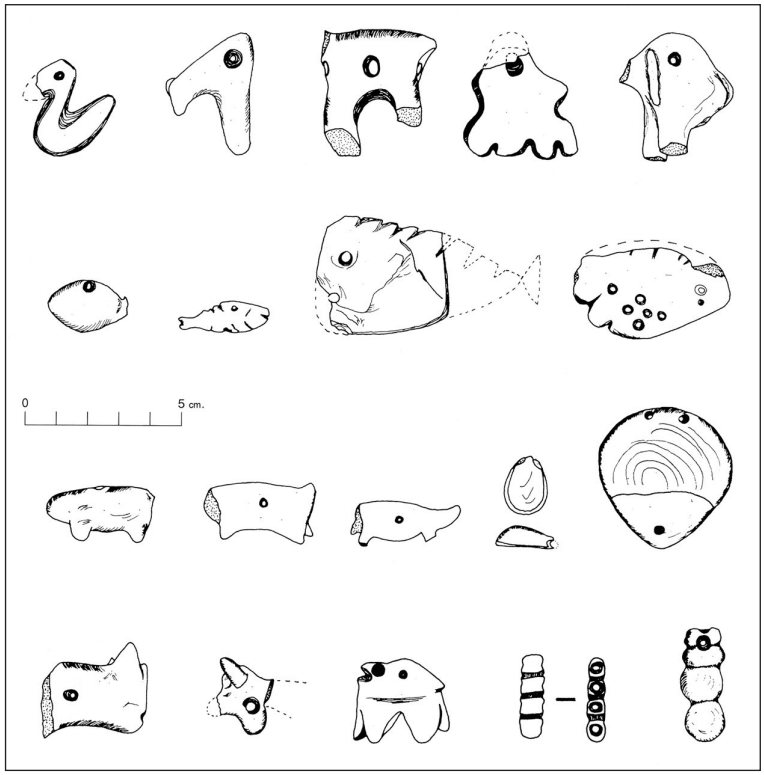

Fig. 2. Zoomorphic pendants of stone, clay and shell from the Museums of Volos, Larissa and Almyros and from the collections of K. Theodoropoulos and St. Papanikolaou.

Plant imitations

Plants have always played an important role in human nutrition, much greater than meat, as it was easier to collect them, and therefore the nutritional value they provide, than to hunt animals. Even today when there is no need to hunt for eat meat, in terms of diet plants are invaluable. Fig, almond, wild olive, apple, pear, blackberry, grape etc., are among the plants identified in Prehistoric Thessaly. But, seeing objects of personal adornment in this category (Fig. 4), one can assume that there certain species were selected for representation: gourds (*Lagenaria siceraria*), having the property of floating (Fig. 4. c, d) and pomegranate (*Punica granatum*) (Fig. 4. a, b) are the commonest among them. Pomegranate has always been used as a symbol of life and death (*Muthmann 1982*), for its globular belly full of seeds is a symbol of women's fertility in marriage ceremonies in Greek villages. Another species found repeatedly in Thessaly as a portable object has a biconical shape with mastoid apophyses on the surface and a pierced axis along its length for hanging (Fig. 4, bottom). Plants of this form are not rare in Greece. But the most dominant, to my mind, is the prickly pear (*Opundia ficus indica*) with quills on its surface, represented by mastoid apophyses in Neolithic imitations. The two edges of this plant also resemble the edges of the pierced axis of Neolithic pendants. This species, although not identified among the Neolithic plant finds in Greece (possibly because it was not burnt and therefore preserved like other species subject to heating), seems to be the most possible prototype of this imitation. The same qualifications are in effect for gourds, as imported later into Europe, but there seems to be no doubt that they represent this kind of plant (Fig. 4. c, d). All these objects are made of stone, very well worked, and seem to represent the earlier phases of the Neolithic and not the Late Neolithic.

Bracelets. The bracelets found in Greece are generally made of the seashell *Spondylus gaederopus* (there are very few exceptions using other crustacea), which is commonly found in the Mediterranean (Fig. 5). It has been demonstrated that it was mainly the left valve of this shell, thinner and lighter, that was used for the manufacture of bracelets (*Tsuneki 1987*), and this can be an indication of specialization; the right one was used for the manufacture of beads, "buttons" and other objects. These bracelets are to be found in central Greece and further north, while they are rare in southern Greece. It has been proved that the Neolithic inhabitants of Greece supplied their northern neighbours with these as far distant as central Europe (*Williams 1985; Seferiadès 1995*), where they appear to have been highly valued and, because of their rarity, served as prestige items. Analyses with oxygen isotopes on bracelets from several sites in the Balkans and from the site of Sitagri in Greece have shown that they came from the Aegean, not the Black Sea (*Shackleton and Renfrew 1970*). The settlement at Anza in Serbia has yielded an abundance of clay bra-

celets, which, according to the excavator, Gimbutas (*1976*), seem to be cheap imitations of imports from Greece. Similar bracelets, made of jade, are also found in the Middle East (*Mellaart 1970; 1974*). In Greece, such shell bracelets are naturally found in settlements near the sea. A large number has been found at Dimini in Thessaly, and the view has been advanced (*Tsuneki 1989*) that in the Late Neolithic period, Dimini owed its power to the manufacture and trade of self-decoration objects made from these shells. Even when they broke, they were not thrown away: a hole was pierced in them, or a notch cut for a setting, and they were worn as amulets (Fig. 6). Parts of shell bracelets are reported too from East Europe (*Comşa 1973*), usually found in graves, which this means that they were highly valued, whether complete or not. In the cemetery at Varna they were found with gold jewelry having, consequently, an equal value with them. It is obvious that these decorative items, so precious in Europe because they came from a long distance, seem not to have had the same function in Greece, as they were not found in graves with the dead. As mentioned above, Neolithic graves are very rare in Greece, and actually no Neolithic cemetery has been found.

Earrings (ear-studs?). The interpretation of these tiny objects consisting of two parts, one bigger and one smaller separated by a channel (Fig. 7), are found over a long period from the Aurignacian Paleolithic in Europe (*Kozłowski 1992.Fig. 89*) to the Early Neolithic in Thessaly (*Theocharis 1958; 1959; 1967; Rodden 1962*) and have repeatedly concerned prehistorians. Tsountas (*1908*) thought they were lids for leather flasks, while others have suggested they were buttons, and yet others, earrings. Theocharis (*1973.35*) described them as the 'ultimate stylization of the human form', and compared them with Paleolithic models. This seems to be a realistic version, as roughly sculpted anthropomorphic figurines on natural pebbles at the Early Neolithic site of Regini in Pthiotis (*unpublished material: personal communication with the excavator, Sonia Dimaki*) resemble these objects. Their small size, moreover, probably precludes their having any practical function. We may regard them as items of self-decoration, set and either hung around the neck or worn in the hair, with a symbolic meaning, as their shape seems to refer to a certain prototype. All of those found in Greece are from Early Neolithic layers; however, their numbers are still limited. Recently, a good number of them were found in a new Early Neolithic site at 'Revenia' Korinou in Pieria, central Macedonia, Greece (*Besios et al. 2005*) and since they come from a well stratified excavation, they are expected to shed light on the role they could have played in the life of Early Neolithic populations. Similar objects are reported from Divostin, in central Serbia (*McPherron and Srejović 1988.325 Fig. 11.1*), from Hacılar in Turkey (*Mellaart 1970.160; 1974.115*), and from other Balkan sites (*Budja 1998.223, 229, Figs. 2, 7*). Budja calls them tokens, and relates them to works of earth cultivation having been used as units of measurement and exchange. In parallel, Budja (*2003*) observing the accumulation of such objects in certain geographical units, believes that there were social barriers that stopped the circulation of such goods over middle and long distances. This isolationism might be seen as a result of the powerful dominance of social and ideological continuity that slowed down the process of social and ideological restructuring of foraging and hunter-gathering communities. Here we must note that the same objects found elsewhere at long distances could express a quite different symbolism according to the environment of the various locales and populations.

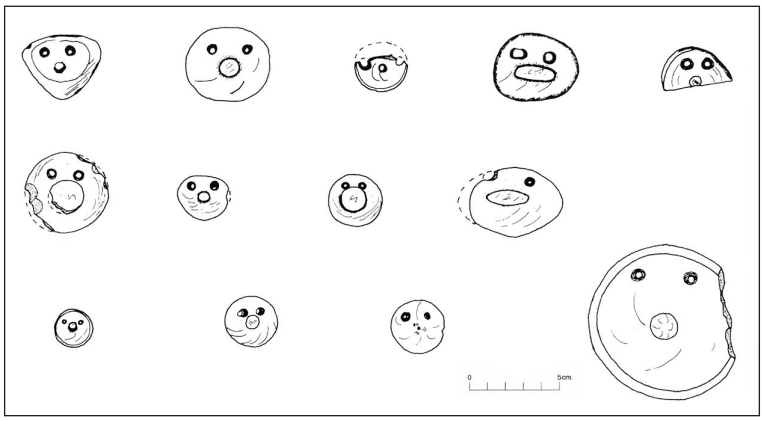

Fig. 3. Zoomorphic 'masks' mainly of stone and less frequently of clay (bottom, the three right ones). They come from the Museum of Volos and from the collections of A. Bastis, K. Theodoropoulos and T. Tloupas.

'Buttons'. Anyone who see will automatically call them buttons, since they genuinely resemble modern buttons (Fig. 8). In Thessaly they are usually made of shell or stone. They almost invariably have two convex surfaces, one plain, and the other with two holes connected to each other to form a V-shape. This particular feature of their manufacture is due to their thinness, since an object has to be very thick to allow a hole to be pierced through it. Objects of

this kind have been found over almost the whole of Europe, sometimes made from bone, sometimes of amber or stone. In Greece they have been reported from Pevkakia (*Weisshaar 1989.Pl. 63.32*) and Agia Sophia in Thessaly (*Milojić et al. 1976. 12, Pl. 25:18*), Saliagos in Antiparos (*Evans-Renfrew 1968.65, Fig. 78.10, Pl.XlVI*), the cave of Tharrounia in Eubia (*Sampson 1993.220*) the Late Neolithic site at Makriyalos in Pieria (*Pappa et al. 1999*). But it is at Dimini where a good quantity of them was found, at least 130 items, of which 119 were found in a single assemblage. Tsountas (*1908.336, Pls. 43, 1, 2, 6*) reports three more from Dimini. Comparative research among modern pre-industrial peoples suggests they were sewn into clothing as adornments, and perhaps had a symbolic significance, possibly as reflections of wild plants. This interpretation is supported by representations in figurines (*Kyparissi-Apostolika 2001. Pl. 40*). Amongst the many small buttons (diameter 1–1.5 cm) there are a few larger examples (the only large one from Dimini has a diameter of 3.2 cm). I believe that these belonged to the maker of such 'buttons' who wanted to consolidate their specialization in this way: for the difficulty of making them would have required specialists. If so, we are dealing with symbolic practice again.

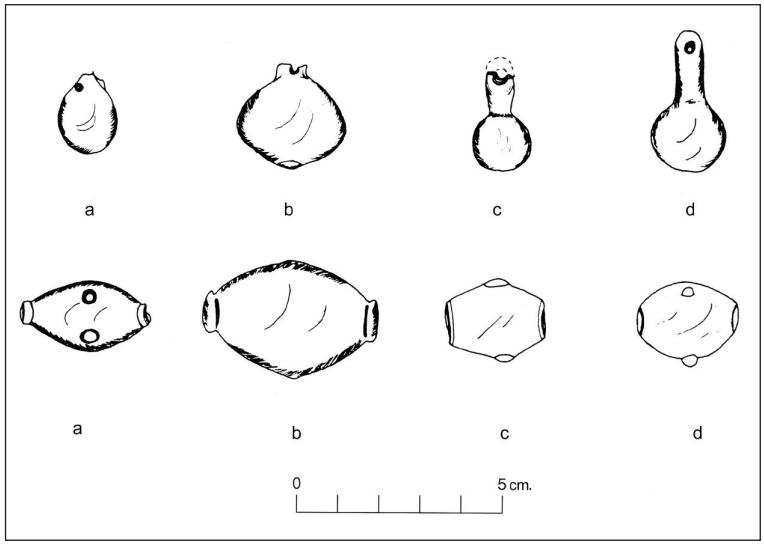

Fig. 4. Plant imitations: a, b, pomegranates, from the Museum of Volos, c, d, gourds from T. Tloupas's collection, the first and from the Museum of Volos. Bottom row: Prickly pears: a, from T. Tloupas' collection; b, from the Museum of Volos; c, d, from K. Theodoropoulos' collection.

Several other pendants, representational or otherwise, were used for self decoration in Neolithic Thessaly and Greece, but it is not known if they had a symbolic meaning. For this reason our inventory ends here.

INTERPRETATIONS

The present function of jewelry is decorative. Can we assert, however, that jewellery was worn purely for decorative purposes in prehistoric times?

It may be assumed that for the production programme of a settlement, some assessment was made of the needs that would have determined the priorities of production.

The manufacture of artefacts not designed to meet the immediate, pressing needs of the group probably implies either spare time, which could be made available for non-productive activities, or specialization, and the virtually exclusive engagement of some individuals in making items of this kind. In the latter case, the individuals in question must have lived at the expense of others, as far as the daily productive program of the individual and the group is concerned. For an unequal distribution of the workload of this kind to be acceptable, the manufacture of these items must have served some fairly serious purpose. It does not seem likely that everyone made them for their own use, for most of them were difficult to work. Such a thesis is only tenable in a few cases involving jewellery that was easily worked, such as pierced shells or pebbles.

It is clear from depictions in figurines that Neolithic people wore jewellery, although no example has been found in Greece accompanying a burial, which suggests that they were not yet used as grave goods (last summer a pendant accompanying a Neolithic burial was found at Paliambela in Pieria, Northern Greece – *personal communication with K. Kotsakis*). Jewellery was thus worn during a person's lifetime: had it been purely decorative, it might also have accompanied its owner after death, as a form of movable property. The fact that jewellery was worn during a person's lifetime suggests that wearing it indicated something, symbolised something. Even today, jewellery, despite its decorative function, is an indicator of social status and distinction: the cross, for example, denotes a Christian, and is

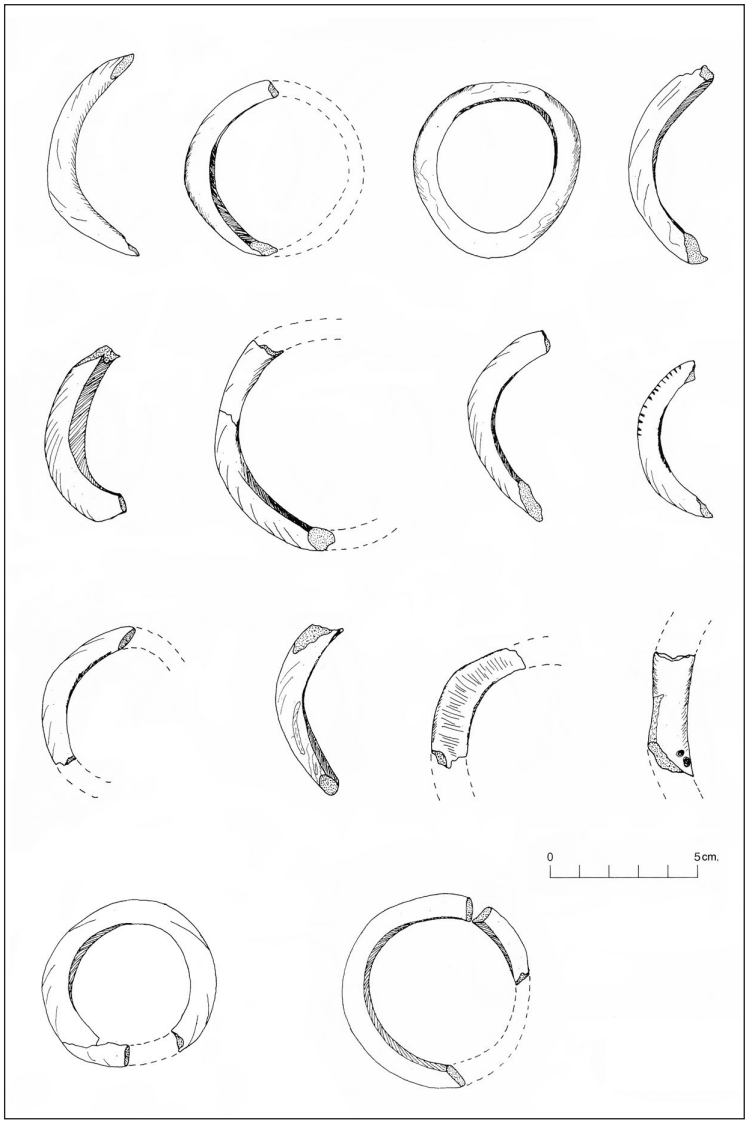

Fig. 5. Bracelets made of the shell Spondylus gaederopus, all from Dimini.

not worn by non-Christians. A ring indicates the bonds of marriage, and gold and diamonds reveal the wealth of their owner. Contemporary primitive peoples, moreover, adorn themselves for special occasions and events, and only rarely for decorative purposes. In Mount Hagen, New Guinea, for example, special jewellery is made for war, some of it indicating the strength of the warrior and their desire for victory, and some denoting the evil of war. Special local plants are used by women to attract the opposite sex, while the use of the same plants by both sexes in certain cases denotes their equality (*Strathern 1971*).

What was this jewellery then? I believe that its decorative function should be considered of only secondary importance. I take it as beyond dispute that people had an inclination to adorn themselves. This must have begun at an early date, well before the Neolithic, when we can first speak of organized social life. The inclination will have found its first expression in adornments of the head and hair, with flowers or feathers, or possibly by painting the exposed parts of the body, on the occasion of certain events, that is, symbolically again. Why should people begin by hanging an object around the neck? This was probably first done in order to secure the possession of an object that was considered valuable. Hanging it from the neck was tantamount to declaring that it could be taken away only by first cutting off the head. This, I believe, is the origin of the custom of hanging objects around the neck.

At the beginning of human history, art had little to do with beauty and no connection at all with the aesthetic need for beauty. It was a magic weapon used by the human group in its struggle to survive (*Fischer 1966*). Jewellery in this early period was thus the product of work, a social artefact that was directly linked with its function. The working of a shell or a stone to create a piece of jewellery was the expression of a social purpose.

Through various forms of 'art' prehistoric people provided us with information about their way of life. Art provided the symbolism through which they communicated with each other people and the means by which they tamed the wilderness, fears, and mysteries that were difficult to comprehend. They coincided with their representations, whether fixed or portable, they should dominate them, and finally defeat them. In order to defeat them in the real life, they had first to be defeated them in the mind and soul. And it is wrong to judge the 'art' of those periods by the criteria that we use to judge today's art, because prehistoric 'artists' did not make art for art's sake; they tamed nature and its mysteries with representations which finally bring us information about the period's social structures and their functions.

When at the end of the Pleistocene the climate became milder and the cultivation of plants had be-

gun, new rituals and feasts appeared: for harvesting at the beginning of autumn, feasts for the slaughtering of hogs in winter, and others in spring for the rebirth of nature and life, and others after the ripping if the year had been good for the farmers, customs still found today in agricultural communities in Greece. Furthermore, there were probably rites of passage for boys and girls into early adulthood, and can still be found in many parts of the world today in different forms among civilized and natural societies always in respect to their cultural aspects. The presence of jewellery and idolized symbols probably played a role in those celebrations. For if the ornaments that prehistoric people wore had only decorative purposes it would have been easier for them to use plain and simple jewellery without specific shapes that imitate natural prototypes; therefore, their goal was to state their cultural identities.

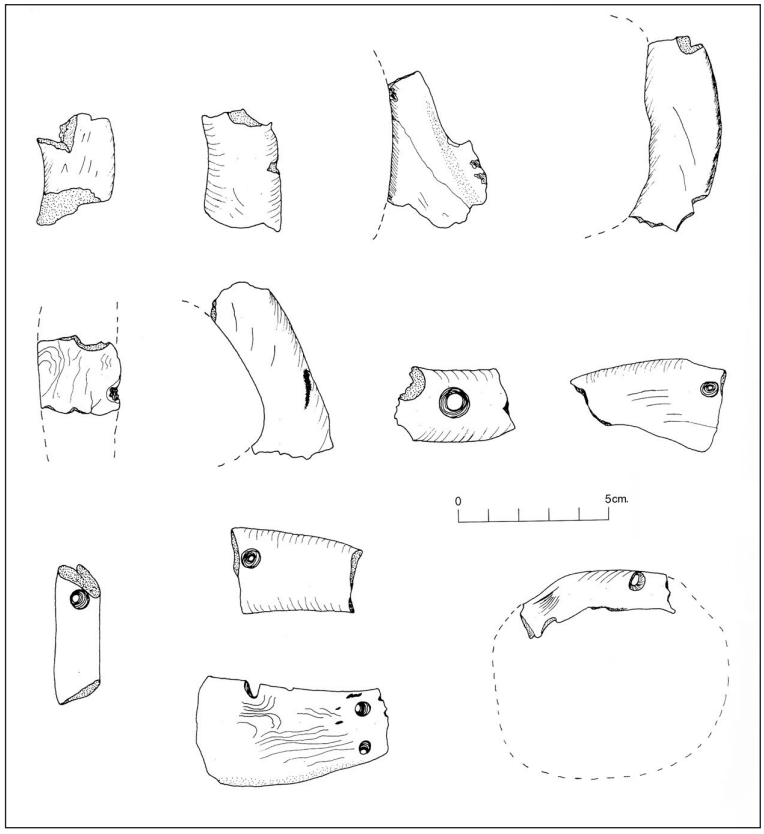

Fig. 6. Parts of bracelets, perhaps broken on purpose, made of the right valve of the shell. On some of them holes were made, possibly for hanging. The pierced ones come mainly from the area of Almyros, the rest from Dimini

Those symbols are not easy to approach for every representation separately, as in order to conceptualize the meaning and the symbolism of a form it is necessary to be familiar with the social context in which it was created, as well as with the reasons that might have influenced its creation, because the same object or form may have different meanings in different places and periods, depending on the social structures and natural environment in which it was created (*Hodder 1982 a.173; 1982b.85, 121*).

A symbol is a spiritual rather than a physical category, even though symbols might have physical prototypes, because they help us conceptualize the idea that it represents (*Firth 1975.56*). It is the concept of an object – and not the object itself– that provides power (*Hodder 1990.281*). Humans show a natural tendency towards the creation of symbols (*Zaffe 1964.232*). Symbolic representation is a basic function of human consciousness (*Firth 1975.57*). The objects through which symbolism is materialized become meaningful, and thus the sphere of objects becomes the historical product of human practice. The objective form of artefacts is always connected with the sum of the relationships that constitute social formations (*Shanks and Tilley 1982.130*), which is to say that they become ideological mirrors. Objects become the origin of ideology. An object is defined by its social status, the ideas that it represents are displayed in the object itself, and its meaning lies in the fields of interpretation that separate it from others with criteria socially defined. In this sense, the meaning of an object can never be static, and its interpretation never-ending, and always open to new definitions (*Hodder 1988.68*).

Through people's activities, ideological representations are embodied in the material products of those practices and become at the same time creators and creations. Furthermore, since social relationships entail symbolism, ideological and symbolic characters are inseparable (*Bourdieu 1979a.81*).

However, as Binford (*1962*) has put it, "we cannot excavate a social system or an ideology". However, prehistoric archaeologists have to try to put into a context and interpret the objects that are found disconnected from the functions that they served in the cultural and social matrix where they originally belonged; they have to produce social interpretations of archaeological objects.

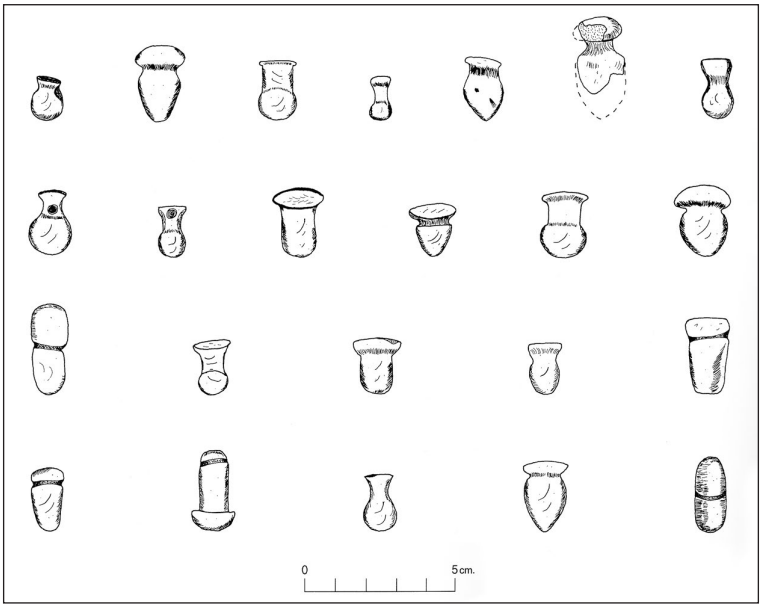

Fig. 7 'Earrings' from the Museums of Volos, Almyros and Larissa and from private collections. Made mainly from stone and rarely from clay (second row, the two right ones) and shell (bottom, left).

In this sense, every form of art refers to the time that it was made, and its interpretation should always be drawn in the respective cultural context. Anything conceptualized is a symbol, and a concept is anything that can be symbolised. A piece of pottery in the context of an excavation can give us information about its owner's social status as well as the cultural level of the group that made it, according to its shape, quality of raw materials, and ornamentation. On the other hand, if this piece of pottery is found outside its context, none of this information could be available to us. A prehistoric stone tool gives us information about how it was made and from what, as well as about the period's social relations, which actually transformed raw material into an actual cultural form via a unique technological mode (*Edmonds 1995.9–19*). In this sense, a stone implement shaped to look like a natural prototype, transforms and becomes the prototype itself, and material culture is turned into shapes, names and concepts. The concepts of such objects are embedded not only in the maker's mind, but also in the rest of the group. Every spiritual aspect that goes beyond the limits of consciousness becomes a sign, due to our ability to regulate information. In the group's consciousness it coincides with specific concepts which have been defined by the inherent subjectivity that the members of the group share through the same experiences. The makers to the group and vice versa are transmitting a concept. It is used as a medium among members of the group and can be comprehended from the transmitter and the receiver equally well.

Thus the objects mentioned above should be regarded as symbols of social differentiation (*Faris 1983. 105*). The fact that the material that forms the subject of this study contains groups of similar pieces indicates that each type must have had some meaning. By wearing it, the owner not only secured ownership of the object itself, but also protected some special occupation, expertise or privilege, or symbolised special conditions, like pregnancy, searching for a partner, etc.

The making of jewellery that served specific purposes and had been given a specific shape, constituted

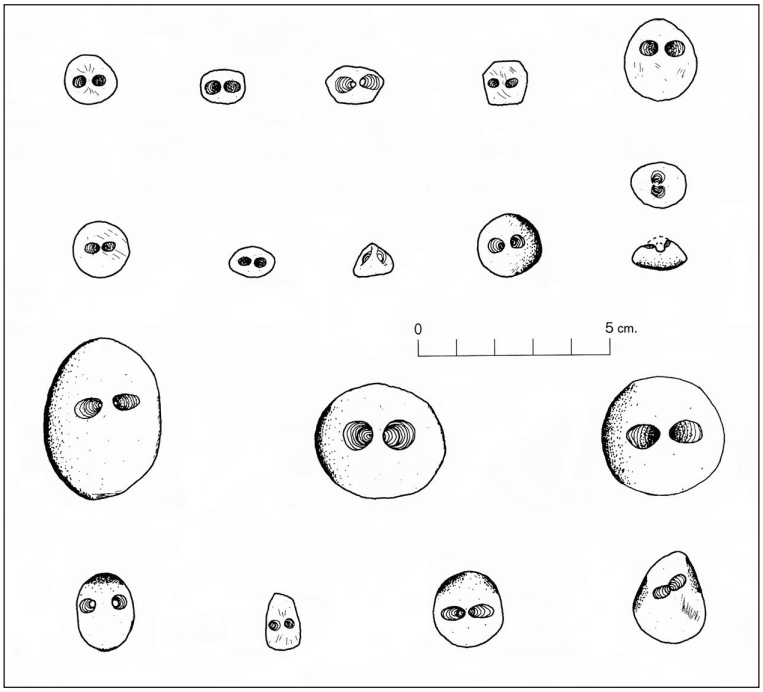

Fig. 8 'Buttons', made of shell and stone. They come from Dimini, and from the private collections of A. Bastis and St. Papanikolaou. The large ones, all made of stone, come from A. Bastis' collection (the two left) and from Dimini the other.

the coding of already existing ideas, a coding that aimed at the recognition of these objects not only by the catechized, but also by the rest of society, since they were inspired by natural phenomena. Therefore, these objects constituted symbols of specific concepts that made co-operation and communication easier between individuals and groups during a period when verbal communication was still very poor.

This is the philosophy which I believe should be used when studying jewellery that seems to be imitating a prototype or seems to form a symbol. However, the same philosophy should be used to study the more "commercial" jewellery of the Later Neolithic, which seems to have been produced mainly for economic reasons, but keeps nevertheless its status as the incarnation of social relationships between peoples from remote geographical locations who were engaged in trade and exchange. Through this exchange of exotic goods, social differentiations emerged, not only inside settlements, but in the trading whole network. This is also apparent from the rising trend for economic control of such goods by the 'ruling class' that evolved gradually along with the evolution of trade.

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back to contents

UDK 903.2(498)"633/634":291.37
Documenta Praehistorica XXXII (2005)

Anthropomorphic statuettes from Cucuteni-Tripolye: some signs and symbols

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ABSTRACT – *Our article present anthropomorphic statuettes from the area of the Cucuteni-Tripolye culture with signs and symbols related to sacred messages used during cultic ceremonies. We also present older and newer opinions on this subject. Signs and symbols help us to decipher some aspects of the religious life of that time.*

IZVLEČEK – *Članek predstavlja antropomorfne kipce iz področja kulture Cucuteni-Tripolye z znaki in simboli povezanimi s posvečenimi sporočili. Uporabljali so jih med obrednimi slavnostnimi. Predstavljamo tudi stare in nove domneve o tej temi. Znaki in simboli nam pomagajo razvozlati nekatere vidike religioznega življenja v tistem času.*

KEY WORDS – *Eneolithic; Cucuteni-Tripolye culture; symbols; signs*

Spread over an impressive area of more than 350 000 km^2 (*Ellis 1984.12–14; Monah 1992.392*) and lasting more than a millennium (*Mantu 1998.187, Fig. 51*), the Cucuteni-Tripolye culture is part of the last great Eneolithic/Chalcolithic complexes in central and southeastern Europe.

The large number of settlements, many of them extend over a wide area (those in Bessarabia and, especially the mega sites from Uman area have been interpreted as proto-cities: *Šmagli 2001*), elaborate architecture, fortifications and cult constructions, show a hierarchical organization of the settlements, the existence of tribal and cult centres, which play an important role in the control and movement of raw materials, such as salt, flint, copper or of finite products as pottery (*Lazarovici & Lazarovici 2003. 412– 424*).

Magic religious practices play a central part in the life of the Cucuteni-Tripolye communities. Judging from the archaeological finds, their economy was mainly based on agriculture and livestock breeding. The finds reveal communal sanctuaries and house altars with abundant and diverse religious objects (*Lazarovici 2003a*).

Sanctuaries with monumental architecture including statues, stellae, shrines etc. are documented starting with Precucuteni III (Târgu Frumos: *Ursulescu, Tencariu 2004*), during Cucuteni A and A–B (Tripolye B I–II), but not in Cucuteni B (Tripolye C). For this phase only a few cult complexes have been discovered (*Cucoş 1974; 1993; Gimbutas 1984.Fig. 23; 1991.Figs. 7–9; Gusev 1995; Monah 1997; Mantu et al. 1997.217; Lazarovici 2003*). Cult complexes from different phases, as well as other discoveries, show the use of sacred numbers (*Gimbutas 1984. 135; Ursulescu 2001*), perhaps related to the pantheon of this civilization. Some of the most frequently used numbers are 3, 7, 4 and 6 (*Lurker 1980.115*).

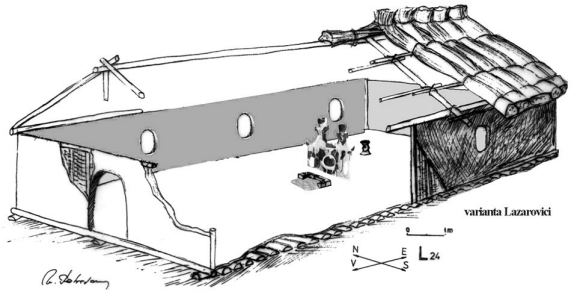

Fig. 1. Reconstruction of a sanctuary from Truşeşti (L 24).

The pantheon is dominated by the Great Goddess, mistress of life and death; other deities are not very well defined, but can be identified as a divine couple, a pair of goddesses, a male or an androgyne, the sun, the moon etc. Although most of magic religious practices are related to the fertility and fecundity cults, others are also present (for example, for the protection of animal breeding, or of ancestors).

The manner in which the Cucuteni-Tripolye communities expressed their religious beliefs changed over time. Starting with the Cucuteni A–B phase (Tripolye BII), painted anthropomorphic and zoomorphic representations associated with signs and symbols were used on a larger scale.

Objects showing signs and symbols are quite frequent, but the archaeological conditions of their discovery are not very clearly depicted in the archaeological records. Such objects have been found in or near public household areas, as well as in sanctuaries, pits and cult complexes.

At this point we should specify that we have analyzed and created a database that includes altars, cult objects, house and sanctuary patterns, pintaderas, tablets and idols from the south and central Europe, the Balkans, Anatolia, and the Near East (*Lazarovici 2003; Lazarovici 2003a*). Due to the large number of objects with such signs and symbols we have not yet completed this research. The catalogue of signs and symbols includes several hundred signs with many variants. We have already registered over 2500, but our work is still in progress. Considering these new aspects of the research, we will try to present some hypotheses regarding the signs and symbols of the Cucuteni-Tripolye.

Objects related to cult practices are quite frequent in some settlements, which are therefore interpreted as tribal and religious centres. Regardless of their number, they always provide interesting information connected with the magical religious beliefs of these communities. The form and decoration of anthropomorphic objects, as well as that of pottery, differ during the cultural evolution. Morphological and decorative reorganization are probably related to transformations that took place in religious life during Cucuteni A–B and B phases/Tripolye BII–CI (*Monah 1997.222*). The anthropomorphic statuettes were part of the sacred inventory (Sabatinovka: *Zbenovič 1996*) of communal sanctuaries and home shrines. They were also used with other objects (zoomorphic statuettes, anthropomorphic pots, cult pots etc.) during various celebrations. The anthropomorphic statuettes found in cult complexes at Poduri, Isaiia, Dumeşti, Gheläieşti (Fig. 2/2) or in the sanctuary pattern from Popudnja (Fig. 2/1), (*Cucoş 1974; 1993; Mantu et al. 1997.179, 191, Figs. 52, 127; Ursulescu et al. 2001–2002*) certify once more the use of these objects in magical religious practices.

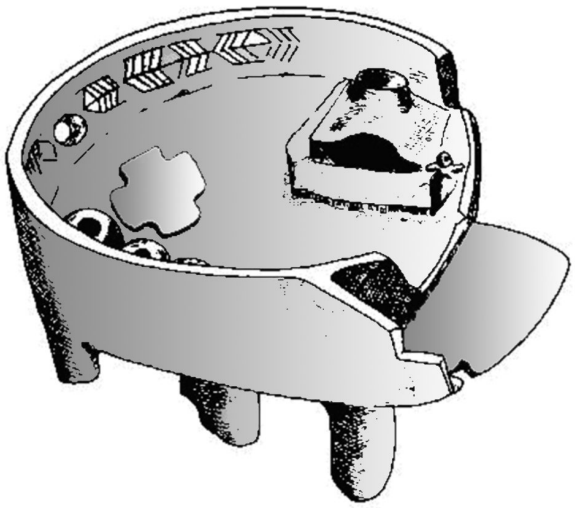

Fig. 2a. Sanctuary with statuettes and various religious symbols, Popudnja.

Most of the representations have been found in a fragmentary state, indicating that they have undergone some kind of a de-consecration process during the magical religious event. The anthropomorphic forms of this culture have been analyzed in monographs by Pogoševa (*1985*) and Monah (*1997*); other new publications present materials from older excavations (*Sorochin 2003.137– 155; Sorochin, Borziac 2003*). Together they provide almost a complete

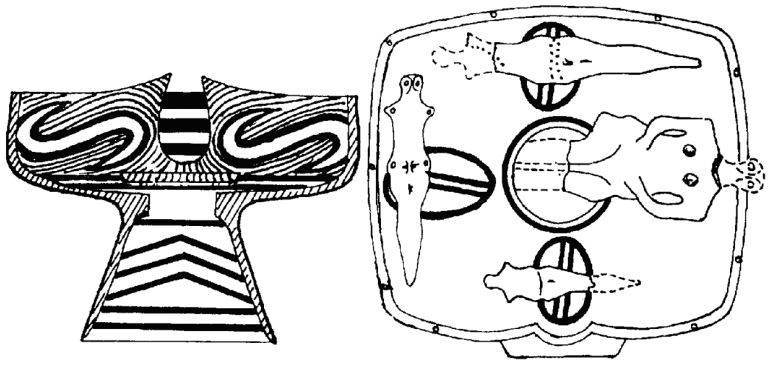

Fig. 2b. Sanctuary with statuettes and various religious symbols, Gheläeşti.

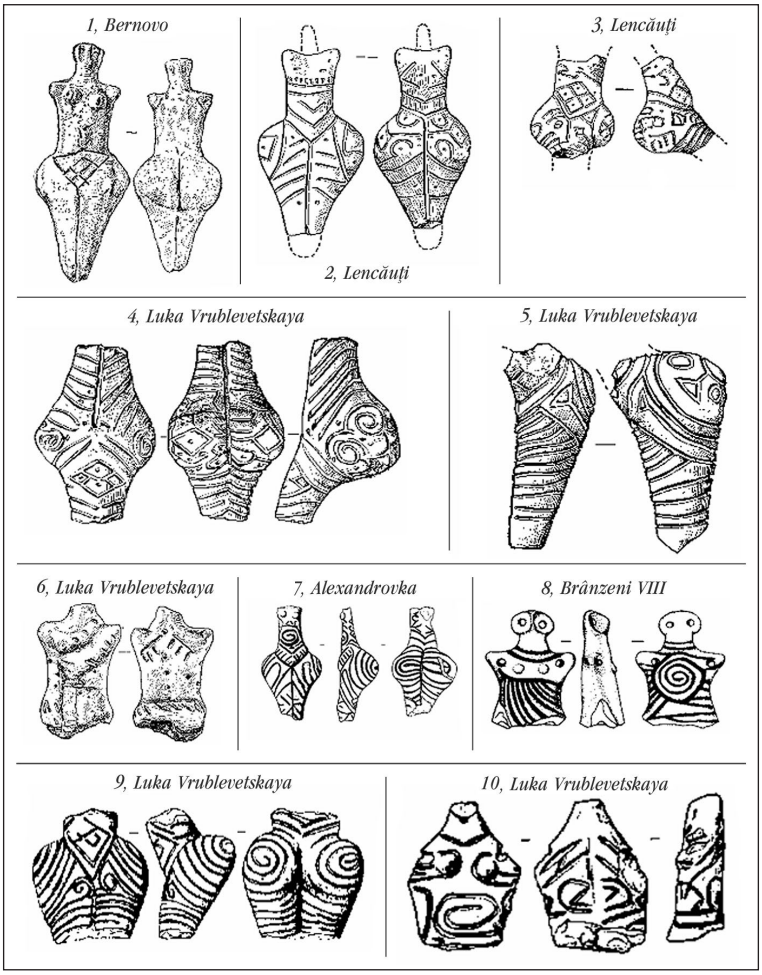

Fig. 3. Female statuettes from Precucuteni-Tripolye A.

guide to the male and femalestatuettes, as well as their historical interpretation. In our study we decided to focus only on some aspects of this complex issue of the statuettes, that is, on those we consider the most interesting.

For the purpose of our study, the female statuettes are the most interesting ones, not only because they greatly outnumber the male examples (Figs. 3–11), but also because of the many signs and symbols they bear. They represent the Great Goddess, the goddess of life and death, and other unidentified goddesses.

The Great Goddess of the Cucuteni-Tripolye pantheon is represented in association with the tree of life or a column with (*Monah 1997.205; Petrescu-Dîmboviţa 1957.10, Pl. V*), snakes, fishes and carnassials, the latter elements suggesting a high level of fertility (*Evseev 1983.76, 234; Monah 1997.207; Gimbutas 1999.109*).

In most cases the deity is depicted naked, following specific canons and the features of the face are usually missing. The highly stylised manner of representing the head could be connected to an interdiction on showing the face of the deity, but also, with the use of masks. Many prehistoric Balkan cultures associate masks with attributes of deities (*Gimbutas 1991.23, 62, 69*), this being the case of the statuettes of the Cucuteni-Tripolye (*Movsha 1991; Lazarovici 2004*). Human faces with masks decorate the upper part of some lids (Bodeşti-Frumuşica and Scânteia), which were used perhaps for offerings of libations (*Gimbutas 1999.81*), as well as some painted pots. People with masks, mimetic representations of rituals, and mythological scenes (*Gimbutas 1984.57–62; 1999.9*) are still seen today in ritual dances related to the beginning of the New Year in Romanian folklore (bear, goat, wolf).

Sometimes the head is beak-shaped. This can either suggest the use of masks, or the existence of a 'Bird Goddess' (Fig. 12/3, *Gimbutas 1991; Tsvek 2001. Fig. 2/5*). Mythical birds incarnate a solar principle and the revival of life, but are also symbols of prosperity and good fortune (*Gimbutas 1991. 228*).

In some cases the statuettes have very intricate hairstyles (Figs. 4/10, 5/1–2 and 8/8, *Monah 1997. 199*), involving 'hairpins', and even physiognomies can seldom be traced (Figs. 8/7–8). Some statuettes also have a disc in the top of the head (*Monah 1997. Fig. 207/11*), as well as some painted silhouettes (Brânzeni III, *Marchevici 1981.Fig. 59/3; Monah 1997.Fig. 249/3*), perhaps representing the solar disc (*Rybakov 1965*).

The body of the statuettes is usually decorated with incisions, or painted (monochrome or polychrome painting). Considering the tattoos of the 'Ice Man' discovered in the Alps, we do not reject this practice, but we must add that in some cases, beside the actual decoration, one can observe signs and symbols that also appear on other cult objects from the area we investigate. The interpretation of these signs and symbols is more complex, and they cannot be reduced merely to suggesting a tattoo. There are areas

where the decoration is not merely incidental; on the contrary, it is meant to enhance attributes or to send messages through the divinity. Many statuettes wear different types of necklaces, circular, rhomb, rectangular or rounded (Figs. 4/4, 5/2, 4, 6/1–4, 7/3, 8/1, 5), and sometimes a combination of these types. The necklaces are protective objects or symbols of the divinity, and we sometimes find the same decoration on monumental buildings in the temples (Fig. 1, Truşeşti, the sanctuary with two divinities: *Petrescu-Dîmboviţa et al. 1999.526, fig. 372/6*). A comb-like decoration was also found in the neck area (Figs. 3/6, 6/3, 7/3, 9/3), and in some cases above the genitals of the figurines (Fig. 4/1). This latter example has been interpreted as part of a special garment used for cult ceremonies (Fig. 4/8) also found on female representations painted on cult pots (*Marchevici 1981.117–118; Monah 1997. Figs. 236/5 and 255/3; Gimbutas 1999.109; Tchaciuk 2000.Fig. 5/5; Lazarovici 2004*). The fringes of the garments, as well as the comb motif ▥ are interpreted as a rain symbol or as a pictograph (*Masson et al. 1982.117; Gimbutas 1984.81; Monah 1997.197; Tsvek 2001.Fig. 4/1*). They might be ethnographically related to ritual of rainmaking, the Romanian *paparuda*, common among many Balkan peoples, as well as others (*Frazer 1980.I, 143, 149; Movsha 1991; Evseev 1998.343*). In this ritual, with a variable number of characters, at least 2 people are masked; they all dance and sing a ritual song. The people that participate in this ritual as actors receive ritual gifts, such as eggs, which symbolise abundance; this ritual has beneficial effects on health, fecundity and the fortunes of the people (*Evseev 1998.342–343*). According to Maria Gimbutas such dresses with fringed fringes are related to solar symbols and their meaning is related to energy (*Gimbutas 1989.239–243*).

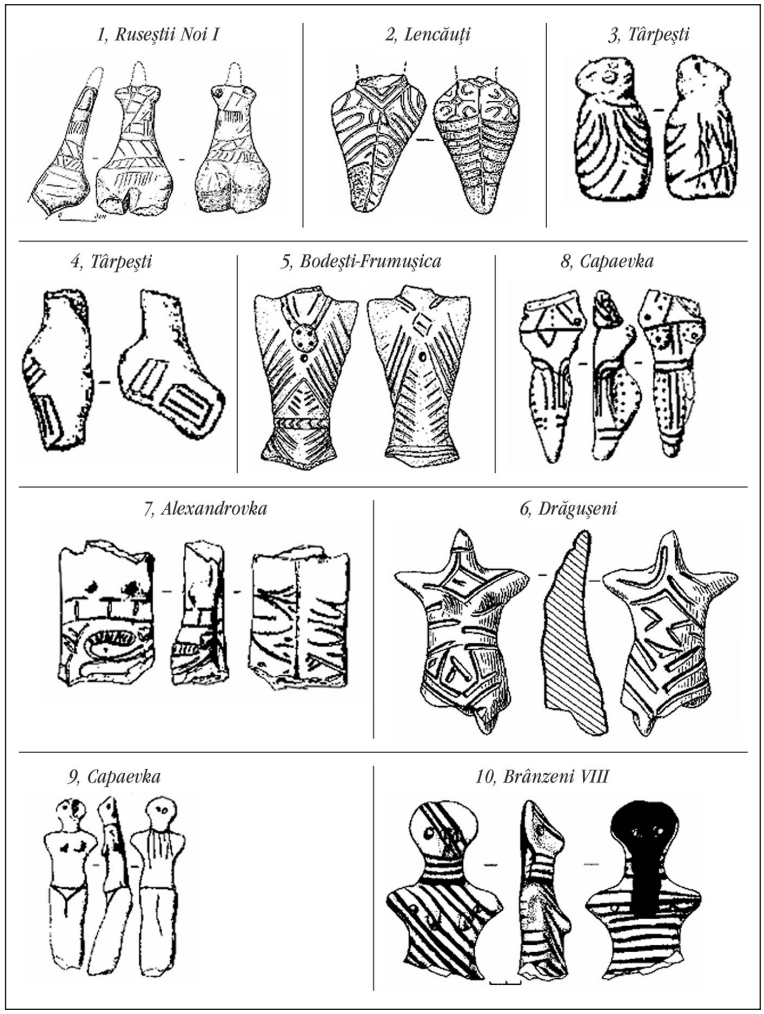

Fig. 4. Female statuettes, Cucuteni-Tripolye.

In the case of the feminine statuettes, the area of the sex is delimited by a triangle with distinctly head down (Figs. 3/1–4; 4/2, 6; 5/1–2; 6/1–3; 8/1–4; 9/1, 4) and on the masculine figurines, the same area is depicted by a triangle with the head up (Fig. 11/5). The inner of the triangle of the feminine statuettes shows two joined spirals or simple spirals (Figs. 6/1; 8/3; 9/1-2) or other combinations of decorations (Figs. 4/2, 6; 5/1; 8/1,4). Spirals are also present in

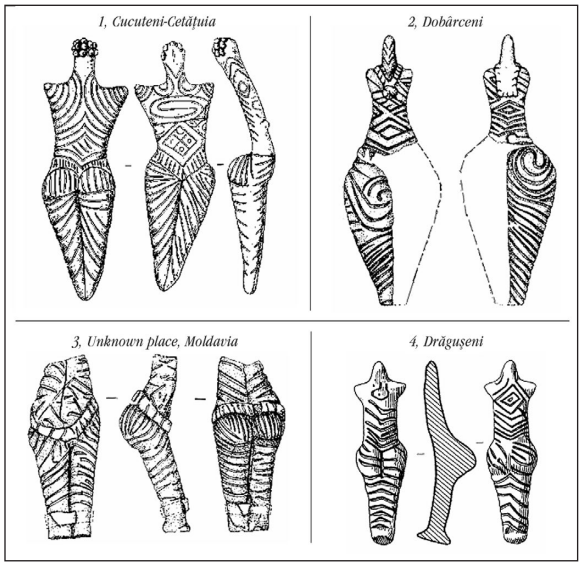

Fig. 5. Female statuettes, Cucuteni-Tripolye.

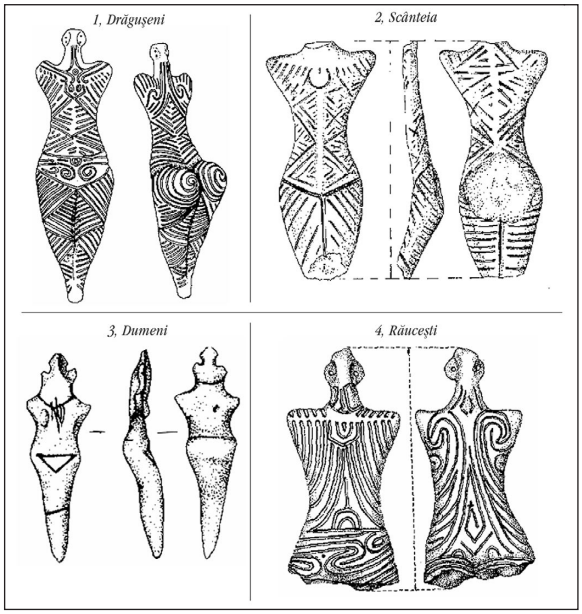

Fig. 6. Female statuettes, Cucuteni culture.

the chest area (Fig. 3/9), on the belly (Figs. 3/7 and 10), on the back, (Fig. 3/8), or backside (Figs. 3/4, 3/8, 5/2, 6/1, 8/3, 9/1). The area of the sex, the belly area and sometimes the backside are marked by rhomboids (Figs. 3/1, 3–4, 5/1, 6/2, 8/2), which are subdivided with or without circles inside them, suggesting a sacred area where life appears. On some statuettes a clear demarcation of 4 zones can be spotted on the belly and backside (Figs. 3/2, 4/2, 8/10).

The same demarcation is found on pots as a decoration or on baked clay plaquets. Some archaeologists believe that they suggest the 4 cardinal points; this idea is also sustained by the display of objects found in several cult complexes (*Boghian, Mihai 1987.314; Cucoş 1974; 1993*).

Pregnancy and the presence of a foetus are depicted by a triangle from which a line extends (Fig. 8/6); similar representations are found on other Neo-Eneolithic statuettes. Only one piece, probably representing a swaddled baby has incised lines with Λ, T or V shapes (Fig. 4/3).

Some other signs can be observed on some anthropomorphic statuettes such as a T (Fig. 4/7), triangles, (Figs. 4/8 and 9/5), grouped lines, (Fig. 9/5), half circles and V (Fig. 3/10) or ⋛ (Figs. 9/7–8).

The snake is another symbol associated with the idea of fertility and life's rebirth. It is used only seldom during the Cucuteni A phase on some anthropomorphic statuettes (Fig. 7/2), but on many painted pots of the Cucuteni B phase, or later on, in Horodi-

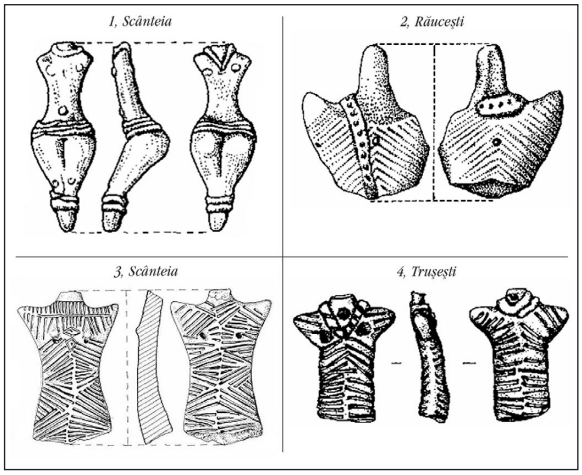

Fig. 7. Fig. 6. Female statuettes, Cucuteni culture.

ştea/Tripolie CII–YII, in association with the egg (Badragii Vechi, Petreni, Vărvăreuca XV, Brânzeni IV, Vîhvatinţi, Bilcze Zlote: *Niţu 1975. Figs. 26/2–3a; Marchevici 1981.Figs. 17/5, 40/4; Masson et al. 1982.Fig. LXXVIII/158, 174*), concentric circles ⊙, solar symbols ⊕ or embryo (?) ⊚ (*Niţu 1975.Figs. 26/1–3a, 22/4*). In some cases the recognition of the

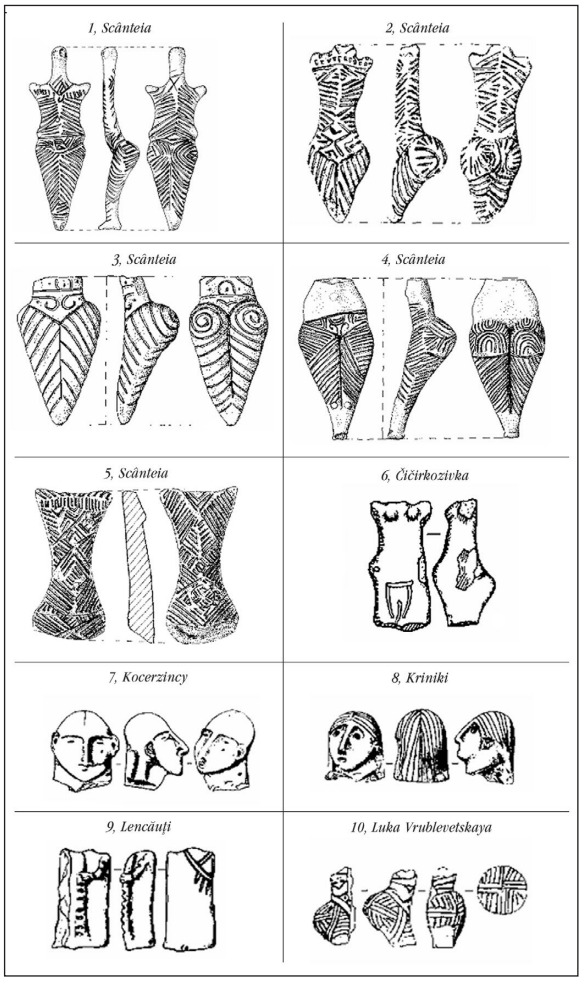

Fig. 8. Statuettes, Cucuteni-Tripolye.

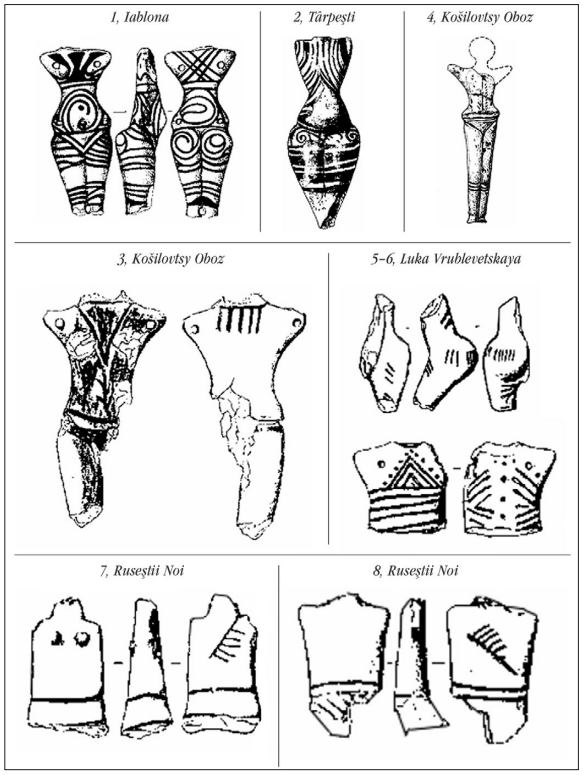

Fig. 9. Statuettes, Cucuteni-Tripolye.

snake symbol on anthropomorphic statuettes is easy, but there are also cases where things are more complex because the same sign, a band that we think represents the snake, is present in the neck area as well as on the belly and under the knees (Figs. 5/3, 7/1, 4). Maria Gimbutas (*1991.251)* has even identified the Snake Goddess, the goddess of life and regeneration of life, which together with the Bird Goddess protect human (family) and animal life. The snake, a universal phallic symbol, associated with rebirth and the cyclic regeneration of nature (*Eliade 1976. I, 16*), was often identified by Gimbutas (*1984. 93*) in abstract representations of the spiral, which dominate an important part of Old European art. In Romanian mythology, the house snake represents the soul of the ancestors (*Evseev 1998.450*). Rybakov (*1965*), who interpreted different types of spirals and their association with symbols or signs, relates the spiral with the cosmic movement of the sun and with the notion of time.

The tree of life (painted or incised), used mainly on pottery (associated with other symbols such as a, column/pillar, the earth, the crescent moon, spirals, snakes, eggs, or ⊛ (*Masson et al. 1982.Figs. LXXVIII/ 172, LXXX/1–2, 5, 9; Kadrow et al. 2003.Figs. 12/3, 14/5, 10, 23/5–6*) is also present on some statuettes (Figs. 9/3–4). Several variants of the tree of life might be connected with natural regeneration. Related with the tree of life is the column cult, suggested by the shape of some very stylised statuettes (Figs. 13/1–2); these pieces remind us of a similar shrine at Truşeşti (Fig. 1). Both statuettes, in cross form, had dots and a human face depicted in a triangle (Figs. 13/1–2, *Tsvek 1994; Monah 1997.Figs. 45/3–4*).

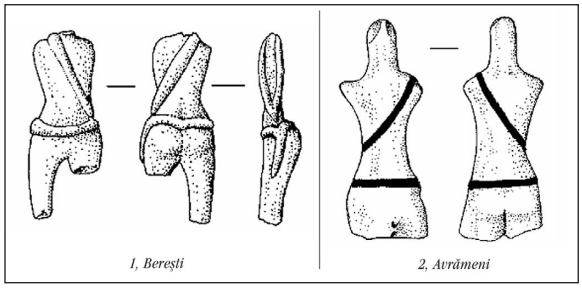

Fig. 10. Male statuettes, Cucuteni culture.

Two recent female statuettes from Scânteia (Figs. 8/5 and 12/1–2) have a cartridge on their back (one has a round cartridge, with the sign of the four directions, and the other a triangular cartridge with different incised lines). These cartridges might be symbols of the goddess or could be related to their role in different rituals. The statuette in an orant position, (Fig. 12/1), unique in the Cucuteni culture, reminds us of some later pieces from Minoan Greece

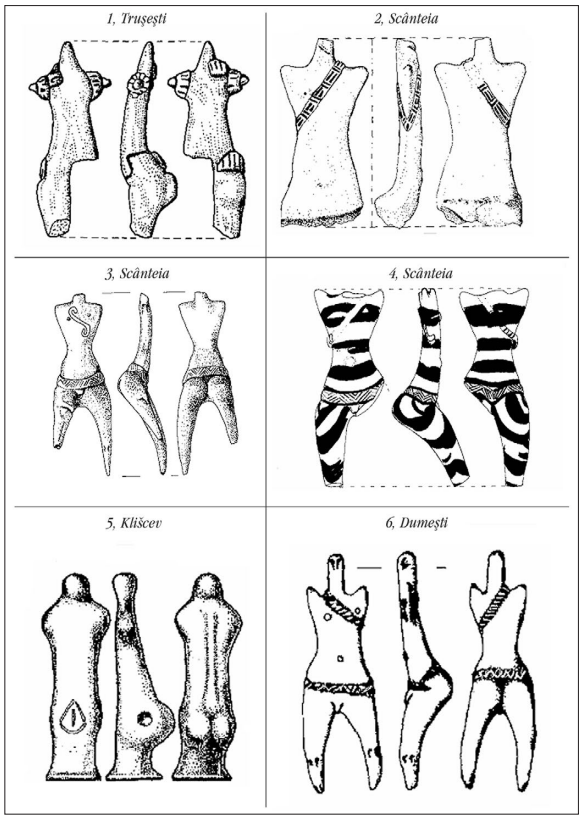

Fig. 11. Male statuettes, Cucuteni-Tripolye.

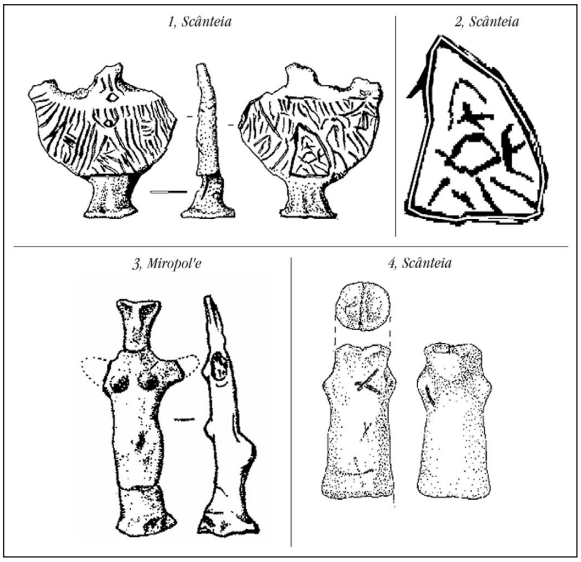

Fig. 12. Idols, Cucuteni-Tripolye.

(*Bucholz, Karageorghis 1973; Idole. Frühe Götterbild und Opfergaben 1985.86, catalog 33/a; Golan 2003.48, Figs. 43/1–2*).

The male statuettes (Figs. 10–11), fewer in number than the female, seem to represent a secondary character in the pantheon of this culture. The male character, depicted in *hieros gamos* scenes or alone, is seen as the partner of the Great Goddess (*Mantu et al. 1997.92*), but also as an androgyne (Figs. 11/3–4). Some male statuettes have chest bands and a hip-belt (Figs. 10–11), interpreted as symbols of social stature. At Scânteia, such a statuette has an S-spiral and a hip-belt (Fig. 11/3). A statuette from Truşeşti, Figure 11/1 has a band around the shoulder and on the neck. Very interesting is a statuette from Bereşti, where the hipbelt might indicate a weapon (as in the Cernavoda culture: *Roman 2001.Figs.1a–1b, 16/12*) or just the local fashion (Fig. 10/1).

Incised or painted signs and symbols have also been found on very stylized idols (Figs. 12/4, 13). Some are directly related to classic Cucuteni-Tripolye (Figs. 12/4, 13/3–6), while others are related to later phases of Tripolye. Very schematic figurines, of phallic aspect, have several M or W signs, lines, dots, a sun, or column symbols (Figs. 13/3–6, *Masson et al. 1982.Fig. LXXXVII/8; Dergacev, Manzura 1991. Figs. 4/8–9, 7/4–7, 20/8–9, 44/8, 79/3*).

ω or the W symbol and its variants reflecting regenerative power, as well as horns depicted in relief or painted, illustrate the male deity, as in the Anatolian and Mediterranean areas, or other parts of Europe. This sign is present on several painted pots, associated with stylized horns, and other signs and symbols (*Niţu 1975.Fig. 18/1; Marchevici 1981. Figs. 34/2, 37, 40/6; Masson et al. 1982. Fig. LXIV/6; Mantu et al. 1997.Fig. 74, 234; Kadrow et al. 2003. Fig. 18/2*). The reiteration of these signs on the above-mentioned statuettes is intended to underline regenerative power, fertility, and fecundity.

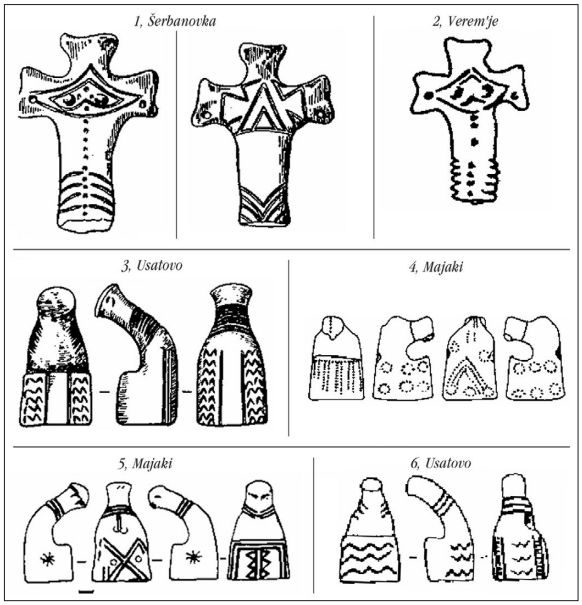

Fig. 13. Idols very stylized, Cucuteni-Tripolye.

Solar symbols, concentric circles, circles with different internal signs, simple, singular or in combination with other signs/elements ⊕⊛⊕◐⊕⊙◉⊕ ⊕⊙ , can be identified on many pots (*Marchevici 1981.Figs. 24/11, 40/12; Masson et al. 1982.Figs. LXXXII/2–6; Gimbutas 1984; Kadrow et al. 2003. Fig. 19/1*) and on only a few anthropomorphic statuettes (Figs. 3/5, 13/4–5).

The variety and complexity of the anthropomorphic figurines, pottery and other objects with symbols and signs attract the interest of many scholars trying to decipher their meanings (*Rybakov 1965; Niţu 1975; Vl. Dumitrescu 1979; Marchevici 1981; Masson et*

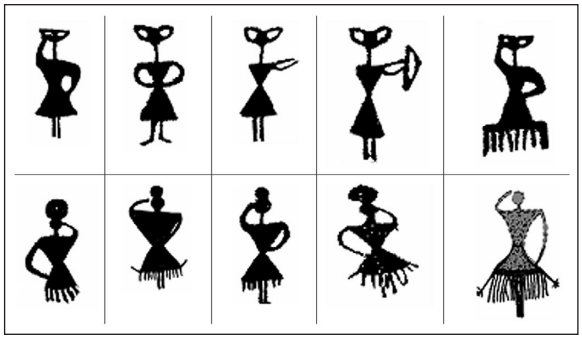

Fig. 14. Painted female silhouettes.

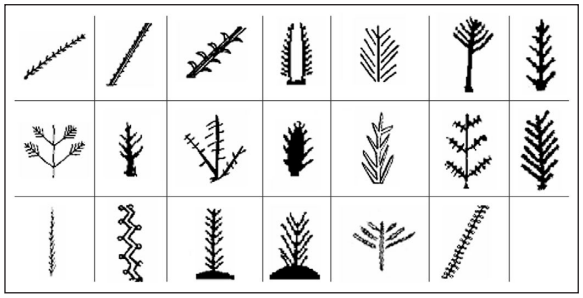

Fig. 15. Vegetal elements as symbols.

al. 1982; Gimbutas 1984; 1991; Movsha 1991; Monah 1997; Golan 2003). Analogies have been established (*Niţu 1975; Vl. Dumitrescu 1979.66*; the new discoveries support the older ones, *Chegini et al. 2000.11*), marking the common origin of these manifestations. In Cucuteni-Tripolye there is a common, ancestral background (due to the spread of agriculture and of religious belief related to this; connections between different, widely separated communities have continued throughout the diffusion process of some communities and of the exchanges), but also a very strong original quality. The original aspect is related to Cucutenian perceptions of magical religious life and their manner of expression.

We have found great similarities, when comparing the Cucuteni-Tripolye signs with others from our database (which includes signs found on different objects from a large area during the Neo-Eneolithic period and later). The value and meaning of some cucutenian symbols is identical with that of others discovered in other cultural areas; the difference lies in the manner of expression. Like other authors, we believe that the factors that determined the use of symbols and signs in Cucuteni-Tripolye culture are especially related to the role and importance of magical religious behaviours (*Rybakov 1965*). Symbols and signs have a close relationship with the expression and reception of forms of sacred messages addressed to the divinity; therefore they are meant to enforce a sacred message. According to Maria Gimbutas their role was also to connect individuals and the community (*Gimbutas 1991.320*).

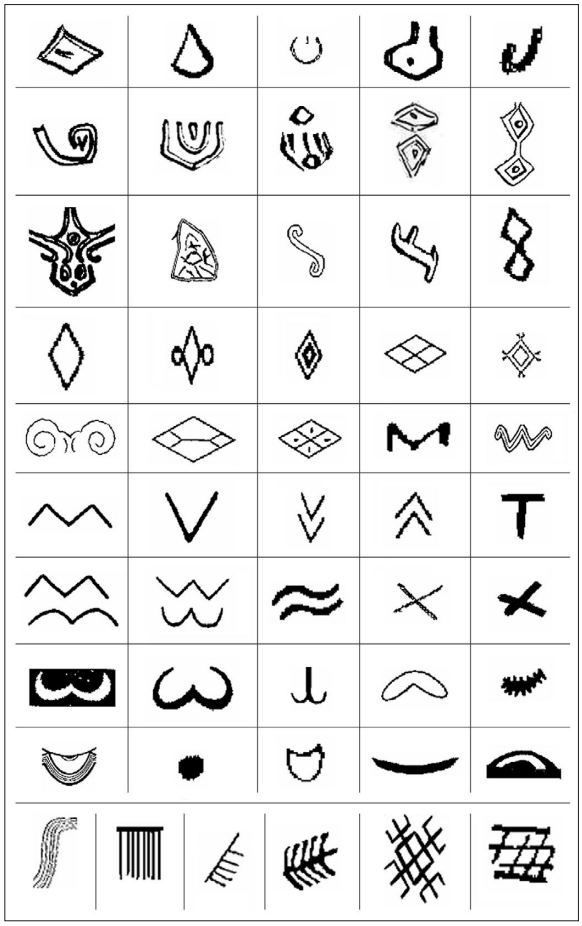

Fig. 16. Signs and symbols in Cucuteni-Tripolye

Sacred inventory, including statuettes and other cult objects made of durable or perishable materials (*Marangou 2001.28; Hayden 2003.140; Golan 2003.533*), plays a major role during religious rites and cult practices. They accompany specific rituals, offerings, dances and myths of different festivities (*Gimbutas 1984*) and represent for us a valuable source that helps us decipher some aspects of the religious life of that time. For a better understanding of the symbols and signs used by these communities, we believe that it is useful to add in the end of our study some figures and vegetal elements used on painted pottery, as well as a sum of the signs and symbols (Figs. 14–16) which we consider very expressive for this subject.

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back to contents

UDK 903.2(474.3)"633/634":133.4
Documenta Praehistorica XXXII (2005)

Small anthropomorphic figurines in clay at Ģipka Neolithic settlements

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ABSTRACT – *Miniature Neolithic figurines in clay are a special topic of research. This especially concerns areas where their representation has so far been poor. While carrying out archaeological excavations in Northern Kurzeme, the north west coastal dune zone of Rīga Bay, a ritual-like complex was recovered at Ģipka A site belonging to the local Culture of Pit Ceramics. It consists of several large and smaller fireplaces and pits, with the finds of fragmentary clay figurines recovered under the palisade that surrounded the settlement. The head and body of the miniature anthropomorphic figurines in clay have original modelling. It is possible to single out two types of figurine: with rather broad cheekbones, and oval modelling of face. The large amount of ochre found in the settlement and the purposeful breaking of figurines are evidence of their role during a rite. Clay figurines have a symbolic meaning, and the signs depicted on them, incised walking stick-shape and other motifs, are the symbols of early farmers.*

IZVLEČEK – *Predmet raziskave so neolitski miniaturni keramični kipci. Poudarek je na območjih, kjer so bili do sedaj redko zastopani. Pri arheoloških izkopavanjih v severni Kurzemi, na severozahodnem območju priobalnih sipin Riškega zaliva so na najdišču Gipka A odkrili kompleks, ki sodi v lokalne neolitske kulture. Sestavlja ga več večjih in manjših ognjišč in jam. Pod palisado, ki obkroža naselje, pa so našli fragmentirane keramične kipce. Glava in telo miniaturnih antropomorfnih kipcev sta izvirno oblikovana. Ločimo lahko dva tipa kipcev: s precej širokimi ličnicami in z ovalno obliko obraza. Velika količina okre, ki so jo našli v naselbini, in namerno drobljenje kipcev dokazujeta njihovo vlogo pri obredjih. Keramični kipci imajo simbolni pomen. Znaki v obliki sprehajalne palice ter drugi motivi predstavljajo simbole zgodnjih poljedelcev.*

KEY WORDS – *figurines, red colour, ritual, symbols*

INTRODUCTION

Anthropomorphic miniature plastic art in clay is a special topic in European Neolithic research. It is best represented in southeast Europe, where its rich representations are found at Neolithic dwellings. It has undergone classification, analysis, discussion and interpretation. The serial manufacture of anthropomorphic miniature ceramic plastic art was not characteristic of the northern hemisphere, nor was its accumulation in Neolithic dwellings. There are rather few samples in Yumala (Jomala) in the Åland group in Finland with the characteristic of Culture of Pit Ceramics (*Cederhvarf 1912.307–323*). In the latter half of the 1930s, a dune settlement was discovered at Pūrciems, near the Ģipka lagoon in Latvia, where Eduards Šturms succeeded in recovering the first miniature anthropomorhic figurines in clay (*Šturms 1937a.46–54; 1937b.83–910*) (Fig. 1). At the time the finds attracted much attention in neighbouring countries (*Ayräpää 1942.82–123*). Archaeological investigations carried out from 1993 to 2001 in Northern Kurzeme, in the narrow zone of the blown-out dunes between the littoral of the Litorina Sea

and the coast of the Ģipka lagoon (later a lake) at Ģipka A and B, opened up new possibilities for research in anthropomorphic miniature plastic art in clay of the Culture of Pit Ceramics (with porous structure) in the eastern part of the Baltic region (Fig. 2). Three papers discussing anthropomorphic figurines in clay from the Ģipka A settlement have been published. We focused only on some aspects of ritual at the dune settlements in the Ģipka dune area (*Loze 2002.52– 61*).

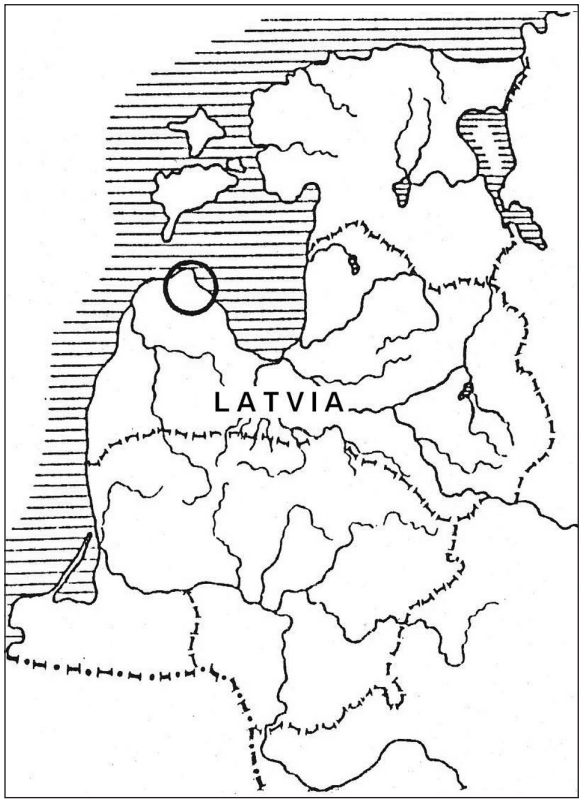

Fig. 1. Location of the Ģipka lagoon-paleolake at the North-western part of Latvia.

CLASSIFICATION OF ANTHROPOMORPHIC FIGURINES

The anthropomorphic figurines in clay found at sites Pūrciems C and F and Ģipka A and B were classified by making use of fragmentary figurines – their broken off heads, breasts and other parts of the torso. An almost undamaged figurine from the Pūrciems C site served as a standard of comparison to determine the proportions of the figurines (*Šturms 1937b.84, Fig. 1*). The material under discussion includes one almost undamaged figurine and two fragmentary figurines from Pūrciems C investigated in the 1930s, and 25 fragments from the archaeological excavations at sites Ģipka A and B of the 1990s.

Anthropomorphic Figurine with Head Turned Upward and a Flat Base in Place of Legs

The samples of the above anthropomorphic Neolithic miniatures include one almost undamaged figurine found at the Pūrciems C site (Fig. 3). It has a large head the lower part being rather broad, a narrow forehead, projecting shoulders without clearly shaped arms, and a flat base in place of legs. The proportion between the length of the human body and head has not been preserved in the figurine. It has simply not been observed. The back of the figurine is curved, and it resembles a sitting or even squatting human representation. The base in place of legs ensured the figurine stability, and allowed its easy placement on flat surface. Taking one third of the figurine's total length, its head is of a rounded triangular form. Facial details have been modelled using both relief to mark the nose and an incision to mark the eyebrows and eyes. The mouth is not marked. The clay miniature figurine is decorated with rows of fingernail-shaped impressions, which on its front and back cross the body transversally. In spite of the primitive modelling of the figurine, it is perfect. The figurine has no pronounced features of gender. It is only 4.4 cm in length, yet it is rather expressive. The head is turned up towards the roof of heaven. The back of the head and the left shoulder are slightly damaged.

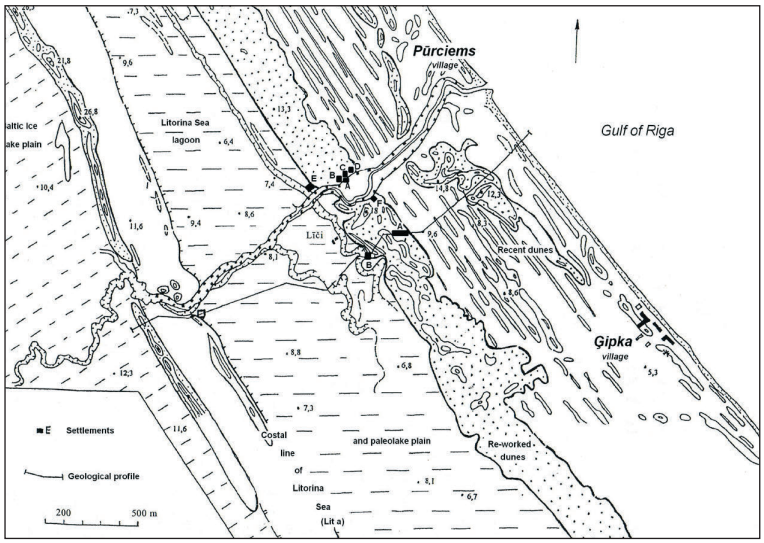

Fig. 2. Location of Ģipka-Pūrciems Neolithic settlements at the belt of re-worked dunes (after* Loze, Eberhards 1998*).

Fig. 3. Anthropomorphic figurine in clay from Pūrciems C settlement (after* Šturms 1937b*).

The makers of the figurines observed an established system of what and how things should be produced in each definite case. Nothing was done by chance. Everything was based on strictly developed rules concerning the making of distinct types of figurine, depending on their specific requirements. One may presume that the figurines of each type had to perform definite functions. In one case they were produced with indications of gender, whereas others they were made without these features. In addition, they could also differ according to the posture, and the posture could indicate either the corresponding individual's attitude towards surrounding nature, living individuals, or could characterise an individual in a concrete situation (unsure, undecided, lost in thought, etc.). Ethno-archaeological data offer plenty of materials about the ambiguity of manufactured dolls or figurines.

Figurines in clay had decorations: ornaments not only served to show clothing and adornments, but also included more profound content. Special signs – symbols were incised on clay figurines – on foreheads, temples, chin, shoulders, legs, etc. – that could be interpreted on the basis of both studies of archaeological material and ethno-archaeological abilities.

That the decoration on the figurine from the Pūrciems C site is not accidental can be proven by the breast part of a female figurine found at Iča Late Neolithic settlement (in the wetland of Lake Lubāna) 250 km from northern Kurzeme (Fig. 4) The sample has rows of fingernail-shaped impressions on its back forming a rhombic motif.

Fingernail-shaped impressions are not only characteristic of miniature objects in clay from the investigated regions. They have also been found on the

Fig. 4. Upper part of female figurine in clay from Iča Late Neolithic settlement (photo Ilgvars Gradovskis).

surface of pots from excavations at the Ģipka A site, where the makers used them in monotonous compositions. Some of the vessels have incidental ochre strewing, evidence of their location in a special zone of the settlement. The pot fragments with the above strewing were also found at the Ģipka A site discussed in the present article. They were found in the immediate vicinity of the female breast fragment next to the fireplace (Fig. 12).

The observed regularities of fingernail-shaped decoration were apparently not only connected with the attitude of particular Neolithic humans, women, towards it as a type of decoration, but also as definite information containing an element of ornamentation.

Rhombic motifs, particularly their networks, are characteristic of the Eneolithic ceramics of the Lake Lubāna depression found at Abora and Lagaža sites. The above settlements also offer quartered figurines of contour-rhombi, which have little pits impressed in the centre. These are considered symbols of a farming culture and are called sown field motifs.

Head of the ochre stained figurine

The head of the anthropomorphic figurine found at Ģipka A (Fig. 6) offers new information on the

above-described type. It might not be viewed as a miniature unit, as here one can deal with a bigger and more significant representation, where the size of the head (4.14 cm) equals the length of the previously described anthropomorphic figurine.

The figurine from the Ģipka A settlement has a rather sharp chin and a straight nose, its form being underlined by an incised vertical line down the whole of the middle of the nose. The figurine has carefully modelled facial features: the nose was formed in relief, while incisions were used to mark the eyes, eyebrows, mouth, nostrils, and a tattoo on the chin. The figurine has broad cheekbones, oblique eyes and narrow forehead. It resembles an individual of Mongoloid origin.

In the area of temples the head has a network of incised rhombi that gives the piece special significance (Fig. 7.1). The face is covered in ochre, and from the forehead down to the chin the colour grows in intensity.

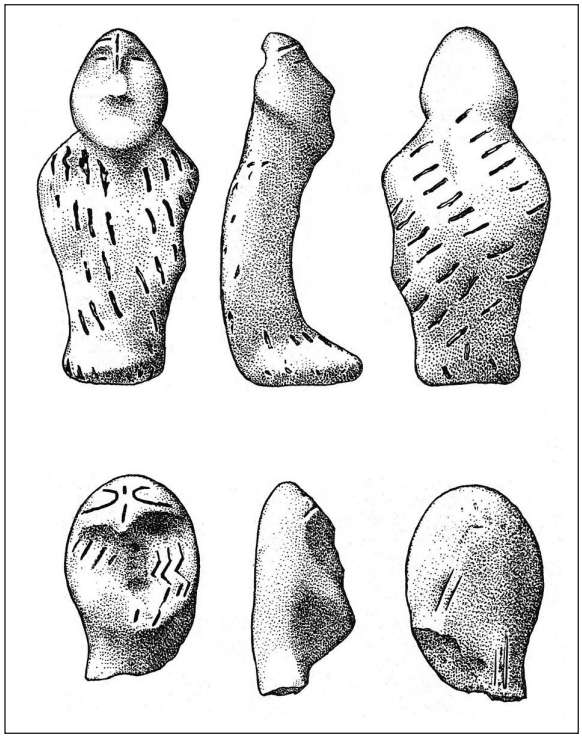

Fig. 5. Anthropomorphic figurines in clay from Pūrciems C settlement (drawings of Aiga Ivbule).

Anthropomorphic clay figurine with a head-dress reminiscent of a scarf (the Ģipka type)

An entirely new type of anthropomorphic clay figurine with a head-dress reminiscent of a scarf was found at Ģipka A site (Fig. 8). The modelling of the face, which is 3.6 cm long, is oval. This means that the representation possibly belongs to an entirely different contingent of people inhabiting the settlement: without broad cheekbones and oblique eyes. The face of the figurine is symmetrical. The nose is made in relief, the closely placed eyes are represented by small holes while the mouth is engraved. The face has an extraordinary tattoo.

Fig. 6. Head of the anhropomorphic ceramic figurine strewn with ochre from Ģipka A settlement (photo: Ilgvars Gradovskis).

Comprising one third of the length of the face, the rather wide forehead has an incised motif of a walking-stick, with the curve of the upper part placed close to the long line splitting the forehead. In the region of the Eastern Baltics this motif has not been seen before. The remainder of the face and neck are covered by interrelated motifs. The cheeks are decorated with three obliquely incised lines, with smaller opposed incisions at their ends. The walking-stick motif also appears on the chin, where it is included in some other ornamental combination. Four broken vertical incisions under the mouth on the underside of the chin are divided in the following way: the two in the middle join each other, and under the chin on the neck form two rhombic figures incised one into another. The outer incisions, in their turn, form a combination of walking-stick motifs. This is evidence of the joining of different motifs to make a definite ornamental composition, using both geometrical figures (rhomboids) and the original walking-stick motif (Fig. 7.2).

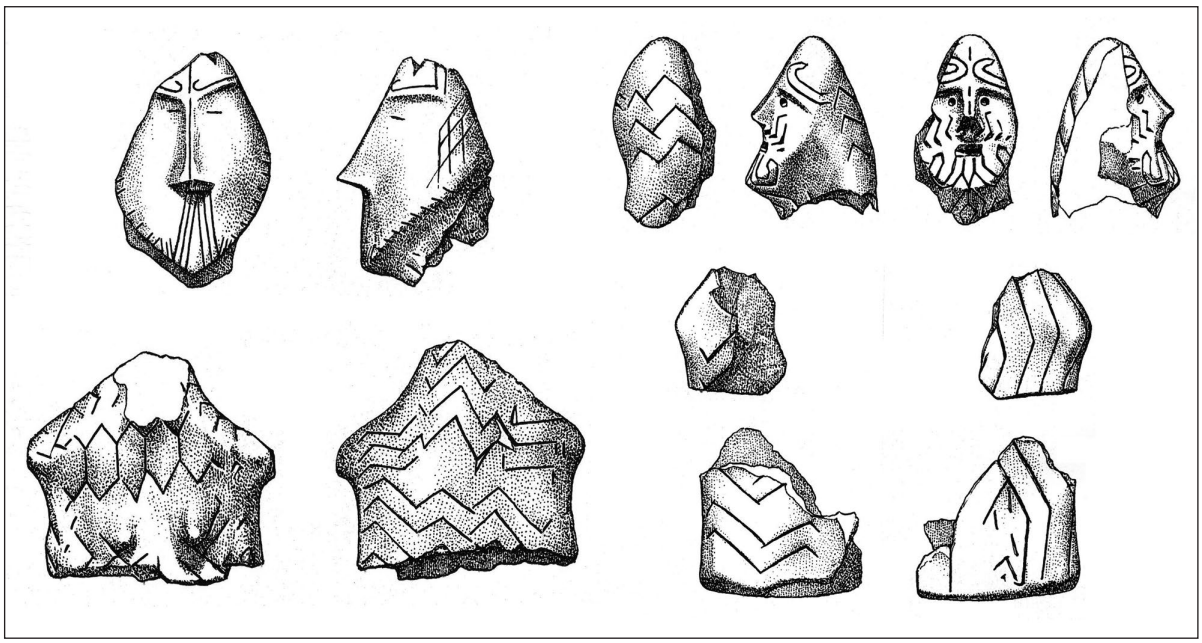

Fig. 7. New discovered small clay plastic art examples from Ģipka A settlement (drawings of Aiga Ivbule).

The walking-stick motif, found on the surface of Neolithic anthropomorphic miniatures in southeast Europe, is not only known as a decorative element, but also as a symbolic one, although it has mainly been incised on the breasts, hips, and legs of female figurines (*Biehl 1996.157, 159, 160, Fig. 3:19, 5, 6*).

The unusual find of the clay figurine with the fascinating Neolithic-Eneolithic farmers' symbols have perplexed researchers of the Eastern Baltic Neolithic, since they have always strictly postulated the idea that farming appeared late in the region. It should therefore be indicated in what conditions the head of the figurine and possible parts of the torso were found at the Ģipka A settlement!

The head with farmers' symbols was found in the northern part of the Ģipka A site, where archaeologists had discovered a marked off fireplace and the remnants of a threefold fence or walls enclosing a large area (Figs. 9 and 10). It was found under the foot of the western fence, where a funnel-shaped pit, with a diameter of 0.30 m, was specially made before its construction (Fig. 11).

An equal pit, much deeper, however, was also made under the foot of the second fence. A fragment of the figurine's base was found there (Fig. 7.4).

Fragment of the female figurine

The upper part of the torso of the female figurine from Ģipka A is worth special attention (Fig. 12). It was found on its back under the remnants of the fireplace. As shown by its careful placement, the fire was deliberately set after the breaking of the figurine, and its coal and ashes could be gathered from an area over a square kilometre in extent. In this case the figurine was broken in different way: the head and lower part of the trunk were thrown away, and only the female breasts were left there.

Fig. 8. Head of the anthropomorphic figurine in clay with the headdress reminiscent of scarf from Ģipka A (photo: Ilgvars Gradovskis).

Fig. 9. View to the traces of palisades at Ģipka A settlement (photo: Inara Kuniga).

The modelling of the figurine raises interest, too. It has strongly pronounced and projected shoulders, breast projections, and almost polished back. The character of ornamentation, too, gives evidence of a specific role for the figurine in a rite.

Two rows of carefully incised hexagons on the front of the figurine are in sharp contrast with the zigzag ribbons which an experienced hand has made on the back. Moreover, the back growing narrower in its upper part, the zigzags of the upper ribbon are more tightly compressed at its middle. This is a rather successful form of ornamentation.

Anthropomorphic figurines with projections in place of legs

Among the samples of the miniature figurines in clay of the Litorina blown-out dune settlements found at the newly discovered Ģipka A sites, it is also possible to single out a type of figurine different from those having naturalistic modelling with their heads turned upwards and flat bases instead of legs.

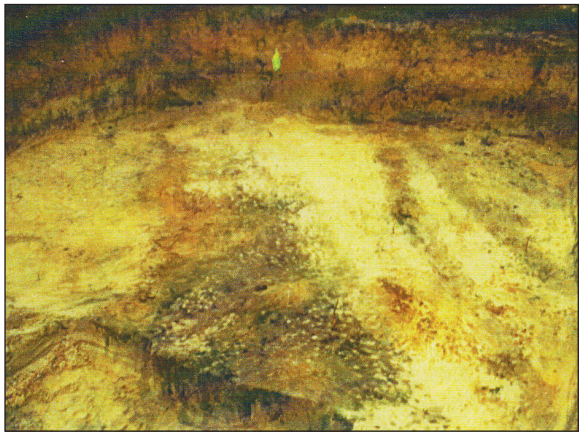

Fig. 10. View to the central fire and traces of palisades. Ģipka A settlement (authors' photo).

A separate group is formed of figurines with projections in place of legs. Obtained at Ģipka B on the shore-line of a Palaeolithic lake, one of the figurines has flat modelling, without a curved back and features of gender (Fig. 13). The head of the figurine is certainly broken off. The leg projections are not bigger than the shoulder projections of the figurines of type 1 and 2. The front is decorated with a double row of fine grain-shaped incisions arranged in a criss-cross pattern (the length of the fragment does not exceed 3.6 cm).

The figurine from the Ģipka A site with strongly pronounced projections in place of legs is undoubtedly an entirely different type of figurine (Fig. 14). Only the lower part has survived. It was made independently from other part, to allow later seating into it the rest of the trunk and head. Both figurines could easily be stuck in the dune sand. They were, certainly, not meant for putting on a hard surface.

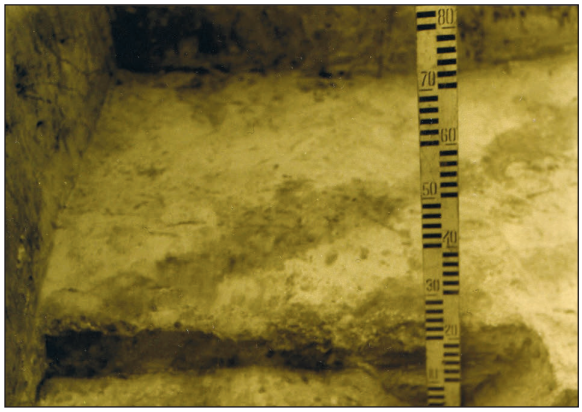

Fig. 11. View to the small pit (with finds of two broken ceramic figurines) under the foundation of palisade. Ģipka A settlement (authors' photo).

Miniature bead-shaped representation of a head

A miniature bead-shaped anthropomorphic representation of a head containing a hollow inside was found at the Ģipka B site (Fig. 15). It could have been worn around the neck as a bead. A relief is used to model facial details that mark a flat and rather broad nose. The line of the mouth is incised. The upper part of the head is also separated by an incised line forming a hat-like head-dress. Like nearly all the others, this sample of miniature ceramic anthropomorphic figurines is the only known piece from the Eastern Baltics, and the acquisition indicates the large unexhausted opportunities for research into Neolithic such material in the dunes of northern Kurzeme.

OCHRE SYMBOLS IN THE DUNES OF NORTHERN KURZEME

Archaeological excavations at the Ģipka A site show that the inhabitants of the settlement used ochre in great quantities. The first evidence of this was a clay pot, flattened by the weight of dune sand, which contained a great amount of ochre powder. It was located in the eastern part of the fixed central fireplace (Fig. 10). Alongside a well-pronounced coal layer in the fireplace, here and there above it and north-west behind it, ochre strewing was also found. All the above is evidence of lively activity by more than one person connected fire and a procedure of some definite character.

Recovered in the northern part of area C, the central fire place is in a layer of white sand. In the area of the recovered settlement, the layer is characterized by the presence of tiny circular coal spots. Burning was, apparently, carried out frequently, and sea winds carried the ash in all directions. Alongside the coal marks, very small ochre spots were also found here and there, suggesting human activity.

The inhabitants of the Ģipka lagoon obtained ochre in low and wet areas and burnt it to obtain the colour of blood. From there they took it to the dunes of the Litorina Sea to use it for their needs.

The face of the anthropomorphic figurine from Ģipka A was entirely stained with ochre (Fig. 6) the chin most markedly. In such a way, the ochre not only made the head of the figurine more visible, but also reanimated it.

Red is one of the three colours (with white and black) that is included among the universal colour classification systems of archaic societies. According to Victor Turner suggested that the three colours are not only subject to different perceptions of the different ranges of these colours, but are rather concise denotations of rich psycho-physiological experiences affecting both reasoning and the sense organs connected with the primary group relations (*Turner 1966.80*).

The Neolithic society of Northern Kurzeme attributes several meanings to ochre. Similarly, the red colour of the clay at the Zvejnieki site on the coast of Lake Burtnieku (a mask of red clay covers the face of burial 263); in the north of Latvia the colour of ochre is the symbol of blood. If the face of a well-to-do man was not covered with a mask of red clay, a mask of

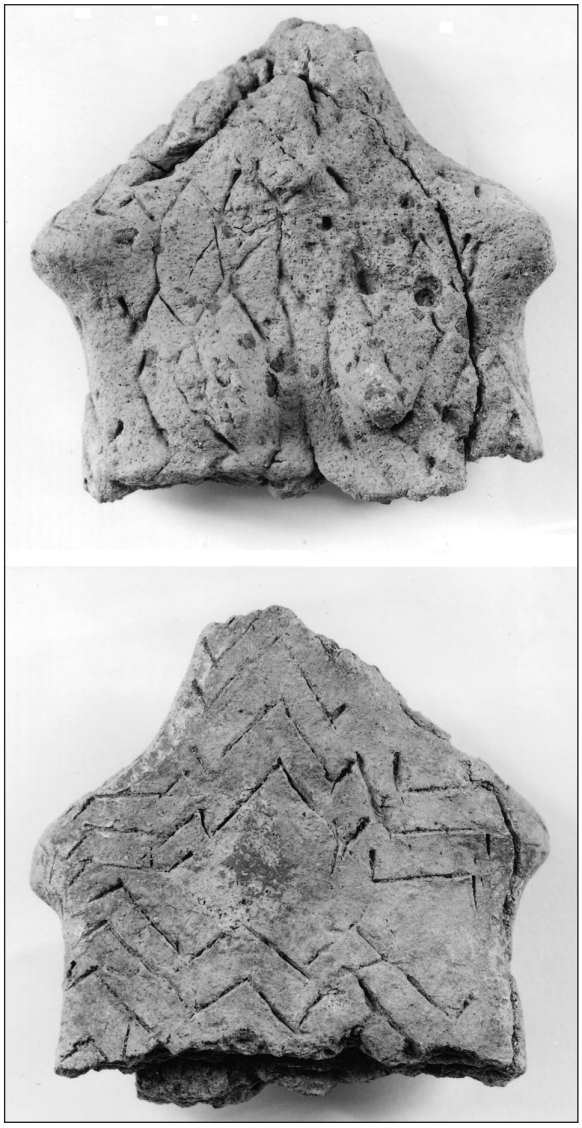

Fig. 12. Upper part of the trunk of female ceramic figurine from Ģipka A settlememt (photos: Ilgvars Gradovskis).

bluish clay could also be used. However, the dead individual with a mask of the bluish clay was reanimated with the help of ochre powder (burial 275) (*Zagorskis 2004.45*).

As shown by ethno-archaeological data on the inhabitants of the Lower Congo, the painting of a corpse and its shroud in red has been a tradition practise until quite recently (*Jacobson-Widding 1979.167–180*).

Red has a of meanings. It could be useful to note here the interpretation of red given by the Ndembi of Zambia as recorded by Victor Turner, who spent many years in Zambia, mastered the language of the local people and is one of the founders of symbolic anthropology. The Ndembi associate red things with

blood and clay; however, their explanation is much wider (*Turner 1983.82–83*):

- blood of animals;
- blood of mother;
- blood of all women;
- blood of a murder;
- blood of sorcery (it should be associated with necromancy); moreover, it can be both good and evil;
- red things have power; blood is power, humans, animals, insects or birds, therefore, need blood. Wooden figurines are bloodless, so they cannot breathe, speak, laugh and communicate; they are simply pieces of wood. Only when sorcerers manipulate them, give them blood, can the figurines function and kill people.

Of the anthropomorphic clay figurines from the Ģipka A site, only one had a face stained with ochre. Hence, only one of the recovered figurines had been active at the time, and was thus symbolising a definite person. However, like all the other figurines at Ģipka A, it was broken. While killing others, the figurine itself had also been killed and destroyed.

Fig. 13. Flat anthropomorphic figurine from Ģipka B settlement (photo: Ilgvars Gradovskis).

RITE IN THE DUNES OF NORTHERN KURZEME

The figurines found at Ģipka A were not located on a bare field. Archaeologists have facts indicating that they were used in special cases, and, probably, together with burning of very large or smaller fires. The settlement had three different floor levels. As indicated above, their figurines were of different types, or, to put it in other words, they differed in style. This means that the different figurines could represent different groupings of people, since the stylistic solidarity of figurines underlines the solidarity of corresponding groupings who came to visit the dunes. Some of them manufactured figurines with broad cheekbones and low foreheads, others with an oval face. Regardless of the complexity of their interpretation, all figurines are interconnected through their occurrences in the settlement.

Hence, at Ģipka A settlement there was a special place where a definite action took place. It could have been the cycle of a certain rite accompanied by larger or smaller fires.

In any stage of human development, fire and fire places are associated with light, warmth, cooking – in this case – defence, hunting, preparing the first fields for farming, sowing, etc. However, in a certain cycle of human development, fire is also associated with other functions, fire is used at special events related to the spiritual world. Reanimation-ochering of clay figurines and their breaking, and putting of unochered, that is, dead, figurines into specially made pits is evidence of special rites practised in the dunes of Neolithic northern Kurzeme.

According to ethno-archaeological data collected among the Aborigines, a rite is an arrangement of stereotyped actions including a combination of specially developed gestures, words and applied objects (in this case, clay figurines). They serve a definite function, and the performance is usually in specially prepared environments (in this case, specially built dwellings on the shore of the Litorina Sea). The action is undertaken to influence supernatural forces and beings for the benefit of the actors. Rites are performed in connection with seasonal change and special events of the season, as well as with dramatic moments in the lives of individuals or the whole community. Rites were used to assuage or drive away supernatural forces and beings which negatively affected the community. Through rites Neolithic society sought to become free of evil and ill-disposed forces and improve the standards of their social life. The principal purpose of a rite could also be divination. Likewise, the widespread procedure of divination (by special sorcerers) rites were always perfor-

med by one and the same people – those who had earned respect and who stood out from other members of the community through their wisdom, and physical and spiritual strength.

The smallest and simultaneously the most significant unit of the rite is a symbol that maintains the rite's specificity through its entire procedure. In the context of a rite, a symbol is considered a semantic element, since it is related to signs and symbols and things with which the symbols are associated (*Turner 1983.33*). Symbols may have very different meanings, even being of entirely opposite characters.

In the research practice of the Eastern Baltic Neolithic this is the first case when it is possible to see the spatial context of religious or cultic practise. By this the following five interrelated zones are understood: place, imagery, devices and support, participants and practices/actions (*Bertemes, Biehl 2001. 17–20*). And this can also be referred to the Middle Neolithic Ģipka settlements. A site where rites were performed was found there, and it was connected with the burning of a large fire and the manufacture of clay figurines which had been stained with ochre. Ochre was used there in great quantities (the find of a clay pot filled with ochre powder), and was used to reanimate figurines and subsequently break them.

Under the palisades that surrounded the settlement, special pits were dug, and by filling them the fence was erected. The undertaking involved more than one participant, yet one particular person had led it. The cycle of the rite was connected with its smallest unit – a symbol, that in present case could have been the walking-stick motif depicted on the forehead of the clay figurine.

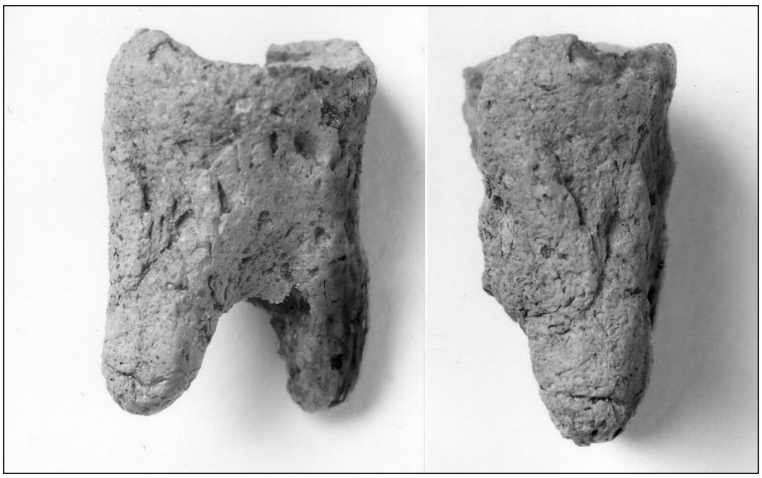

Fig. 14. The lower part of broken anthropomorphic figurine from Ģipka A settlement (photo: Ilgvars Gradovskis).

A flint sickle-shaped knife broken precisely in half which was found in the immediate vicinity of the fire at Pūrciems F site suggests a symbol of a culture familiar with farming (*Loze 1997.193, Fig. 7.13*). Likewise at Ģipka A and Pūrciems C, the upper settlement has broken clay figurines, and these sites were inhabited by people of the same Neolithic culture. Further evidence for this is the presence of Cerelia pollen in the occupational layer of Ģipka B settlement, in the immediate vicinity of the lagoon, later a lake (*Jakubovska 2005*).

It is true that Ģipka A and other newly discovered sites, altogether 4 units, are special types of palisade enclosures which were temporarily occupied by Middle Neolithic people. In our case we have multiple palisades. Three of them were in parallel (10 m inside the excavation area) but the fourth, very small one, which was the earliest, was different. According to data from palisade enclosures in Denmark, sites as those at Ģipka A are religious meeting places (*Nielsen 2004.20*).

SYMBOLS ON THE FACES OF CLAY FIGURINES FROM NORTHERN KURZEME

Clay figurines from the Ģipka-Pūrciems settlements are not simple anthropomorphic representations. They have had far greater significance than we have been able to perceive. Their special significance is emphasised by their ornamentation, and the symbols depicted on their forehead, face, back or breasts.

The clay figurines from the Ģipka and Pūrciems C sites have the following decorations on various parts of the head and body:

- Rhombic network (without contour);
- Walking-stick motif (double line);
- Vertical line with opposed tiny incisions at each end;
- Broken horizontal line with a tiny inverse incision;
- Zigzag ribbon;
- Hexagon.

All the above types of decorations are geometrical ornaments, except the walking-stick motif. This fascinating sign – a walking-stick shaped line or double line is characteristic of female figurines from farming cultures in south east Europe, and its re-

presentation on the face of the figurine found at Ģipka A site is possibly an agricultural symbol (Fig. 8). From where and how did appear here? Having carefully examined the miniature anthropomorphic figurine from Pūrciems C with the broad cheekbones and low forehead, one may conclude that instead of eyebrows there is a weakly pronounced walking-stick shaped line (Fig. 3). A weakly incised walking-stick line could also be seen on the oval face of the figurine (Fig. 5.2). Hence we may conclude that the motif had initially been hardly visible, until a later period and different conditions, when it appeared in all its beauty, and in a well considered and complete composition with other motifs.

The face of the clay figurine from Ģipka A site may contain information which might remain unknown unless we seek some parallels to the walking-stick motif elsewhere. There have been indications of it before. Attention was attracted by a walking stick motif found in southeast Europe, where it could be seen on pieces of female figurines from early farming cultures (*Biehl 1996.157, Fig. 3.4, 19*). As shown by special studies, here they appear on the breasts, hips, and legs of the figurines. According to the opinion of specialists, the above motif is a symbol that forms a far-reaching communication system. The same can be said about many other motifs of early farming cultures.

Thus the decoding of the above symbol connects us with the early agricultural cultures. And in this case the fact that the Neolithic coastal settlements of Northern Kurzeme belong to the Culture of Pit Ceramics even intensifies the significance of the symbol among the inhabitants of the region.

The Culture of Pit Ceramics is characterised by a complex economy, and in the settlements of the

Fig. 15. Bead-shaped anthropomorphic head figurine. Ģipka B settlement.

same culture in Scandinavia, the model may differ. At the Åby settlement in Gotland, there is a site typical of the culture located not that far from Northern Kurzeme, where the bulk of material consists of fish and seal bones. However, the bones of cattle, pigs and dogs were also found there (*Malmer 2003.129*). In Scandinavia, the economy of the Culture of Pit Ceramics is interpreted as combining hunting and farming.

The anthropomorphic clay figurines of Northern Kurzeme comprise a portion of anthropomorphic samples of miniature figurines made by the Middle Neolithic inhabitants from the coastal zone of the Baltic basin. It is therefore useful to compare them with the figurines obtained from the Åland group. The original symbols of the figurines from Northern Kurzeme, including that of the walking-stick motif, have no parallels with the symbols on the anthropomorphic figurines from the Ålands.

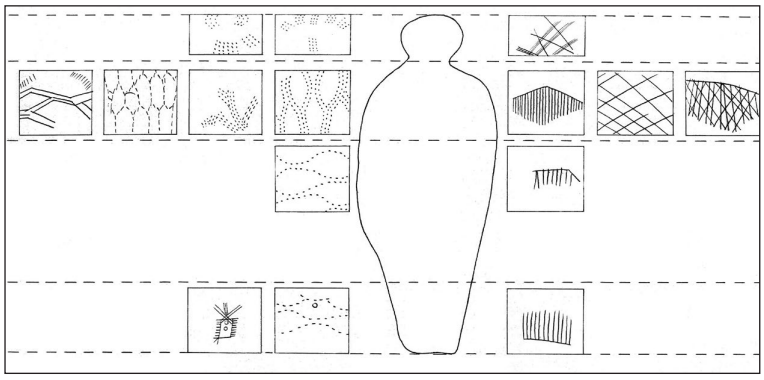

Fig. 16. Ornament and main design motifs of ceramic anthropomorphic figurines from Jetbolle II. settlement, Jomala island. (After* Cederhvarf 1912, Nunez 1986*; drawings of Aiga Ivbule).

However, the incised net-shape and hexagon motif found on the head of the ochre-stained figurine and the breast of the female figurine from Ģipka A (Figs. 6 and 12) is common to both groups of figurines (Fig. 16). This shows that, regardless of the in-

dividual system of symbols characteristic of the groups of inhabiting Northern Kurzeme and the Ålands, some symbols are similar. As proven by ethno-archaeological materials from Africa, simple geometrical symbols may include conscious references. They may designate living creatures, parts of the human body or inanimate objects, features of the landscape, etc. It has been emphasised that in spite of minor differences in simple symbols, they may relate to substantially different meanings (*Hodder 1982.171*).

By shading in the incised conventional geometric figurines, their meaning is changed. They become symbols designating other things or living beings. Like the anthropomorphic clay figurines from the Åland Isles, the pieces from Northern Kurzeme open unique possibilities for research into systems of archaic symbols, traces of which can be sought in the symbols of Africa and other continents.

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back to contents

UDK 903.2(410)"631/634":291.37
Documenta Praehistorica XXXII (2005)

Ambiguous symbols: why there were no figurines in Neolithic Britain

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ABSTRACT – *In this paper I discuss the scarcity of representational art, and particularly of representations of the human body, in Neolithic Britain, in contrast with the Neolithic of south-east Europe. My suggestion is that this contrast can be linked with differing notions of personal identity and bodily integrity. In later Neolithic Britain, a complex mode of non-representational decoration developed, which elaborated the practice of making reference to absent persons and things by using deliberately ambiguous motifs, which connected past and present as well as remote locations.*

IZVLEČEK – *V tem članku razpravljam o redkosti reprezentativne umetnosti, predvsem o redkosti upodobitev človeškega telesa v neolitiku Britanje, kar je v nasprotju z neolitikom Jugovzhodne Evrope. Menim, da lahko to nasprotje lahhko povežemo z različnimi predstavami o osebni identiteti in telesni integriteti. V poznnoneolitski Britaniji, se je razvila kompleksna oblika nereprezentativnih dekoracij. Na ta način so z uporabo namensko dvoumnih motivov, ki so povezovali preteklost in sedanjost kot tudi oddaljena mesta, izpopolnili običaje povezovanja z odsotnimi osebami in predmeti.*

KEY WORDS – *Neolithic; figurines; symbols; ritual practice*

INTRODUCTION: MISSING BODIES

At a very high level of generality, there are interesting contrasts between the more overtly symbolic forms of material culture found in the Neolithic of Atlantic north-west Europe and those of the Balkan peninsula. Potentially, these can provide the starting-points for an investigation of how material symbols were deployed and manipulated in these two regions. In south-east Europe one of the most distinctive elements of the Neolithic archaeological record is the presence of numerous human figurines, principally made of fired clay. In the British Isles, however, representations of the human body are extremely rare. There is, for example, the so-called 'Goddolly', made of ash wood and recovered from the wooden 'Bell A' track-way at Westhay in the Somerset levels (*Coles 1968.276*). This hermaphroditic figure with a head, protruding breasts and a phallus had been incorporated into the fabric of the track-way itself, and dates to 3913–3370 BC at the 2 sigma level of confidence (GaK–1600).

There are also somewhat unconvincing human torsos sculpted from chalk, and recovered from the causewayed enclosures of Windmill Hill and Maiden Castle (*Piggott 1954.88*). And finally, there is the bulbous female figurine that A. L. Armstrong retrieved from Pit 15 at the later Neolithic flint mine of Grimes Graves in Norfolk. Debate still continues over whether or not this find was genuine, or a hoax perpetrated by the workmen on the site, or perhaps even by Armstrong himself (*Russell 2000.42*). The chalk figure has no parallel, and would have been easy to fake, yet the platform of packed flint and group of antler picks with which it was associated do suggest a genuinely special context. Perhaps significantly, Neolithic Britain has produced more carvings of *body parts* than of whole bodies. Chalk phalluses are known from Windmill Hill and Grimes Graves, as well as the long barrow at Thickthorn Down, the flint mines of Blackpatch in Sussex, and the later Neolithic henge enclosures of Mount Pleasant and

Maumbury Rings (*Piggott 1954.88; Wainwright 1979.167; Bradley 1976.25*).

In the Balkan context, Douglass Bailey has recently suggested that the emergence of clay figurines can be connected with the development of the 'built environment' of the tell settlements, from around 6500 BC onwards (*Bailey 2005.4*). Bailey's argument is that in this region the adoption of domesticated plants and animals was of less significance than the development of a constructed life-space, within which people lived in dense aggregations. Under these circumstances, the negotiation of personal identity and household composition would have become major preoccupations, as indeed would the resolution of disputes between persons or groups. In the earliest Balkan Neolithic settlements, burials were deposited beneath and between the houses, but from around 5500 BC onwards funerary practice was often removed to extramural cemeteries. Consequentially, we have the development of two parallel contexts in which the human body was displayed and manipulated. For while figurines became more complicated in their manufacture and decoration, and possibly became more numerous over time, their use continued to be concentrated in the house and its surroundings. Only in the Hamangia area of the lower Danube were figurines routinely deployed as grave goods. By contrast, mortuary rites focused on the body increasingly made use of objects and substances such as metalwork, which are rarely found on settlements. We might say that within these two contexts the body was becoming elaborated, in rather different ways.

Bailey describes these developments in the Balkan Neolithic and Copper Age as representing a new 'politics of the human body' (*Bailey 2005.197*). What is interesting is that although as time proceeded there came to be a concern with the breaking and fragmentation of figurines (*see Chapman 2000.68–79*), the human body was both represented and deposited in the grave as an integral whole, around which other objects could be arranged. It seems plausible that this is indicative of a particular conception of personhood, in which people were at once the components of household and community units, and the vehicles of alliances, prestige, and the distribution of wealth. The representation of the body in miniature enabled reference to be made to particular persons in multiple spheres of conduct, possibly enabling different aspects of their identity to be elicited as circumstances required. Figurines are a much less common component of the Neolithic north of the Alps and Carpathians, and it is tempting to relate this contrast to the very particular inter-generational commitment to specific residential locations that characterised the Balkan Neolithic. The longevity of *Bandkeramik* settlements in central Europe, by comparison, took a rather different form. Here, clusters of houses slowly crept across the loess plateaus, each building being replaced adjacent to the original, rather than on precisely the same spot (*e.g. Lüning 1982.19*).

However, it is in the Atlantic zone, and in the British Isles in particular, that the scarcity of representations of the integral human body coincided with a quite different conception of the person, manifested in mortuary practice. While there is great variability in the evidence available to us, and while that evidence presumably only relates to a minority of the Neolithic population, one of the principal themes in British early Neolithic funerary activity was the disarticulation and disaggregation of the body (*Thomas 2000*). In both the timber mortuary structures which preceded the construction of earthen long barrows and in a variety of forms of megalithic tombs, the initial deposition of complete bodies was followed by a lengthy process of re-arrangement following the rotting away of the flesh. In some cases, this involved the selection and re-grouping of body parts, so that skulls were sometimes lined up at the foot of an orthostat, while long-bones were often stacked or bundled (*Saville 1990.80*). In some cases, individual bones may have been introduced to tombs or mortuary structures from elsewhere, whether from other structures or as the products of practices of excarnation. In more cases, the indication is that skeletal elements had been removed from mortuary deposits, for use in other contexts. And indeed, single bones or groups of bones are often encountered in the ditches of causewayed enclosures, in pit deposits, in caves, in rivers, and in a variety of other locations. Moreover, there are indications that body parts may sometimes have been curated for extensive periods before they were finally deposited. In these circumstances, it may be appropriate to think of megalithic tombs and long barrows less as communal cemeteries, and more as places of transformation, through which human bodies passed in the process of becoming something different (*Lucas 1996. 102*).

In the context of the present discussion, the significant point is that in Neolithic Britain human beings were understood as partible, at least in death (*see Fowler 2004.25–31*). That is to say, they were not

individual minds or spirits bounded within an undivided body, but composed of body parts of substances that were capable of separation and circulation. In the early Neolithic landscape the dead were ubiquitous, and the body parts of the dead generations passed from place to place, and perhaps from person to person. Under these circumstances human identity may have been understood as fluid, protean and transitory, and less anchored in place and continuity than in south-east Europe. Descent and the continuous inhabitation of a fixed location may have been less significant than the maintenance of ties of kinship and affinity between dispersed and in some cases mobile communities. Consequentially, the representation of the person in the form of an entire body may not have been a cultural priority, and indeed the fashioning of objects in the shape of body parts such as the genitals is comprehensible in there terms. Certain of the attributes or powers of the person may have been understood as separable from the body as a whole, and to have been capable to introduction into remote contexts. In this way, it may have been possible to extend the presence of the person, and their effects, across space and time.

ARBITRARY MEANINGS

While contrasting notions of personal identity go some way toward explaining the specific character of material symbolism in Neolithic Britain, this is only part of the answer. A largely non-representational suite of Neolithic material culture was established in Britain at around 4000 BC, but in the period after 3000 BC this range of artefacts was significantly elaborated, resulting in both a wider range of artefact types and an enhanced role for decoration. This process of diversification and increased investment of effort affected objects with readily identifiable functions, such as pottery and stone tools, but it is also seen in the emergence of a range of new artefact types which defy any straightforwardly functional explanation. During the early 1980s, a series of innovative analyses brought these objects to greater archaeological prominence, by describing them as 'prestige goods', 'weapons of exclusion' or 'symbols of power' (*Bradley 1984.46; Clarke, Cowie and Foxon 1985.11*). These artefacts include stone and antler mace-heads, jet belt-sliders, bone pins, polished-edged flint adzes, carved stone balls, boar's tusk amulets and a variety of new flint arrowhead types, such as chisel-shaped and oblique forms. Alongside this greater material variability went an increase in the complexity and diversity of the depositional practices in which these objects were deployed. The later Neolithic saw elaborate artefacts being placed in formal pit deposits, in single grave burials which gradually replaced the multiple burials of the earlier Neolithic, in hoards and 'closing deposits' inserted into megalithic tombs, in rivers, bogs and caves, and in new monument types such as henges and palisaded enclosures (*Thomas 1999.Chapter 4*).

Significantly, a sub-set of these new artefacts were decorated with a set of symbols which ultimately (but not exclusively) owed their inspiration to the decorative 'art' of the passage tombs of Ireland and western Britain (*Bradley and Chapman 1986.131*). So although there was a general increase in decoration in the later Neolithic, it remained non-representational in character. If anything, artefactual decoration became at once more ornate and more cryptic during the later Neolithic. If we return to the contrast between north-west and south-east Europe, it is instructive to consider the power and efficacy of non-representational but formalised symbols – symbols that constitute a kind of 'material language'. Victor Turner once argued that symbols make up the basic units of ritual practice, and that the most important feature of ritual symbols is that they are polyvalent, or multi-referential (*Turner 1967.28*). That is to say, they mean no one thing, but may condense a whole range of different meanings. Different aspects of this range of meanings may be drawn upon in different stages of a ritual performance. The consequence of this is that ritual practice can draw together a relatively limited set of objects into a consecrated space, and effectively manipulate the world in microcosm. Formal or geometrical designs are particularly suitable as ritual symbols, for while they may suggest many meanings, they ultimately represent no one thing. Their relationship to the world at large is an arbitrary one, and they may bring a whole range of associations and connotations to bear on any context of performance or interaction. Moreover, their arbitraryness and indefinable quality has the consequence that they *require* explanation or exegesis. As a result, the social position of being a person who is empowered to interpret these symbols is one of privilege, and their 'deeper' or more profound significance may only be revealed to a minority of people, or under specific conditions.

All of this applies to the symbolic material media of later Neolithic Britain. These were evidently used in a variety of transactions and performances that were ritualised in character, and they served to represent,

connote or remind participants of qualities or phenomena in the wider world. Some of these may have been the qualities or powers of particular persons, or of supernatural beings. Perhaps the most significant aspect of all was the referentiality of these symbols; the way that they established connections between remote contexts, both spatially and temporally. It is this theme of referentiality that we will concentrate on in the remainder of this contribution.

Symbolic connections

We can begin with megalithic art. In Iberia and Brittany, the decoration on menhirs and passage tombs includes representational devices as well as geometric figures, and these include animals, human figures, axes and bows (*Shee Twohig 1981.13–92*). In Britain and Ireland these motifs are absent. Whether this is a consequence of an overall change in the character of megalithic art over time or of local preference is unclear, but it does mean that in Ireland and Britain, passage tomb art took a form that was not self-evident, and which may have formed an active component of an array of ritual symbols used inside these monuments. Anna Brindley (*1999*) has recently drawn attention to the rather complicated chronological relationship between passage tomb art and the mobiliary media that draw on it as a source of symbols. Brindley notes that the passage tombs of Ireland were constructed prior to 3000 BC, and that an earlier style of decoration, which she slightly misleadingly calls 'depictive' is probably contemporary with their building, as it extends onto the backs of stones and the parts of stones which extend below ground level. The implication of this is that the decoration must have been executed before the stones were put in place. A later, 'plastic' style of ornamentation, characterised by area pecking, was probably added to the stones of some of the larger tombs in the Boyne valley at a later date, after their construction (*Brindley 1999.135*).

Interestingly, it is the earlier style of decoration that provided the motifs that were transferred to a variety of portable artefacts, most notably Grooved Ware. Grooved Ware was a style of pottery that was used throughout Britain and Ireland in the later Neolithic, predominantly occurring in 'special' contexts such as the Wessex henges, formal pit deposits, and palisaded enclosures (*Cleal 1999.4*). Chronologically it must have overlapped with the 'depictive' passage tomb art for only a very short period at the end of the fourth millennium BC. Moreover, the earliest Grooved Ware is presumed to have developed in the north of Scotland, and particularly in Orkney. This is quite remote from the 'heartland' of decorated passage tombs in Ireland, and suggests a process of *translation* or *displacement*, in which symbols which have acquired their significance in one context are deployed in a different way in another region, while still bringing some of their connotations with them.

The specific motifs transferred from megalithic art to Grooved Ware include chequer-boards composed of alternately filled squares and triangles, lattices of crossing lines, conjoined spirals and lozenges, running lozenges, and spirals placed on a background of horizontal lines. As Brindley points out, this last motif is drawn specifically from the carved stone basins which held cremated human remains at passage tombs such as Knowth, and was faithfully replicated on Grooved Ware vessels such as one recovered from the entrance of the southern timber circle in the Wiltshire henge of Durrington Walls (*Brindley 1999.136; Wainwright and Longhworth 1971.140–1*). Yet the Durrington pot must be around five hundred years later than the Knowth basin, as the radiocarbon dates for the southern circle cluster a little after 2500 BC.

The possibility that Grooved Ware decoration, from its inception, referred to distant or absent contexts is intriguing, because it fits so well with what we know about the use of Grooved Ware. Grooved Ware pits were often located in relation to places which had a long history of inhabitation, such as long-abandoned timber buildings. For instance, at Yarnton in the Upper Thames valley, a large wooden hall dating to the earliest Neolithic contained a heath and a pit containing Grooved Ware, which produced a radiocarbon date approximately a thousand years later than that of the building (*Hey, Mulville and Robinson 2003.81*). Similarly, at Littleour on Tayside in Scotland, a rectilinear timber structure, which may not have been roofed but which possibly referred to a domestic building in some way, also contained a Grooved Ware pit. This, again, seemed to be some hundreds of years younger than the original building (*Barclay and Maxwell 1998.58*). These deposits can be compared with the situation at the palisaded enclosure at Dunragit in south-west Scotland, excavated by the present author between 1999 and 2002, where sherds of Grooved Ware were placed into the craters left behind by the removal of the decaying posts of the inner timber circle (*Thomas 2004.104*). Furthermore, at the Durrington Walls henge it is possible that the greatest density of pottery in the south-

ern circle was deposited in re-cuts, dug into the tops of the post-holes after the wooden uprights had rotted out (*Wainwright and Longworth 1971.207*). It is possible that some of the irregularities identified in the dating of Grooved Ware contexts in southern Britain can be attributed to the referential character of much Grooved Ware deposition, which may have taken place long after the principal occupation or use of sites and structures. In the case of the henge monuments of Wessex, Garwood (*1999.154*) has argued that a change of practice can be identified over time, with deposition in the circular timber structures being later than that in the surrounding ditches. It may be that this pattern simply reflects the reality that deposition in timber circles only took place once the uprights had rotted out, a process that might have taken two centuries or more. The implication would be that the Grooved Ware deposits in the tops of the post-holes at sites like Durrington Walls were a means of celebrating and remembering the timber structure that had once stood there, but which was now no longer present.

Commemoration and reference

What all this indicates is that while Grooved Ware was used in episodes of consumption and perhaps feasting, much of this was actually *commemorative* in character. It may have represented ritual activity conducted on already ancient or derelict sites, which sought to celebrate, and establish links with, the past. In the same way, the use of the particular set of motifs on Grooved Ware pottery served to establish connections with the distant past and far-away places. Interestingly, late Neolithic post or pit structures associated with Grooved Ware have been found outside the large Irish passage tombs of Knowth and Newgrange, and it is arguable that the activities that took place in these locations might have commemorated or laid claim to the now ancient tombs (*Eogan and Roche 1999.105*). However, the Grooved Ware deposited in these structures is comparatively austere in its decoration, and lacks the symbols found on pottery elsewhere (*Brindley 1999.31*). Perhaps the use of such symbols on portable artefacts was inappropriate in the immediate vicinity of the decorated passage tombs themselves.

This notion of appropriateness draws our attention to the specificity of the contexts in which decorated objects were used in the later Neolithic. For while passage-tomb motifs were 'translated' onto Grooved Ware pottery, they also occur on a variety of other forms of material culture. Yet importantly, these different artefact types are seldom found in the same contexts, or even on the same site. It appears that although motifs might 'migrate' between different contexts and locations, specific artefact types were judged apposite for different sets of practices or locations. The motifs or symbols thus appear to have formed an overarching system or 'language', which linked spatially and temporally remote locations, providing reminders of events that had happened or were happening elsewhere, while still keeping those different contexts separate from each other.

That these objects were not prestige goods, in the full sense of artefacts whose production and circulation could be controlled by the powerful, seems to be demonstrated by the existence of a small number of carved chalk plaques, like those from King Barrow Wood near Stonehenge and Kilham in East Yorkshire (*Vatcher 1969; Harding 1988; Varndell 1999*). These objects carry the lattice, ladder, zig-zag and decorated-cordon motifs of Grooved Ware, yet they were made from a ubiquitous raw material with only moderate levels of skill. The King Barrow Wood plaques were deposited with some formality in a pit that also contained sherds of Grooved Ware, and in this case it seems that it was the symbols themselves, rather than the medium that bore them, that were of importance. The same argument applies to Grooved Ware pots themselves, for petrological analysis demonstrates that they were rarely traded over any distance, although individual pots were often curated, to judge by the presence of repair-holes used to bind breaks together (*Cleal 1988*).

While the chalk plaques were sometimes found alongside Grooved Ware, the same is not generally true of the carved stone balls of north-east Scotland. Indeed, outside of Orkney these are rarely found in

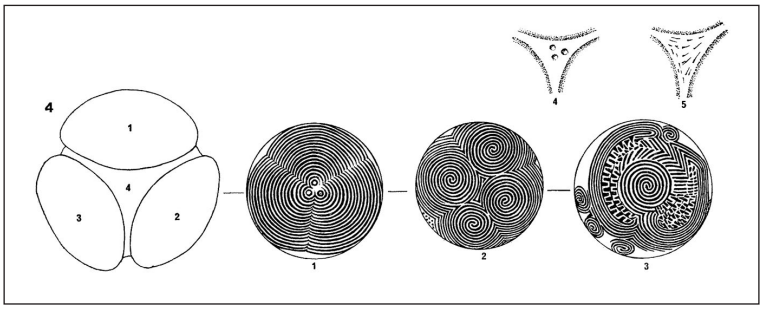

Fig. 1. The carved stone ball from Towie, Scotland (After* Marshall 1977*).

any archaeological context at all, and have generally been isolated finds (*Marshall 1977.55*). The minority of these objects that are decorated carry spirals, chevrons, zig-zags and concentric triangles (Fig. 1). Their worn surfaces suggest that they have been extensively handled, and this indicates that they carried Grooved Ware symbolism into a variety of contexts of interpersonal contact in which pottery vessels were not used. By contrast, mace-heads of stone and antler sometimes carry the lozenge-lattice motif associated particularly with the Woodlands style of Grooved Ware (*Roe 1968.149*), although one antler mace recovered from the River Ouse at Garboldisham bears a conjoined spiral design (*Edwardson 1965*). Unlike carved stone balls, mace-heads are occasionally found as grave goods (as with one of the cremations at Dorchester on Thames. *Atkinson, Piggott and Sandars 1951. 116*). Again, this suggests a particular element of Grooved Ware symbolism being introduced into a specific setting, for Grooved Ware itself is very rarely found in any mortuary context other than the chambered cairns of Orkney.

Fig. 2. The carved chalk drums from Folkton, Yorkshire (drawing by Rick Peterson).

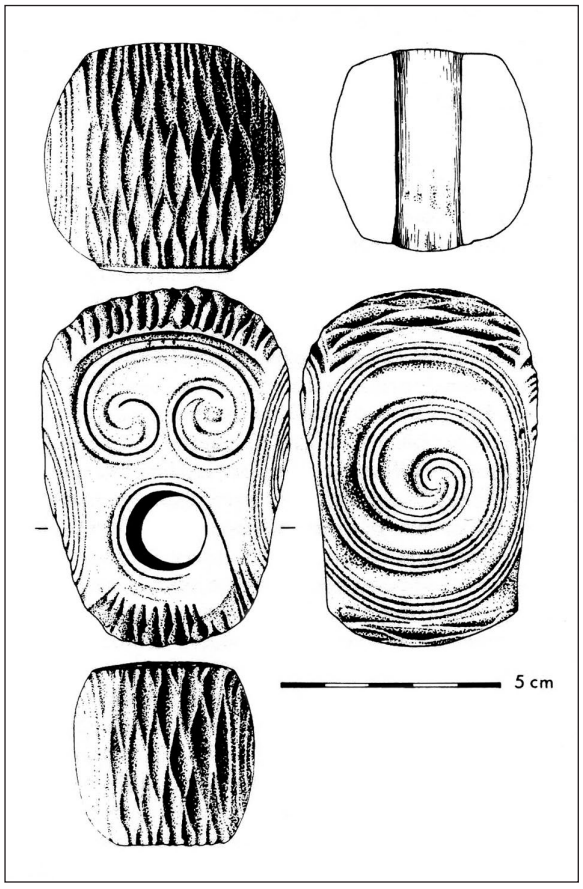

Fig. 3. Flint mace-head from Knowth, Co. Meath, Ireland (After* Eogan 1986*).

Also from a funerary setting came the three spectacular chalk drums from Folkton in East Yorkshire (Fig. 2). These were found in the grave of an adolescent beneath a round barrow, which also contained a further seven burials, two of them associated with Beaker vessels (*Kinnes and Longworth 1985.115–6*). The Beaker association suggests that like the Durrington Walls spiral pot, the Folkton Drums must be hundreds of years later than the megalithic art that provided their ultimate inspiration. In addition to concentric circles, filled triangles, lattices, chevrons and grooves, the drums carry a motif that some have chosen to interpret as a pair of eyes and an eyebrow (*Longworth 1999.86*). But again, this is ambiguous, and like all ritual symbols it is open to a variety of interpretations.

Individual later Neolithic assemblages and objects can sometimes show startling similarities in terms of their decoration. For instance, a fine flint mace-head came from the entrance to the right-hand recess of the eastern tomb inside the mound at Knowth in Ireland (*Eogan 1986.141*) (Fig. 3). The two butt-ends of the mace are covered with a lozenge-mesh, characteristic of the 'Maesmore' group of stone mace-heads (*Roe 1968.149*). Although, as we have noted, mace-heads including decorated crown antler examples are known from funerary contexts (*Simpson 1996. 301*), this is less often the case with Maesmore maces. On either side of the Knowth mace is a single spiral, and the upper faces has a motif composed of two conjoined spirals. It is difficult to give a pre-

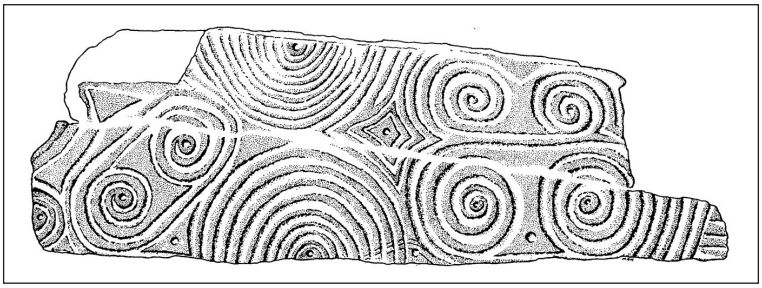

Fig. 4. Carved stone from the chambered tomb at Pierowall Quarry, Westray, Orkney (After* Sharples 1984*).

cise date to the object, but its recovery from the old ground surface might suggest that it is contemporary with the use of the tomb, at around 3000 BC. The conjoined spiral motif finds a very close parallel in the decorated stone (one of three) from the destroyed megalithic tomb at Pierowall Quarry on the Orkney island of Westray (*Sharples 1984.82*) (Fig. 4). This might be roughly contemporary with the Knowth tomb, or perhaps a little later (*ibid. 118*). But much later in date is Pit 3196 at Barrow Hills in Oxfordshire, which contained three Grooved Ware vessels (*Barclay and Halpin 1999. 198*). Its radiocarbon determination, 2570–2030 BC (BM–2706), places it toward the end of the Neolithic period. Yet the pottery vessels combine the lozenge-mesh design with a grooved-cordon motif, the terminals of which are effectively conjoined spirals (Fig. 5). The Barrow Hills Grooved Ware assemblage deploys very much the same combination of motifs as the Knowth mace-head, perhaps more than half a millennium earlier.

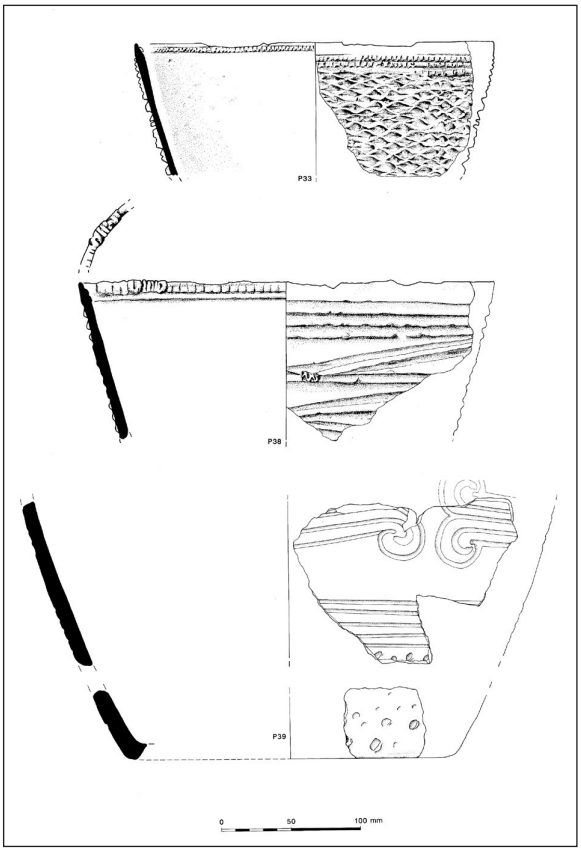

Fig. 5: Grooved Ware assemblage from Pit 3196, Barrow Hills, Oxfordshire (After* Barclay and Halpin 1999*).

CONCLUSION

These examples of the later Neolithic use of decorative media are dispersed over considerable expanses of space and time. The same motifs occur across Britain and Ireland, and over hundreds of years. It is conventional to point to the power of tradition in maintaining ways of making and decorating objects over the generations. But here it may be that something more specific and more compelling was at work. The passage tomb/Grooved Ware suite of symbols was explicitly used to contextualise isolated acts of consumption and deposition, linking them to a past that was to be venerated and drawn into the present, and to distant places whose very remoteness afforded them a mythic quality. These symbols had associations that were fully understood, but their meanings were ambiguous and multiple, and that ambiguity or polyvalence was the source of their efficacy as tools in ritual practice. A symbolic system in which each symbol had a single, fixed significance would have been inflexible. Ambiguous, abstract motifs could be both allusive and referential, establishing connections between contexts which none the less required a degree of explanation. They were used in practices which commemorated the past and drew attention to remote places. This was possible because in the earlier Neolithic a partible notion of personal identity and a lack of emphasis on the representation of the whole human body had facilitated a practice of making absent persons and agencies present through the circulation of symbolic media.

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back to contents

UDK 903.2(520)"633/634":291.37
Documenta Praehistorica XXXII (2005)

Another aspect of figurine function

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ABSTRACT – *In Japan, it is suggested that clay figurines were produced for deliberate fragmentation. However, the distribution of clay figurines was limited to some sites, and the total number of fragmented figurines is relatively small. This article tries to present some new arguments about the function of figurines, based on data from Angyo period, late and latest Jomon. I suggest that the function of figurines needs further discussion.*

IZVLEČEK – *Po mnenju nekaterih so na Japonskem keramične kipce izdelovali zato, da so jih nato namensko razdrobili. Vendar je razširjenost keramičnih kipcev omejena le na nekatera najdišča, celotno število fragmentiranih kipcev pa je relativno majhno. V tem članku bom poskušal predstaviti nekaj novih dokazov o uporabnosti kipcev, osnovanih na podatkih iz obdobja Angyo – pozno in zaključno obdobje kulture Jomon. Menim, da je potrebna nadaljnja diskusija o uporabnost teh kipcev.*

KEY WORDS – *Japan; Jomon; Angyo period; Clay figurine; distribution; function*

INTRODUCTION

Clay figurines were made in the European Neolithic, but also during the Japanese prehistoric age (Fig. 1), called the Jomon period, which is considered equivalent to the Neolithic. In the Jomon period (Tab. 1), over 11 000 anthropomorphic clay figurines were produced. The number of figurines produced in prehistoric Japan differs from other East Asian countries. The production of figurines is known from the Korean and Chinese Neolithic, but the number of figurines in Japan is much higher. In spite of the fact that figurines were made mainly in the Middle East, Europe, Mesoamerica and Japan, figurines in each area have common characteristics, such as female representation.

Until now, among Japanese archaeologists, the deliberate fragmentation of figurines was an accepted hypothesis. It is well known that most figurines were discovered in fragments. However, the matter is still open to further discussion. In this article, I will focus on anthropomorphic clay figurines in Japan, consider the fragmentation hypothesis, and try to analyse the social function of figurines from a specific area.

THE HISTORY OF JOMON FIGURINE STUDIES

In the early stages of Japanese archaeology, figurines attracted archaeologists' attention because their shape represents the human body. In the latter part of the 19th century, when the new government was established, not only historians and anthropologists, but also archaeologists paid attention to ancient ethnic groups in Japan and their customs. Therefore, archaeologists believed that decorations on figurines represented body art, the design of clothing and so on. Figurines were thought to have been used as toys for children, as statues of gods or goddesses, ornaments, and as amulets for an easy birth. Since most figurines represent female characteristics, it was suggested that figurines represented Mother Goddesses like the European figurines. However,

this view was criticised, since the Jomon economy was based on hunting, fishing and gathering.

Even in the early stages of figurine study, the deliberate fragmentation hypothesis, which suggests that figurines were broken to cure some part of a person, appeared. Later, this hypothesis changed to the idea that fragmented figurines were thrown away around settlements in order to secure a rich harvest. Anthropological data from Indonesian folklore (*Jensen 1966*) was added to this hypothesis (*Yoshida 1986*). A famous story of the Wemale tribe of Indonesia is about Hainuwele, a girl able to produce everything from her own body. The village benefits from her mysterious power, but after a short time people start to envy her power and kill her. Instructed by Hainuwale, her mother fragments her body and buries it in various locations. It is said that from those locations the main vegetables of the tribe sprang up. Similar stories existed around the Pacific Ocean rim, including North America. Yoshida suggested that the same type of myth and ritual customs existed in Jomon society (*Yoshida 1986.37–41*).

From the analysis of figurines, it was suggested that they were made from some pieces which could be easily broken (*Ono 1984*). Ono insisted that figurines were made for fragmentation, and that the technique for making figurines was a reflection of fragmentation in the ritual system (*cf. Chapman 2000*). However, there is an opinion that these techniques merely imply the method of production (*Fujinuma 1997. 154–155*) and that the motive for making figurines should not be limited to fragmentation.

THE SEQUENCE OF TYPOLOGICAL STUDIES

As well as studies on the function of figurines, along with increasing discoveries of figurines, there have also been studies in chronology and regional differences. Ono classified figurines into 15 groups according to sex and distribution (*Ono 1910*). Kono insisted that ornaments on figurines were so unrecognizable that it was uncertain if the ornaments were realistic or not, and suggested a classification of figurines into 5 groups, with distributional maps (*Kono 1928*). However, taking only figurines into account, it was difficult to determine their chronology. Analysis of not only chronological change in figurines, but also regional differences was needed to understand the chronology. In the 1930s, archaeologists came to realize that simple anthropological comparison was not effective to reconstruct the function of figurines in prehistoric society, and that a chronological and regional organisation of all types of figurines was necessary (*Yawata 1939.9*).

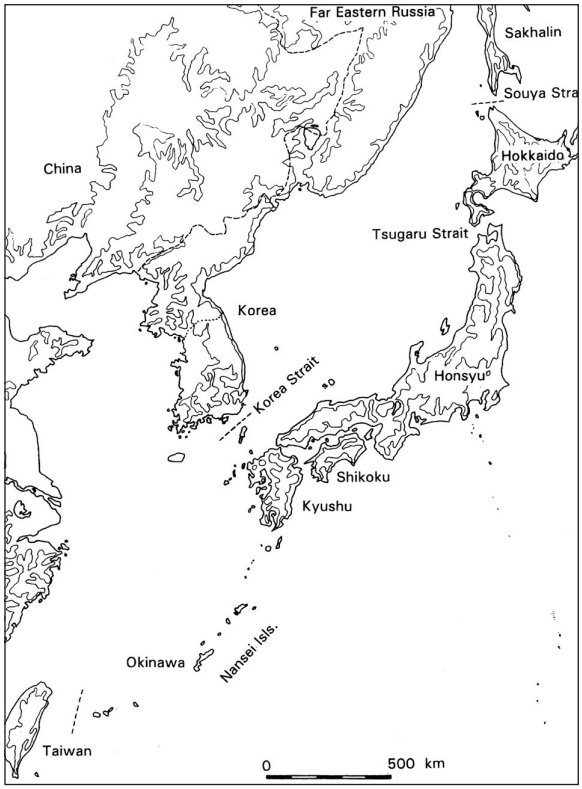

Fig. 1. Location of Japan (after* Imamura 1996.Fig 1.1*).

It was Esaka who ordered the different types of figurines according to a chronological and regional arrangement (*Esaka 1960*). He clarified the chronological relationship between pottery types and figurine types, and revealed that every figurine type belonged to a specific span of pottery type. After his work, it was recognized that each type of figurine clearly indicated the time and the area to which it belonged.

	^{14}C-date(year BP)	year cal BC	duration
Latest Jomon	3000–(2400)	1260/1230/1220–(410)	(c.810–850)
Late Jomon	4050–3000	2580/2510–1260/1230/1220	c.1250–1360
Middle Jomon	4800–4050	3630/3550–2580/2510	c.970–1120
Early Jomon	6300–4800	5300–3630/3550	c.1670–1750
Earliest Jomon	9800–6300	9250–5300	c.3950
Incipient Jomon	13 000–9800	13 680–9250	c.4430

Tab. 1. Radiocarbon dates of the Jomon period (after* Taniguchi 2001. Tab. 1*).

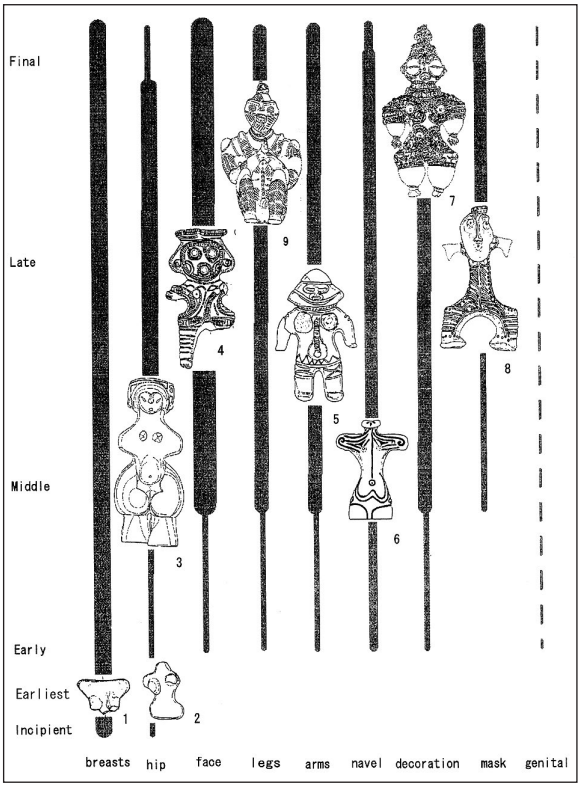

Fig. 2. Jomon figurine diversity (after* Matsumoto 2004.Fig. 1*).

If the decoration on figurines and pottery is the same, it is possible to determine their dates. In fact, it is not so simple. Nagamine (*1977.158–159*) asserted that in the case of dating figurines, there is no other way except analysis of the strata in which the figurines and pottery are contained. Theoretically, his assertion is correct, but theory and practice do not necessarily coincide. The subdivision of strata is not clear enough to enable the precise dating of figurines. This fact is promoted by the typological approach to the chronology of figurines. Archaeologists started to typologically subdivide the types of figurines (*Suzuki 1981; Takano 1983*). For example, decorations on some types of figurines were rich enough to be subdivided.

Accumulation of uncovered figurines after the 1970s enabled archaeologists to analyze figurines typologically. According to the increase of the excavations in different regions, information about the figurines was not transparent among all regions. The national museum encouraged all Japanese regions to facilitate the counting of figurines (*Yaegashi 1992*). Later, symposiums were held to share the collected information (*The society of Saitama archaeology and The society of information about figurines 1992*).

THE CHRONOLOGICAL CHANGE IN FIGURINES

Japanese figurines were already introduced in the English literature, but introduced figurines contained only elaborate examples from various periods (*Imamura 1996.95–99, Figs 8.7–8*). There is chronological and regional diversity of anthropomorphic clay figurines in the Jomon period (Fig. 2). This diversity should be clarified first.

Generally, the shape and design of figurines in Japan became gradually more complicated. The first figurines were made in the Incipient Jomon, dated to 10 000–9000 BC. They had a schematic shape, which is a combination of triangular pads. Despite the fact that they were the oldest figurines, they already had representation of breasts.

Figurines from the Earliest Jomon were similar to those from the Incipient Jomon. Breasts were not necessarily represented. Triangular shapes still exited without representations of a head, arms or legs. In the Early Jomon period, the head of figurines were accentuated while arms and legs were schematized. The shape of figurines became naturalized. In the Middle Jomon period, the number of figurines drastically increased and some of the figurines were larger than before. They were of three-dimensional

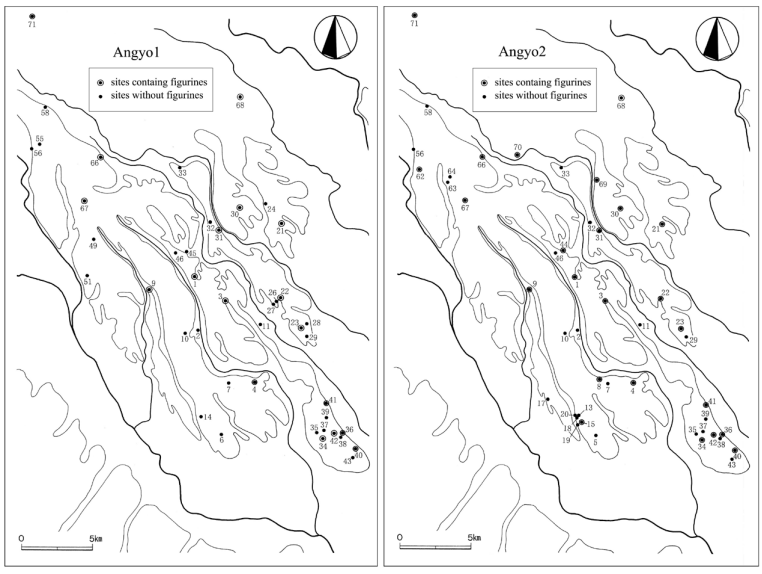

Fig. 3. Distribution of sites Angyo 1–2.

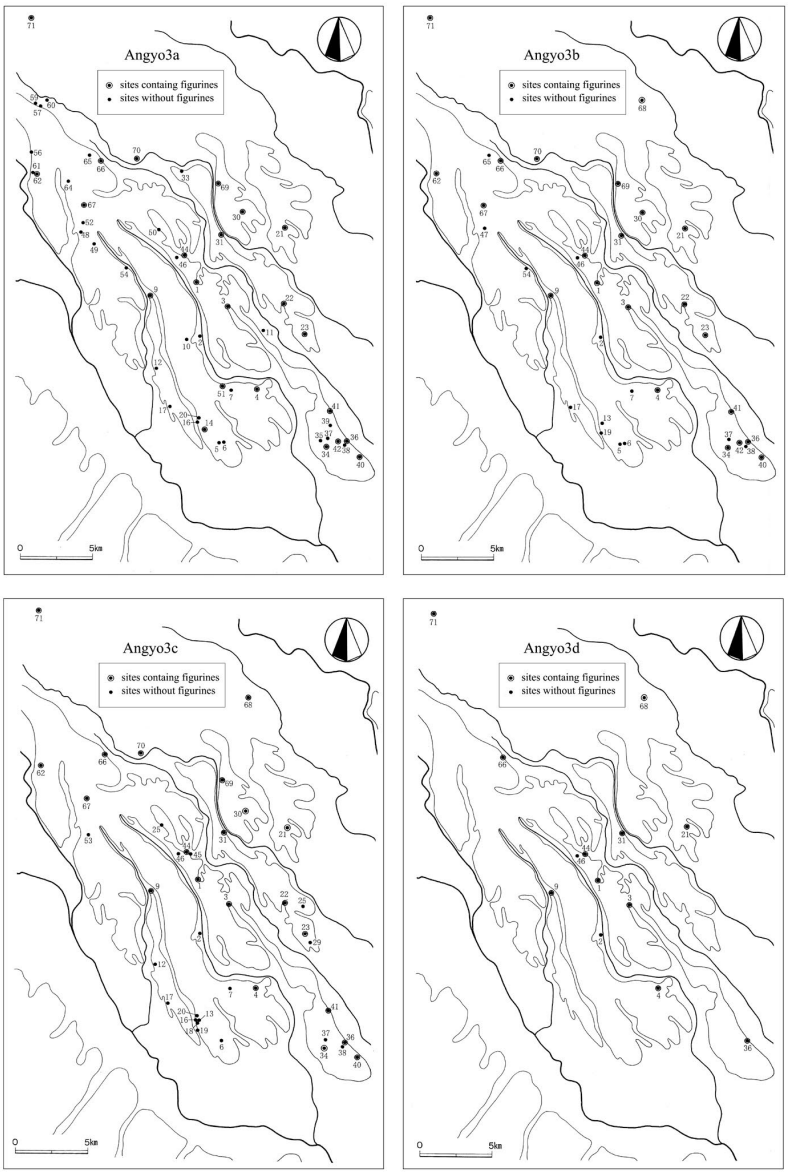

Fig. 4. Distribution of sites Angyo 3a–3d.

shape and hollow structure. Human faces were clearly represented on figurines. In the Late Jomon, the distribution of figurines spread to the western and southern parts of Japan. Some figurines in the Latest Jomon were regarded as the masterpieces of Jomon Period, because of their elaborate design. In the latter part of the Latest Jomon figurines decreased and were rarely produced.

A CASE FROM THE OMIYA TABLELAND

As mentioned above, there were many regional and chronological differences in figurines during the Jomon period. I studied the figurines produced during the Angyo period, dated approximately from 1200 BC to 800 BC. The figurines were discovered in the Omiya tableland where many excavations were carried out. The Omiya tableland is surrounded by two rivers, and its shape is long and narrow in north east-southwest axis, which is 35 km long and 20 km wide. Small rivers divide the Omiya tableland into several parts, forming a shape similar to the branches of a tree. The altitude of this tableland is 15 to 30 m.

In the Omiya tableland, approximately 280 figurines from the Angyo period were uncovered from 25 out of 76 sites (Figs. 3–4, Tab. 2). It is noteworthy that the figurines were not discovered in every site, and that distribution is not even among the sites which contained figurines. Figurines in the Angyo period are classified into Owl-faced figurines, Snow- glassed figurines and I-marked figurines. In addition to these three figurine types, there were figurines which could not be classified because they lacked decorations and were found in small pieces. However, these figurines have not been analyzed in the same chronological context. In order to understand their chronological distribution, I arranged these figurines according to current studies.

Chronological position

The chronological approach is popular among Japanese archaeologists. Owl-faced figurines have various decorations. Kawarabuki analyzed Owl-faced figurine form and proposed a chronological order for these figurines (*Kawarabuki 1992.180*). However, the problem is, that form sometimes shows the differences in regions, and that the change of form can be so slow that it is not visible. In order to compare the figurines with pottery, Suzuki analyzed decorative detail on Owl-faced figurines (*Suzuki 1989.51–62*). Decorations on Owl-faced figurines, Snow-glassed figurines and I-marked figurines showed their chronological position (*Hamano 1993.86–96; Kaneko 1993.145–149; Horikoshi 1993.114–118*). However there are figurines from the Omiya table-

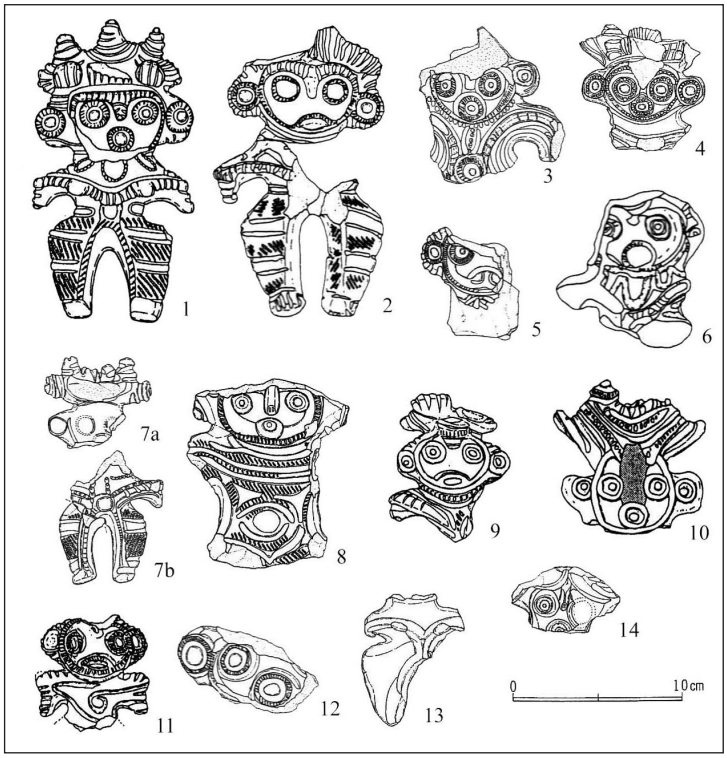

Fig. 5. Owl-faced figurines. 1 Takimamuro, 2, 9 Kohukasaku, 3, 7a–7b, 12–14 Sasara, 4–5 Utaya, 6 Gojin'yama, 8 Akagi, 10 Takaihigashi, 11 Kuroyatabatamae.

land which are not yet classified. Such unknown figurines are not the subject of this paper.

The Angyo period was subdivided into 6 periods, from Angyo1 to Angyo3d. In the Omiya tableland, the oldest Owl-faced figurines belonged to the Angyo2 period. It is asserted that Owl-faced figurines were produced in the region where Angyo pottery originated (Fig. 5). However, from the Angyo3a period, Owl-faced figurines were influenced by northern culture, which produced Snow-glassed figurines. The influence was mainly observed in decoration on Owl-faced figurines, not in the shape, which in fact little changed until Owl-faced figurines disappeared in Angyo 3c. Before the spread of Snow-glassed figurines, a new exotic type of decoration, which was used on pottery in the northern part of Japan, diffused to other areas, not only on pottery but also on other materials like figurines.

After the introduction of the new design, another type of figurine was made in the Omiya tableland, called Snow-glassed figurine (Fig. 6). According to its comparison with the northern Snow-glassed figurine type, Snow-glassed figurines from the Omiya tableland were not imported (*Kaneko 1993.149*). Snow-glassed figurines were categorized into two groups. The first group was hollow with elaborate decorations, and the size was generally large, for example 30 cm tall. The second group was small and solid. In the central part of Japan (including the Omiya tableland) the latter group was rarely copied.

Snow-glassed figurines were introduced to and produced in the Omiya tableland.

No.	Sites	Total	Owl-faced	Hollow Owl-faced	Snow-glassed	I-marked	unknown
1	Higashikitahara	5	4				1
3	Kohukasaku	15	7	1		1	6
4	Banbaomuroyama	3			1		2
8	Maekubonishi	1	1				
9	Narasedo	7	4		1		2
15	Otohonmura No.5	1					1
21	Urajionji	2	2				
22	Shinpukuji	6	1		3		2
23	Kuroyatabatamae	12	4		7		1
30	Utaya	42	23		1		18
31	Sasara	43	21		2	3	17
34	Ishigami	7	5		1		1
36	Sarugaikita	1			1		
40	Shingou	2					2
41	Shojinba	1		1			
42	Akayama	2					2
44	Juyonbankochi	1					1
62	Tomiokahikawajinjamae	2			2		
66	Ushiroya	13	4		4	2	3
67	Takaihigashi	23	5	1			17
68	Gojin'yama	3	1				2
69	Irigochi						
70	Kotsuka	1	1				
71	Akagi	84	15	4	19		46
77	Takimamuro	1	1				
		278	**99**	**7**	**42**	**6**	**124**

Tab. 2. Angyo sites in the Omiya tableland

Moreover, influence from northern Japan was observed in Owl-faced figurines. Some exceptional large size hollow Owl-faced figurines appeared (Fig. 7). Such Owl-faced figurines had a different body shape, but the same face representation as solid Owl-faced figurines. The following are some interpretations about their appearance. I suggest that the large and hollow Owl-faced figurines were influenced by Snow-glassed figurines, because of following reasons: (1) the lack of hollow figurines in central Japan around the Omiya tableland, (2) the appearance of large and hollow Owl-faced figurines at the stage of introduction of Snow-glassed figurines into the Omiya tableland and (3) a larger size in comparison to solid Owl-faced figurine.

Although influenced by northern cultures, not only Snow-glassed figurines but also Owl-faced figurines were still produced. At the end of the Angyo period, figurines drastically decreased and I-marked figurines were rarely produced (Fig. 8). Originally, the I-mark design was not used on figurines, but on clay tablets, stone sticks and so on (*Takano 1983.69*). In Angyo3d, the I-mark was used for figurines.

In the Angyo period, which defined the Angyo pottery type, not only pottery but also figurines changed from Owl-faced to I-marked figurines. During the Angyo period, three types of figurines appeared. Owl-faced figurine originated in this region and was constantly produced. Hollow Owl-faced figurine appeared under the influence from northern culture. Snow-glassed figurine was copied and coexisted with Owl-faced figurine. After the production of Snow-glassed figurine, few I-marked figurines were produced.

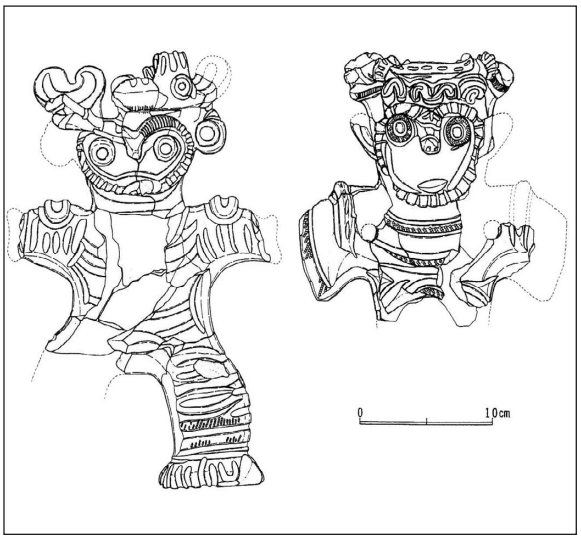

Fig. 7. Hollow Owl-faced figurines from Akagi.

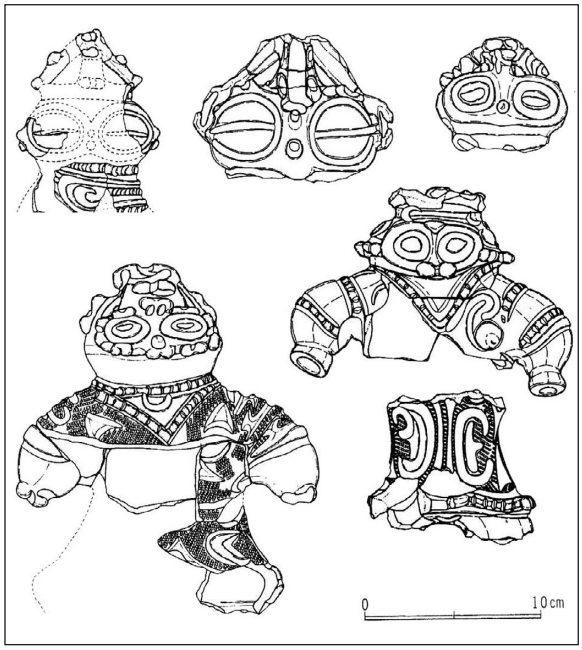

Fig. 6. Snow-glassed figurines from Akagi.

CHARACTER OF SITES AND DISTRIBUTION OF FIGURINES

There are some differences between the sites containing figurines and those without them. Large amounts of different kinds of remains were excavated from the sites in which figurines were discovered. Various kinds of artefacts which were used for hunting and settlements use were discovered in sites containing figurines, for example arrow heads, stone axes, grind stones and so on. In the Angyo period, with the exception of the sites containing figurines, houses have rarely been discovered. It could be claimed that many more artefacts were discovered from sites containing figurines than from sites without them.

It is noteworthy that sites containing figurines were occupied for a longer time than other sites. It is not necessary that figurines were discovered from every stage in the sites. Nonetheless, there is a tendency that the sites with figurines continued to be occupied longer. Figure 9 shows that after Angyo 3b, in spite of a decrease in sites, most sites with figurines still existed. This indicates that figurines were kept in the settlements which left various kinds of remains, and moreover, that the act of keeping figurines could have been related to the long term occupation of settlements.

Out of 25 sites from which figurines were discovered, Akagi site, Utaya site and Sasara site need spe-

cial attention. Table 2 shows the number of figurines which were uncovered from these sites. From Utaya and Sasara over 20 Owl-faced figurines were discovered, however there were only one or two Snow-glassed figurines. On the other hand, many Snow-glassed figurines were discovered at Akagi site, which also contained 15 Owl-faced figurines. Sasara and Utaya sites were located nearby. Akagi site was not located far from the Sasara and Utaya sites, but there was a great difference between Akagi and the other two sites.

Snow-glassed figurines were made during Angyo 3b and Angyo 3c. At the Akagi site, there were no Angyo 3c Owl-faced figurines, but Angyo 3b Owl-faced figurines. Therefore, I expect that at the Akagi site the main figurine type changed from Angyo 3b to Angyo 3c. Moreover, there were 19 Snow-glassed figurines in Akagi site, which comprises 45% of the Snow-glassed figurines from the Omiya tablelands. Since the Snow-glassed figurines were only copied and not originally made in the Omiya tablelands, it seems that the information about these exotic figurines was brought to the Akagi site from the northern areas. In Akagi site, the presence of hollow Owl-faced figurines, which were influenced by Snow-glassed figurines, could support a hypothesis for the uneven distribution of information.

FUNCTION OF FIGURINES

Even in the Omiya tableland, where excavations were frequently carried out, figurines from the Angyo period were not numerous and were not uncovered from every Angyo site. The sites which contained these figurines are not even included in the amount and content of figurines. Moreover, the quantity and quality of figurines differs among the sites. According to these facts, the function of figurines should be reconsidered.

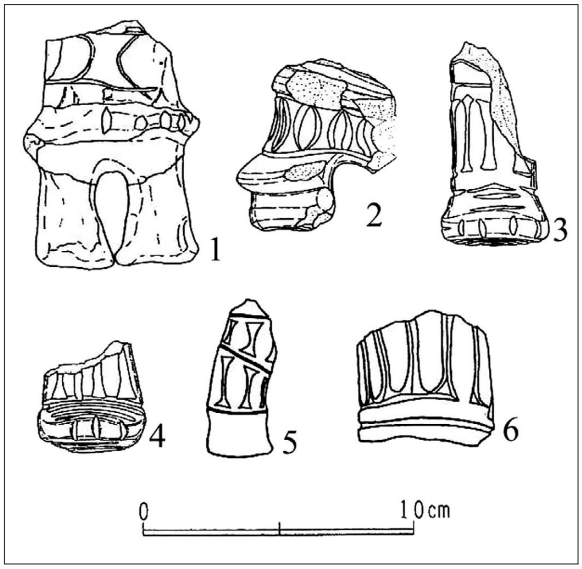

Fig. 8. I-marked figurines. 1 Kohukasaku, 2–4 Sasara, 5–6 Ushiroya.

During the Angyo period, both Owl-faced and Snow-glassed figurines were mainly produced in Angyo 2–3c. The total number of both types of figurines was 141. As the Angyo period is thought to have lasted for at least 400 years, there were not enough figurines to be utilized every year at every site. This would bring us to an assumption that figurines were connected to specific settlements and not consumed every year.

In the previous section on the history of figurine studies, I mentioned assumptions that the figurines may have been used as toys for children, amulets for an easy birth and so on. But if personal use was their principle function within Jomon society, numerous figurines would have been produced, or they would have been evenly distributed.

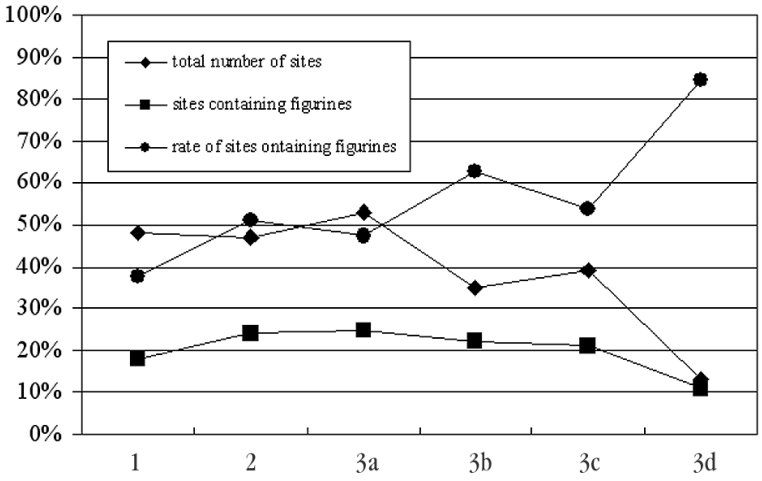

Fig. 9. Transition in site numbers.

If the function of figurines was only fragmentation, the total number of uncovered figurines would be larger. The function of figurines must have been related to some long-term customs, which were held within specific settlements. Archaeologists, when they found figurines, saw only their final position and final location in an archaeological site. But, if we consider how figurines were used in

prehistoric society, not only deliberate fragmentation, but also the presence of figurines in settlements should be considered. There is a possibility that figurines were used or kept in settlements much longer than most archaeologists suspected.

	total number of sites	sites containing figurines	rate of sites containing figurines (%)
Angyo 1	48	18	37.5
Angyo 2	47	24	51.1
Angyo 3a	53	25	47.2
Angyo 3b	35	22	62.9
Angyo 3c	39	21	53.8
Angyo 3d	13	11	84.6

Tab. 3. Transition in site numbers.

Finally, it can be asserted that the presence of figurines influenced not only a settlement but also neighbouring sites. I propose that figurines were treated as monuments to deities and used for the formation of identity in settlements.

CONCLUSION

In this article, I analyzed almost all the Angyo figurines from sites distributed in the Omiya tableland. As I focused on every site, including the sites where figurines were not discovered, the precise distribution of figurines became evident. First, according to detailed chronological analysis of figurines, I clarified that figurines were not produced throughout the Angyo period. Second, distribution of sites revealed that figurines were unevenly distributed in the Omiya tableland. There were differences between the sites containing figurines and the sites without them. Although the decrease in figurines was somehow connected with the decrease in sites, the sites containing figurines were occupied longer.

In addition, the figurines were made carefully. Clay for figurines was selected with the same attention as clay for pottery, and decorations were carefully attached to figurines. Elaborate figurines painted red must have been treated carefully and respectfully, because the red colour was thought to be sacred.

Former studies asserted that deliberate fragmentation existed as a ritual act, and could be the reason for the broken figurines. However, I concluded that the function was not limited to fragmentation, and that one of the functions was their presence in settlements. I also suggest that there is little possibility that figurines belonged to ordinary people. This does not completely exclude deliberate fragmentation, but in the case of figurine studies, emphasis should not be placed only on deliberate fragmentation.

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back to contents

UDK 903.3(4)"633/634":291.37
Documenta Praehistorica XXXII (2005)

The transfer of symbols and meanings: the case of the 'horns of consecration'

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ABSTRACT – *Sir Arthur Evans first used the term "horns of consecration" in 1901. Since then they have been interpreted in various ways as Moon idols (Mondidole), boat models, pot stands, loom stands, spit supports, and fire supports. Most, however, can be seen as abstracted bull's horns. Abstraction should have taken place in Anatolia or northern Mesopotamia, and "horns of consecration" spread very early, appearing, as already defined symbols in various cultural settings. The question is whether they stood for the same set of ideas wherever they appeared, or if meaning varied from one cultural setting to another.*

IZVLEČEK – *Izraz »rogovi posvetitve« je prvi uporabil Sir Arthur Evans leta 1901. Od takrat so jih interpretirali na razne načine, kot lunine idole (Mondidole), modele ladij, podstavke za posodo, podstavke za statve, podpornike za raženj ali ogenj. Večina pa jih lahko predstavlja abstraktne bikove rogove. Abstraktna upodobitev se morda pojavi v Anatoliji ali severni Mezopotamiji, »rogovi posvetitve« pa so se zelo hitro razširili in se pojavili kot že določeni simboli v različnih kulturnih okvirih. Vprašanje je, če so povsod, kjer so se pojavili, predstavljali enak niz idej ali pa se je njihov pomen v različnih kulturnih okvirjih spreminjal.*

KEY WORDS – *horns of consecration; bulls' heads; bucrania; representations of bucrania*

The objects known as "horns of consecration" have presented a scholarly problem for more than a century now. The first to use the term "horns of consecration" was Arthur Evans[1]. Since then they have been discovered throughout the Middle East, many of them from older contexts than the Cretan examples. They have also been found in Europe, ranging from the Early Neolithic to the Late Iron Age. The diversity of their dates, shapes and dimensions has raised questions as to their meanings and functions.

It was obvious from the beginning that we were dealing with an abstract symbol with a long history of developing meaning and perhaps, function. Since the symbol lacks a verbal context, we are forced to look for parallels from cultural and social environments which yield more data. This in turn raises problems of great temporal and geographical gaps and probable solutions for them. The questions are: are these methods always justified, and is the transfer of symbol from one culture to another also a transfer of meaning?

Archaeologists are the great obstacles because they often project what they wish to see onto an object. This affects the formulation of hypothesis, and is the reason there are so many different portraits of the same civilization (*Ripinsky-Naxon 1989.220*). Our reconstructions of symbolic systems are deduced from ancient cultural models and are susceptible to our perception of them. As Ripinski-Naxon (*1989. 219*) put it: the perception (output) modifies the concept (input). On the other hand, deconstruction negates the possibility of the reconstruction of *logoi* (*Davis 1992.335*). In short, according to deconstruction theory, we are left with material only, unable

1 A. Evans, Mycenaean Tree and Pillar Cult. *The Journal of Hellenic Studies 21, 1901.135 ff.*

to reconstruct the reasons, ideas and values of the symbol's creator. The theory of the "structure of meaning" offers a way out of the deconstructionist's blind alley[2]. When considering the structure of the organized material in the "long range context" (e.g. Neolithic), similar meanings can be attributed to similar objects (*Davis 1992.334*). "Structure of meaning" theory can attribute a noun or an adjective to an abstract symbol and thus incorporate it into the abstract semantic structure of the cultural environment (*Davis 1992.344*).

The term "horns of consecration" belongs to such a category. And we ask ourselves: is this the designation of an object or of an abstract idea susceptible to acculturation? Does the object represent an abstracted *bucranium*, and did it reach the European Neolithic as a direct indicator of a bull cult, or did it arrive as an already detached symbol of a religious

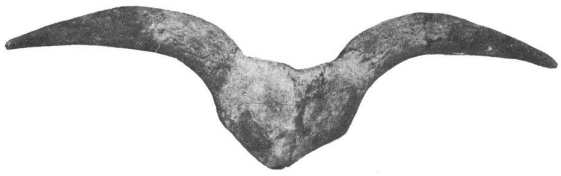

Fig. 2. Bucranium from Vinkovci, Croatia, Vučedol culture (after* Hoti 1989.T. 3,1*).

idea, which does not necessarily denote the bull, but a whole complex of ideas (although it directly originated from the veneration of bulls at its source). The problem lies in the fact that symbols imply a complex interpretation in the eyes of their creators, and the process of either widening or narrowing the meaning of the same sign/symbol (*Manetti 1987.12*). For example, in the process of the development of writing in Mesopotamia a drawing (immediately recognizable) of a bull's head, in the first instance, literally denoted "bull", but through the semantic broadening of the sign, in the second instance, it denoted "cow" or "any large animal" (*Manetti 1987.12*). The other example comes from a much later date in Crete. The sign "horns of consecration" does not exist in Linear A repertory, but it appears in Linear B in the so-called canonical shape. The meaning of the sign is pte. No connection whatsoever between the phonetic group pte (suggested as the name of the object) and the horns could be established (*Dow 1980.600, Fig. 17; Rutkowski 1981.82*) (Fig. 1).

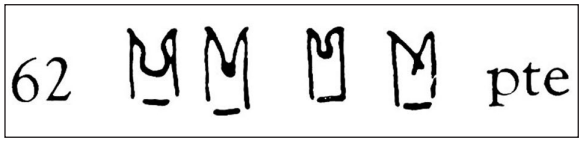

Fig. 1. Linear B sign no. 62 (after* Guarducci 1967. 55, Fig. 4a*).

Ritual is another way of distorting the meaning of a symbol. Ritual creates boundaries within which a real object becomes unreal and begins to denote a connection between the object and the context (*Napier 1992.XVIII*). Within the boundaries of ritual a symbol becomes an ideograph (*ibid. XIX*). Here we confront another barrier: rituals consist of regularly performed conventional stereotypes; they have emotional value, and represent a type of communication embedded in specific cultural codes (*Rappaport 1971.62–63*) which can be decoded only by members of the same culture. They are systems of activities organized in time and space having a strict structure, which makes them "quasi-linguistic system" (*Rappaport 1971; Burkert 1990.54 ff*). Once again we lack the verbal context for a symbol or an ideograph.

Every culture has its own conventions for creating images and symbols. The simpler the form of the

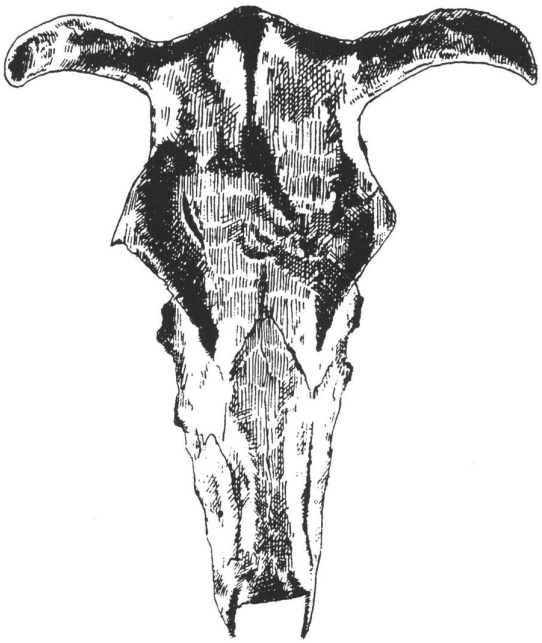

Fig. 3. Bull's head – mask from Kition, Cyprus (after* Karageorghis 1975.Fig.4*).

2 I. Hodder, The Domestication of Europe: Structure and Contingency in Neolithic Societies. Oxford 1990: 21.

3 The bucranium is 80 cm in diameter and was originally situated above the entrance to the Vučedol house. When the structure collapsed the bucranium fell in front of it together with the piece of plaster it was fixed on (*Hoti 1989.35, T. 3.1–2*).

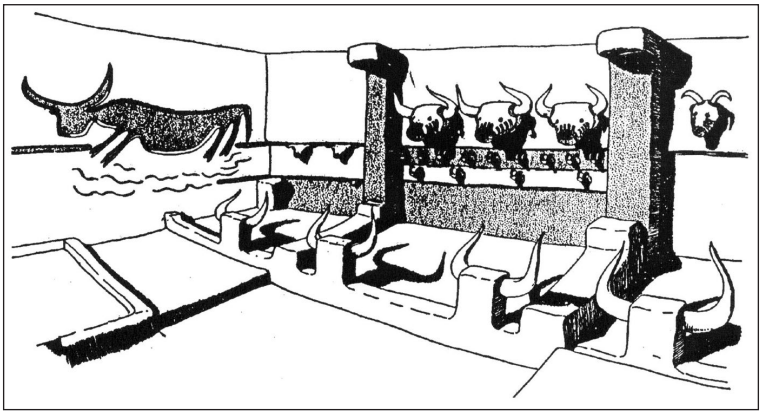

Fig. 4. Çatal Hüyük, Turkey, shrine E VI,8 (after* Mellaart 1963.64, Fig.10*).

symbol, the more difficult is the decoding of it for someone who does not know the codes (*Morgan 1985.7*). Codes are acquired during a lifetime of learning within a given community. Any symbol can acquire many meanings (social, mythical, cultic etc.) as Lyvia Morgan puts it: "Variability of meaning is perhaps partly explicable in the light of multiplicity of meaning" (*Morgan 1985.6*).

The bull's head or *bucranium* began as a real object, and persisted from the Çatal Hüyük to the historical times. An example could be the *bucranium* from Vinkovci (Eastern Croatia) found in the Vučedol layer, dated to the 1st half of the 3rd millennium BC[3] (Fig. 2). A further example could be the masks made of bulls' skulls found in Kition (Cyprus) in Temple 5, dated to the 12th or 11th centuries BC (*Karageorghis 1975.402, Fig. 4*) (Fig. 3). Both examples are immediately recognized as such and could be well connected to the complex bull veneration in the Old World.

The *bucranium* from Vinkovci is interesting because the lower part of the skull is missing and was made of clay. This mode of recreating *bucrania* resembles distant origins in Çatal Hüyük, where the horns of the *bos primigenius* were inserted into heads or stands made of plaster (*Mellaart 1967.T. 16; cf. Mellaart 1963.T. 6b – shrine VI, 6, T. 22, 23* – plaster heads with inserted with real bull horns). (Fig. 4) The same method can be found in Egypt: the tomb of the king Uadji from the 1st Dynasty shows clay bull heads with real horns inserted (*Conrad 1959. 75 and figure*) (Fig. 5). This tomb is roughly contemporary with the Vučedol culture. We can discuss the nuances of the treatment of the bulls and reverence for them in different cultures, but the framework is clear – it must be religious, and bull must have played a great part in that religious context.

The next step is the three-dimensional representation of the bull's head in some other material (clay, plaster, stone or bone). Such are the heads from Çatal Hüyük (Fig. 6), or the clay *bucranium* from Vinča (*Vasić 1936.Fig. 86 a–b*) (Fig. 7), or Banjica (Vinča culture) (*Tasić 1973.T. XI, 33*) (Fig. 8). Dated to c2300 BC there is a clay model of a shrine found in Kothati (Cyprus). The shrine ends in stylised bull heads. A small female figure is probably making a sacrifice in front of a shrine (*Karageorghis 1974.353; 1991.Pl. CII.2; Kalicz & Raczky 1981.18, T. 7. 3; Burkert 1990.37*)

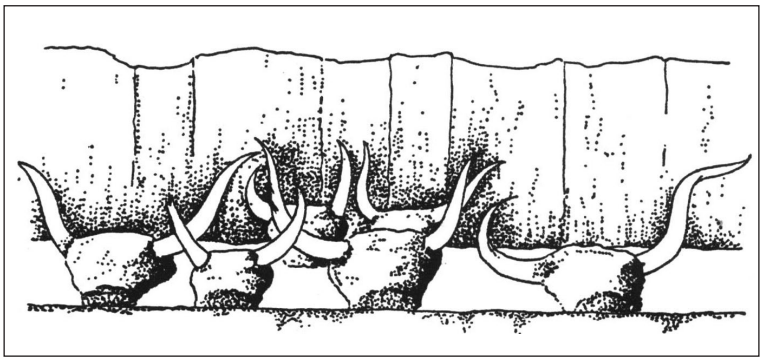

Fig. 5. Egypt, the tomb of King Uadji (after* Conrad 1959.Fig. p. 75*).

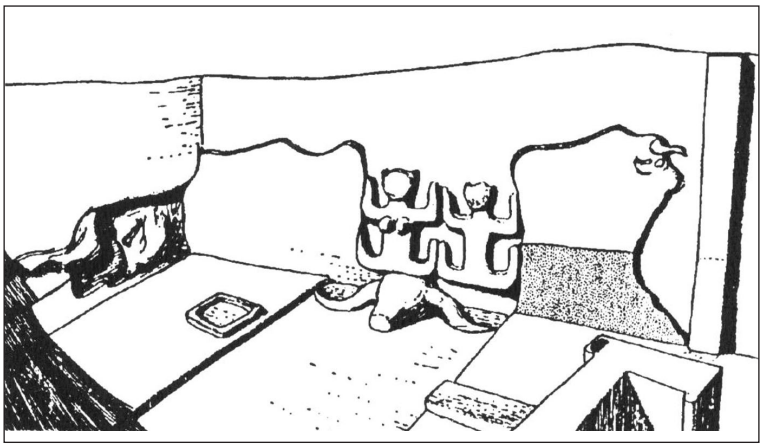

Fig. 6. Çatal Hüyük, Turkey, shrine VII,1 (after* Mellaart 1964.56, Fig. 14*).

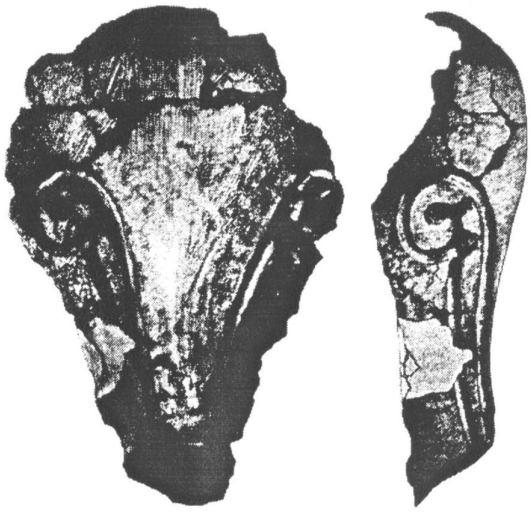

Fig. 7. Clay bucranium from Vinča, Serbia and Montenegro, Vinča Culture (after* Vasić 1936.Fig. 86 a–b*).

(Fig. 9). Finally, we have the famous bone plaque in the form of a bull head, with a female figure carved on the snout. It is from the Cucuteni culture, and was found in Bilcze Zlote Cave in NW Ukraine, with other Cucuteni B objects (*Soudsky & Pavlu 1966.117; Gimbutas 1982.293, Pl. 178*) (Fig. 10).

These examples are already on the way to schematisation, distanced from the original object, but highly

Fig. 9. Kotsiates (Kothati), Cyprus, clay model of a sanctuary (after* Karageorghis 1991.Pl. CII, 2*).

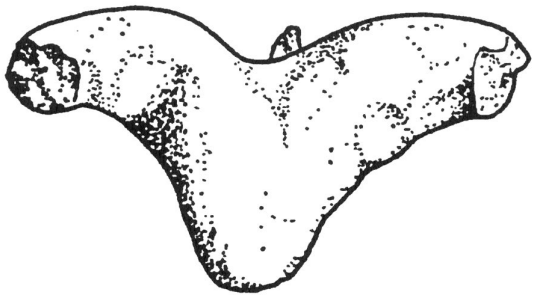

Fig. 8. Clay bucranium from Banjica, Serbia and Montenegro, Vinča Culture (after* Tasić 1973.T. XI, 33*).

recognizable. Their meaning remains moderately recognizable. They obviously refer to a set of ideas surrounding bulls connected with the female principle. When the schematisation goes a step further, discarding the superfluous iconic additions and approaches the sphere of symbols, our ambiguity grows, perhaps less in recognizing the symbol than in interpreting it. Some objects are still recognizable as *bucrania*, for example, the "benches" from Çatal Hüyük (*Mellaart 1963.53, Fig. 4 – shrine A VI, 1*) (Fig. 11). Interpretation diverges: they are obviously sacred, but in what way? They might signify the bull's role in a religion of the female principle. But they can equally be a gift given in return for a successful hunt. This theory tries to explain why there are rows of horns in benches: do many horns sanctify a space more efficiently than a single pair? Probably not, but they can be a ritual method of restoring to a goddess what has been taken from her world (*Hodder 1987*) in a system of gift exchange with the gods.

For some other examples we can infer that they stem from bucrania, like the small altar table from Sarvaš

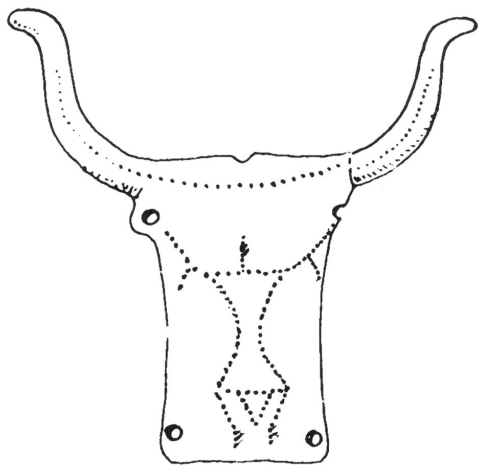

Fig. 10. Bone figurine from Bilcze Zlote, Ukraine, Cucuteni Culture (after* Soudsky and Pavlu 1966. Fig. 17*).

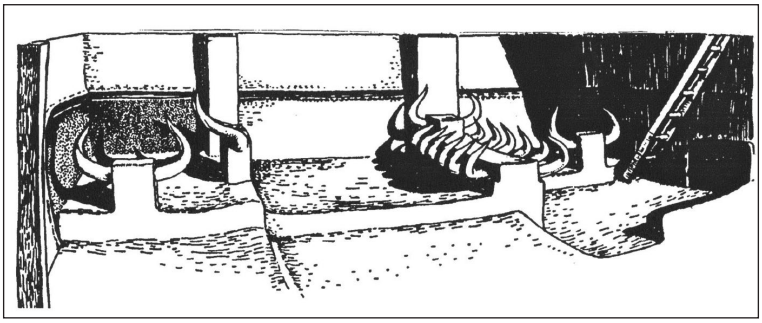

Fig. 11. Çatal Hüyük, Turkey, shrine A VI,1 (after* Mellaart 1963.53, Fig. 4*).

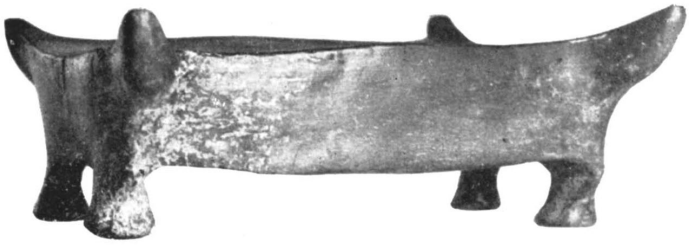

Fig. 12. Clay "altar" from Sarvaš, Croatia, Vučedol Culture (?), Archives of the Archaeological Museum, Zagreb.

(Eastern Croatia) (*Schmidt 1945.Textbild 74–3, 145 f; 184*), only 15.5 cm long, 14 cm wide and 10.5 cm high (Fig. 12); or the very similar object from the Kodžadermen tell in Bulgaria (*Radunčeva 1971.59, Fig. 2, 3*) (Fig. 13). The small objects are probably ritual paraphernalia connected with bull worship. They have no obvious domestic function. On the other hand, when we find schematised horns on the rim of an Early Minoan I vessel from Eileithyia's Cave on Crete (*Zervos 1956.Fig. 90*) (Fig. 14), we must ask ourselves if they are merely the decoration of an otherwise simple bowl, or if they are the horns which sanctify the use of the vessel and the substance served in it. We do not know whether their meanings remained the same or were abstracted, even if they were broadened and acquired some additional meaning in respect to the symbol's distant Early Neolithic origins.

When the object is further abstracted into the form of "horns of consecration", the direct connection with the original image is lost. Now there is no agreement on their origin from the *bucranium*, nor on their function and cultic meaning (if any). "Horns of consecration" became the smallest definable iconographical unit, meaning that nothing could be removed from the object without it losing its recognizable form (*Morgan 1985.10*). As a result they are difficult to interpret within a specific culture, to say nothing of the transfer from one community to another. The smallest iconographic unit acquires meaning within a culture's set of instruments for its interpretation. These instruments are mostly lost to us. When we find the syntax of symbols in different cultures, e.g. woman + double axe + horns of consecration + small bird, we can speak of a certain affinity of meaning, but when the smallest iconographic unit appears alone, we do not know its meaning within the specific set of conventions. This is why there is no universally accepted theory of the origin, meaning and function of the "horns of consecration". Not everyone would agree that "horns of consecration" even derived from bucrania. They were understood as pot stands, loom stands, pot supports, spit supports (*Diamant & Rutter 1969. 147*), or fire supports (*Gazdapusztai 1957; Rutkowski 1981.88*).

The different opinions on their function are in most cases based on their dimensions. Cretan examples

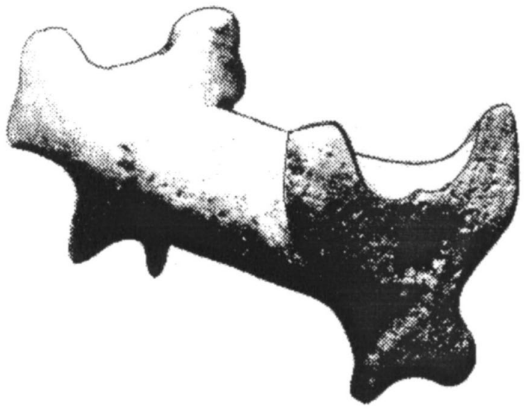

Fig. 13. Clay figurine from Kodžadermen, Bulgaria (after* Radunčeva 1971.Fig. 2*).

Fig. 14. Vessel from Eileithyia's Cave, Crete (after* Zervos 1956.Fig. 90*).

are classified according to their size: monumental, found on architecture; medium (from 10 cm to 1m); miniature (not more than 10 cm) (*D'Agata 1992.250*). Prehistoric sites in Central and SE Europe lack monumental examples, but medium and miniature ones are abundant. For the monumental Cretan "horns of consecration" most would say that they had a religious or cultic function. Miniature specimens, Cretan, Middle Eastern or European prehistoric are equally understood as cultic objects, amulets or tokens (*Budja 2003*). Miniature examples appear very early in Europe, in the Sesklo culture from the site at Xynias Ombriaki in Greece (*Sampson 1981.Fig. 17*) (Fig. 15). They have holes, which suggests they were worn as amulets or simple pendants, although the object was described as a loom weight. Small "horns of consecration" are known from the site at Ruse in Bulgaria, of the Gumelniţa culture (*Gimbutas 1982.93, Figs. 49.1, 49.2*) (Fig. 16), and from the site at Vinča and the Vinča culture in Serbia (*Gimbutas 1982.Fig. 49.3*) (Fig. 17). They adorn the rim of a vessel from Vestö-Magor, Hungary, from the Tisza culture (*Hegedus & Makkay 1987.Fig. 11*) (Fig. 18). Even if some of them served as tokens in inter-communal communication networks, no one really doubts that they originated from *bucrania*. The same goes for some highly abstract "amulets" (*Tasić 1973. T. XVIII. 61; Stanković 1989/90.42; Budja 2003*) (Figs. 19 and 20).

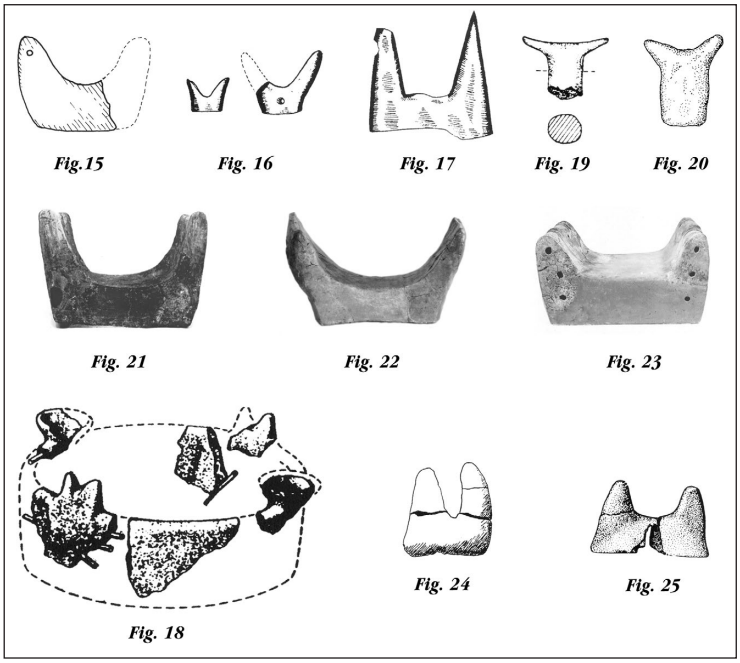

Fig. 15. Clay "amulet" from Xynias Ombriaki, Greece, Sesklo Culture (after* Sampson 1980.Fig. 17*).
Fig. 16. Miniature clay "horns of consecration", Ruse, Bulgaria, Gumelnita Culture (after* Gimbutas 1982.93, Fig. 49,1 and 49,2*).
Fig. 17. Clay "horns of consecration", Vinča, Serbia and Montenegro, Vinča Culture (after* Gimbutas 1982.Fig. 49,3*).
Fig. 18. Fragments with horns on the rim, Vesztö-Magor, Hungary, Tisza Culture (after* Hegedus & Makkay 1987.Fig. 11*).
Fig. 19. "Amulet", Divostin, Serbia and Montenegro (after* Budja 2003.119, Fig. 3*).
Fig. 20. "Amulet", Vinča, Serbia and Montenegro, Vinča Culture (after* Tasić 1973.T. XVIII, 61*).
Fig. 21. Clay "horns of consecration", Vučedol/Gradac, Croatia, Vučedol Culture (after* Schmidt 1945.T. 18.2*).
Fig. 22. Clay "horns of consecration", Vučedol/Streim's Vineyard, Croatia, Vučedol Culture (after* Vučedol 1988.cat. no. 39*).
Fig. 23. Clay "horns of consecration", Vinkovci, Croatia, Vučedol Culture (after* Vučedol 1988.cat. no. 38*).
Fig. 24. Clay "horns of consecration", Tell Brak, Iraq, halcolithic (after* Diamant & Rutter 1969.Fig. 28*).
Fig. 25. Clay "horns of consecration", Alishar, Iran (after* Müller Karpe 1974.T. 303, B5*).

The medium-size objects, although very similar to the monumental and the miniature examples, pose a problem. They are easily made, easily accessible to almost anyone (*D'Agata 1992.250*), and they are most often interpreted as having a domestic, not cultic, function. Such controversial examples are the "horns of consecration" from Vučedol (Gradac), found in 1938 (35.5 cm long, 31 cm high, 18.5 cm wide, *Schmidt 1945.36, T. 18.2; 50.3*) (Fig. 21); horns from Vučedol (Streim's Vineyard) found in 1986 (50 cm long, 27 cm high, *Hoti 1989.T. 1.2*) (Fig. 22); or the horns from Vinkovci (Hotel) belonging to the Vučedol culture found in 1977 (35 m long, 17. 5 cm high, *Dimitrijević 1977/78.Abb. 3, 11; Težak 1979.Abb. 6; Vučedol 1988 Cat. No. 38, p. 78; Hoti 1989.34, T. 3.2*) (Fig. 23) to mention only a few of the best known. These were found in deposit pits with no other context. Some fragmented examples were found in the houses (*Hoti 1989.34*) or near them, and were automatically under suspicion as domestic objects (e.g. fire supports). The same is the case with the Middle Eastern examples (*Diamant & Rutter 1969, passim*) such as those from Tell Brak, Iraq (*Diamant & Rutter 1969.Fig. 28*) (Fig. 24) or Alishar Hüyük, Iran (*Müller Karpe 1974.T. 303, B 5*) (Fig. 25).

Even if we sometimes reach a consensus that they are sacred or cultic objects, we cannot agree why.

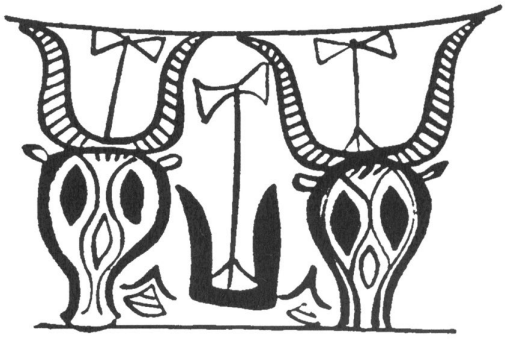

Fig. 26. The ornament of the Mycenaean crater from Salamis, Cyprus (after* Gimbutas 1982.Fig. 151*).

Evans (*op. cit. n. 1*) insisted that they were schematised *bucrania* connected with a bull cult; Gärte thought that they were a derivation of the Egyptian hieroglyphic sign for horizon[4]. The suggestion that they derived from the crescent shape of the moon also had quite a lot of supporters, as well as the assumption that the original image was a boat. Two theories were then connected into one: the "horned" shape represented a moon boat carrying the moon across the sky (*Zervos 1956.41; Rutkowski 1981. 88*). One suggestion was that the shape derived from a female figure with hands raised (*Levy 1948. 230*).

Further difficulties arise when we consider two-dimensional representations of a three-dimensional object. Representations are truly the smallest definable iconographic units. We have already mentioned the Linear B sign pte. Evans was convinced that the "horns of consecration" stood for *bucrania* because of the representation on the Mycenaean crater from Cyprus (*D'Agata 1992.248, n. 7*) (Fig. 26). They are easily discernible here, and functionally interchangeable. Earlier representations of bucrania, however schematised, are easily recognizable, as on the Mid-

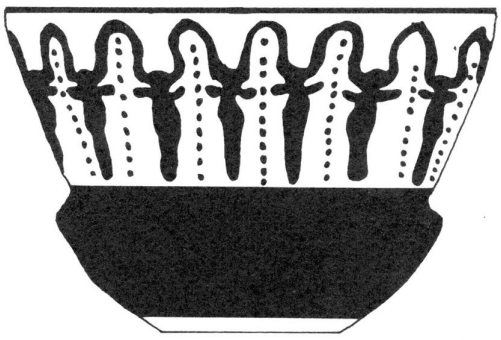

Fig. 27a. Detail of Fig. 27 (after* Mellaart 1975.Fig. 150*).

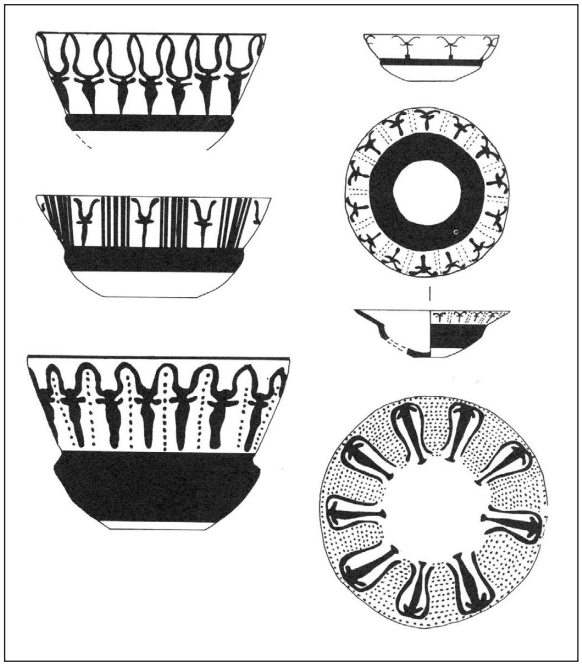

Fig. 27. Assemblage of middle Halaf pottery, Yunus, Turkey (after* Mellaart 1975.233, Fig. 150*).

dle Halaf pottery (5000–4500 BC) from Yunus near Carchemish (*Mellaart 1975.232, Fig. 150*) (Fig. 27). Highly stylised, but still recognizable, are the representations of *bucrania* on Cucuteni B2 pottery (*Dodd-Opriţescu 1981.Fig. 4. 23*) (Fig. 28). Representations of the "horns of consecration" are a bigger problem. We are usually not sure if they really represent "horns of consecration" and not some similar horned shape. Such is the case with an object (seal? loom-weight? shuttle?) from the Neolithic layer in Knossos. It has an almost perfectly incised drawing of "horns of consecration" (*Makkay 1984. 22–24, Fig. 1. 2b*) (Fig. 29). But the sign has also been described as the Egyptian hieroglyphic sign for mountain (*ibid.*). The object is dated to the Middle or Late Neolithic, so it is too early for both interpretations. Its explicit drawing enables us to recognize a more vague representation on a clay object

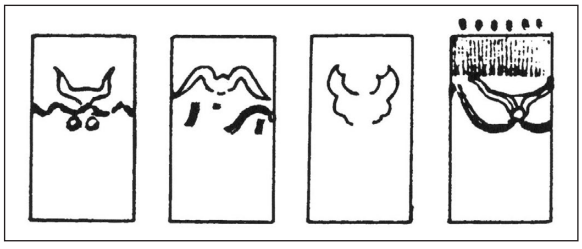

Fig. 28. Repertory of Cucuteni B2 ornaments in the form of bucrania (after* Dodd-Opriţescu 1981. Fig. 4,23*).

4 W. Gärte, Die Bedeutung der kretisch-minoischen Horns of Consecration. *Archiv für Religionswissenschaft 21, 1922.72–98 quoted by D'Agata 1992.247, n.6.*

Fig. 29. Clay object from Knossos, Crete, Neolithic (after* Makkay 1984.Fig. 1.2b*).

Fig. 31. Drawing of the same object from Sesklo as in Fig. 30 (after* Makkay 1984.Fig. 1.4*).

from Sesklo, Greece, dated to the Sesklo culture (*Teocharis 1973.Fig. 212c; Makkay 1984.24, n. 11, Fig. 1.4*) (Figs. 30, 31). This drawing has disintegrated, but is still recognizable as a type of schematised "horns of consecration", although the meaning is far from clear.

In this context we must mention a bone object from Mežiriči, Ukraine (*Filippov 1984.Fig. 8.9*) (Fig. 32). It is decorated with incised drawings, among them motifs which in some other context would be immediately recognized as "horns of consecration". Since this object belongs to the Upper Palaeolithic, we cannot but say that we are dealing with a crescent shape with a flat base. Small circles can be seen between the "horns". Perhaps this time we could say that these shapes might really represent the sun and moon, because here we have a somewhat more subtle syntax of iconographic units. This occurrence makes one cautious: when we are dealing with the utmost schematisation the possibility presents itself

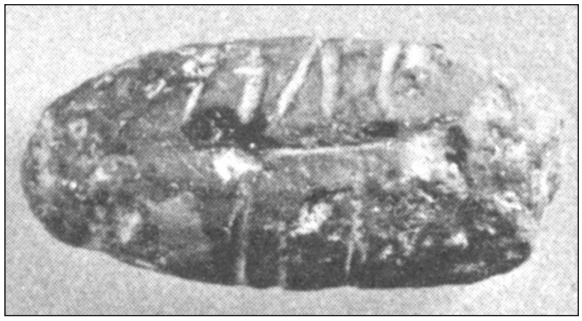

Fig. 30. Clay object from Sesklo, Greece, Sesklo Culture (after* Teocharis 1973.Fig. 212 c*).

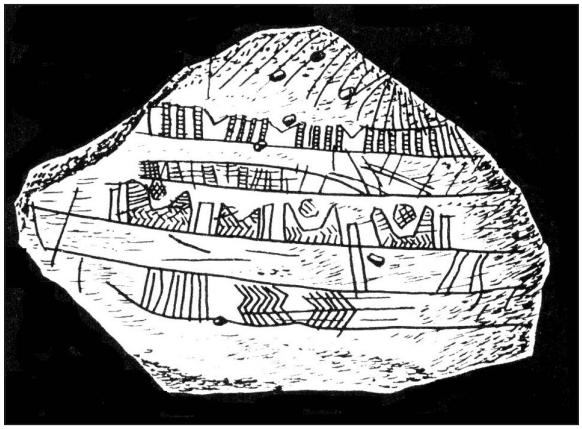

Fig. 32. Bone object from Mežiriči, Ukraine, Upper Palaeolithic (after* Filippov 1984.Fig. 8.9*).

that two or three or more different original images (*bucranium*, crescent moon, mountain, boat) could be schematised in the same way and still have different meanings. Meanings would vary from culture to culture according to inherent codes of cultural communication inside a given community.

In conclusion we could say that the oldest finds still represent the literal transposition of the object (bull's head) to a culture. With the passing of time and widening of geographical radius, abstractions appeared, followed by symbols. These were very remote from the original image in appearance, and we wonder how remote they were in meaning.

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back to contents

UDK 903'1(44-15)"633/634":291.37
Documenta Praehistorica XXXII (2005)

Pigeon-Raven and sperm whale, magical objects and domestic horned. The division of the world during the early neo-Neolithic in Western France.

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ABSTRACT – *We are going to demonstrate that it is possible to invest an Armorican stele of the 5th millennium with an order of meanings in the same way as a language or a kinship system; in other words, a set of operations destined to ensure, between individuals and groups, a certain type of communication. But such demands necessitate modifying established patterns, because none agree on the idea that we have conceived of a peaceful passage to agriculture and animal husbandry on the Atlantic façade of Europe. Each fundamental sign on these standing stones will here be reconsidered, and their 'syntax' analysed. However, we have no innocence about the subject: as soon as we display the strange desire to question these engravings, we 'participate' in an analogical spell attributed to a distant image, we fall as well into those exegetic attempts which pretend to obey to a cultural project wherein it appears they interpret the symbolism but that, finally, tend to renew it, because any key to symbols is part of their symbolism. And even in an oneiric or fairy world, power does not derive from gratuitousness, but from coherence.*

IZVLEČEK – *Menimo, da je stele iz Armorike iz petega tisočletja pred našim štetjem moč umestiti v podoben sistem pomenov kot so jezik ali sorodstveni sistemi. Torej v množico operacij, ki omogočajo komunikacijo med posamezeniki in skupinami. Seveda to zahteva spremembo pogleda, saj je naš pogled na prehod k kmetovanju na Atlantski obali Evrope drugačen od uveljavljenih. Pretresli bomo vsak znak, ki se pojavlja na stelah in analizirali njihovo sintakso. Tu ne moremo govoriti o teoretski nedolžnosti, saj takoj ko pokažemo čudno željo po razumevanju teh znakov, že sodelujemo v analoškem uroku preteklih podob. Eksegetski poskusi, ki zatrjujejo, da poskušajo razumeti simbolne sisteme, jih tako vzpostavljajo na novo, saj je ključ do razumevanja simbolov del njihovega simbolizma. Podobno kot v pravličnem svetu njihova moč ne izhaja iz njihove pojavnosti, temveč iz celote, ki jo tvorijo.*

KEY WORDS – *Stele; Brittany; carvings; early Neolithic*

INTRODUCTION

We are going to demonstrate that it is possible to invest a engraved steles from Armorica in Britanny (Vth millennium cal BC) with an order of meanings in the same manner as languages or a kinship systems. This means a set of operations, destined to ensure a certain type of communication between individuals and groups. Our first task will be to clarify this communication in the case of Morbihan, where such order seems accessible to the archaeological processing of information. The questions we ask are: who is the transmitter and who the receiver; what is the relationship between these two actors, and why was everything enacted by the sea?

What is represented on the Armorican engraved steles? A symbol of immediate and present action, a

myth, an expression of an imaginary past, or history, a record of the real past? It is known that these three cases can be described as the conjugation of the three senses, where each stratum conjugates its signs. We have learnt from linguists that signs taken separately do not have any meaning, that each of them represents a gap of meaning between itself and the others rather than it expresses a meaning. Because meaning can only exist in the difference. And, all systems of meaning are systems of relationships that we have henceforth to research.

It is a general question, when steles are taken as a point of departure in our understanding the early Neolithic steles with carvings that were recognized as a world of spirits, men, animals and things.

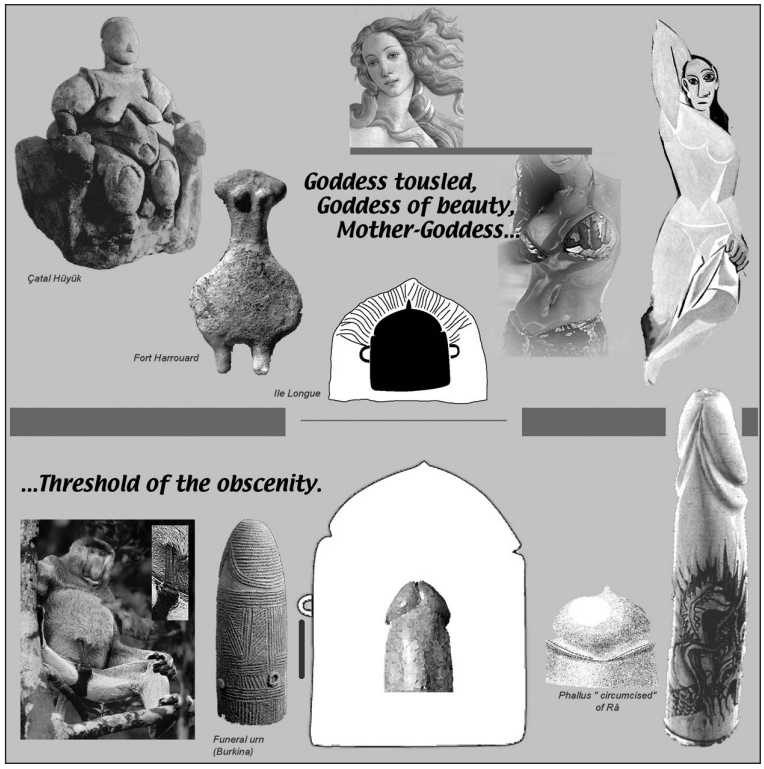

Fig. 1. From a Mother-Goddess to a phallic figure (after* Cassen, Vaquero 2003*, iconographic references included in this article).

A REVERSAL OF PERSPECTIVE

Such demands expressed in a preamble necessitate modifying pre-established patterns, since no one agrees with the scenario that we have proposed to understand the passage to agriculture and animal husbandry on the Atlantic coast of France. No one can escape an advanced analysis of the confrontation between societies as diverse as hunters-fishermen on one side, and farmers and artisans of the agricultural way of life on the other. And this "rock art" considered in the archaeological literature is a negative revelation very efficient and very pitiless.

Even in an oneiric or fairy world, power force does not derive from gratuitousness, but from coherence. Here is the coherence of a determined historical situation whose first obligation was to construct legitimacy (*Cassen 1993; 2000a; Boujot, Cassen 1997*).

We will place all signs in question at the beginning of the chain of comprehension, or at least in an equal participation in historical enquiry, and not at the end of the exercise, as something superfluous, inexplicable or less noble subject than the ceramic production "typologies" or a technical lithic subsystem that, together, would alone reveal traces of chronology and domestic meals, and therefore offer much less risky way of inquiry than this interpetation of images.

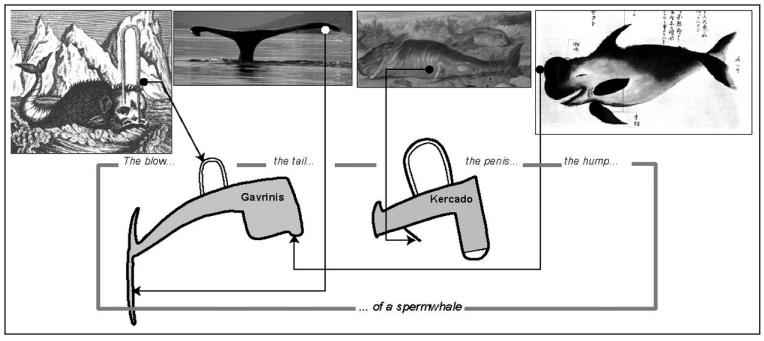

Fig. 2. Graphic units to recognize a sperm whale (*after Cassen, Vaquero 2000*, iconographic references included in this article).

Then we will think about the materiality and position of the steles. The steles communicate between future and past, warn or commemorate. The steles demand an attitude, constrain the real or imaginary image of anyone who uses the space. The steles are frontiers and thresholds between two states, two spaces, two worlds, which are about to merge: the commemoration cancels alone the warning when the former is contemptible or superfluous.

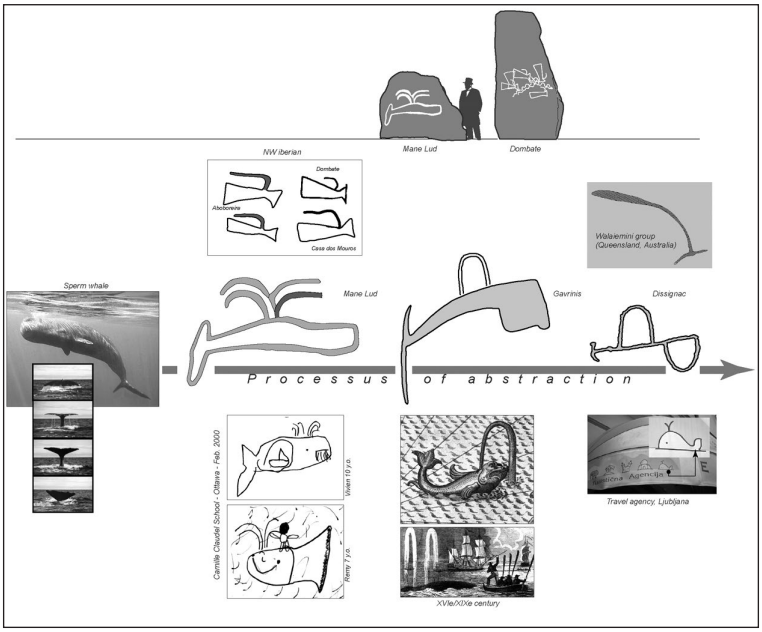

Fig. 3. The process of abstraction from the realistic image to the simple and fundamental lines of the animal; compare the same representation on the Neolithic steles of the Iberian Peninsula, according to the direction of the blow (directed to the left, instead of right in France with the exception of Dissignac, deliberately inverted here to facilitate comparison) (additional iconographic references are included in* Cassen, Vaquero 2000*).

But another preliminary question arises: why this sudden *verticality* in the establishment of such communication? No doubt: *to resist* by straightening up. Because, to establish a threshold in a space, it is necessary to display rebelliousness, a resistance and a reaction, by revealing an efficient action to counter and separate.

To activate this will, to straighten up by extending the body, this refusal to submit, to resist – a sensation, and the other, the chosen *material* will be of the highest importance. Then, as Bachelard tells us, a hard body that disperses all blows is the convex mirror of our energy, while the soft body is the concave mirror. The *complex of Medusa* is a petrified anger, the will of a wicked hypnotism that would like to order other people to the sources of the person with a word and a look. Materials and symbols give a possibility to reflect – a Church was built on a stone sometimes.

And we will review the system of recording, the fundamental base of our inquiries that marks each technical advance since the origin of the discipline. We are able to do this thanks to the advancements in digital image acquisition and processing that can record the imperceptible tiny traces and thanks to the restoration of the *chaînes opératoires* for the extraction of stones and realization of engravings (*Cf. Cassen, Merheb 2004; Mens 2002*).

AN ANALYSIS OF FORMS AND THINGS

Established archaeology has recognized and manipulated these figures that appear on the stelles: the axe (tool and prestige good), the crook (badge of authority), the plough (tool), the woman (divinity) and horned animals (domestic assistants).

The Mother-goddess

We have first to transform a goddess into a bodily dirtiness to which it costs to look. A goddess of fertility? A goddess of beauty? A "tousled" goddess, as you can find in the literature, with huge ears... The mother-goddess, "Idol in a shield form"...What represents her, represents her in a huge form; she

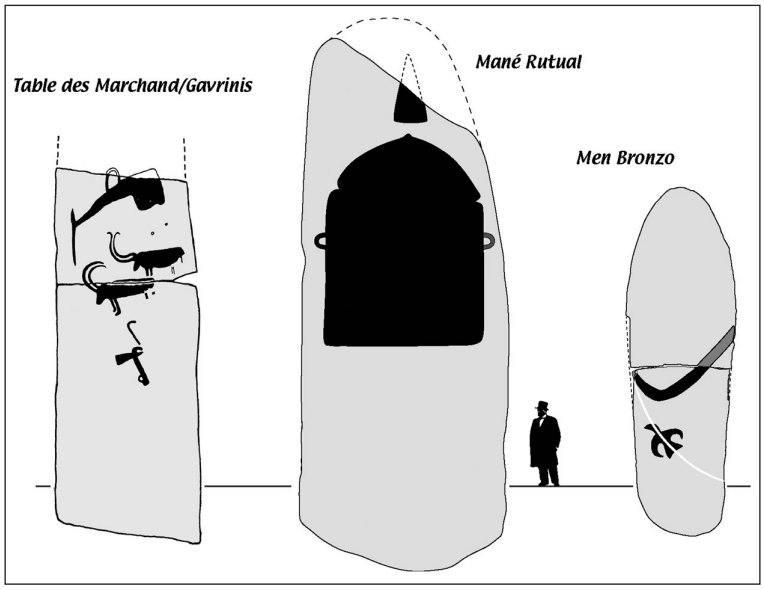

Fig. 4. The three steles from Locmariaquer (Morbihan) mentioned in the text: Table des Marchand/Gavrinis, Mané Rutual, Men Bronzo (after* Boujot, Cassen 1993; Cassen, Vaquero 2003*).

occupies all the stele in the 'Mané Rutual'. If she derives from an anterior image, what is it? If she is a goddess, she has to be womanly, beautiful or deformed, but her gender has to be clarified. If an engraver in Brittany, able to successfully realize cows and axes, fails in a such manner in the representation of the pure beauty, this interpretation is no longer acceptable. This is not beauty, the essence of this gigantic goddess. Sexual attributes are always present in representation of the femininity. The exaggeration of buttocks, vulva and breasts are shorthand that have existed since the first representations. In this silhouette we are unable to recognize neither the woman, nor the goddess. It is a silhouette of something universal, as well as indisposed: a penis, represented erect before the observer (*Cassen 2000b*). The phallus on the stone redoubles the stele, redoubles its intention, and redoubles its image, intuitively captured as far as possible: an erection (Fig. 1).

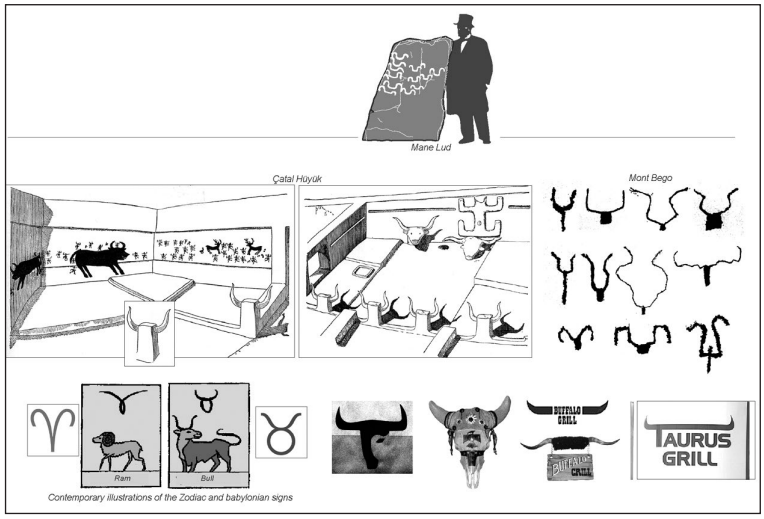

Fig. 5. From the realistic reprentation of a bull's head, or horned head, to an abstract sign (after* Mellaart 1967, De Lumley et al. 1995*).

The Axe-plough

We have to transform, secondly, a peasant's tool into a monster. How surprising is the plough that we see on some steles from the region. We will not find this object in excavations, neither it's representation that could have been used for comparison or that could have been interpreted as an original. Its strict appearances on the coastal sites, parallels with another similar motif from the Iberian Peninsula, and a meticulous formal analysis have transformed an agricultural implement into a sea animal, a sperm whale (*Cassen, Vaquero 2000; 2004*). Its hump, its tail in perspective, its blowhole, its quadrangular head, and its deployed penis are abstracted, as it is the case with any animal that it is hard to see (Figs. 2 and 3).

The Crook

The pastoral crook, perhaps Episcopal emblem, sometimes also an ordinary sickle, takes the role of a badge of authority for the tutelary divinity, and shares with the polished axe – this one also too limited in its action to the lone lumberjack, clearer of land – a graphic representation, completely analogous in appearance: a straight sleeve and a crooked hook, both designae a peaceful agricultural way of life since the 19th century (*Cassen 2000c*).

But it is first of all a hunter's weapon designed to move; it is an ideal composite tool. In many societies, the throwing weapon the "boomerang" becomes the arm of warlike conflicts before it was relegated to a "sportsman" role in the bird hunting.

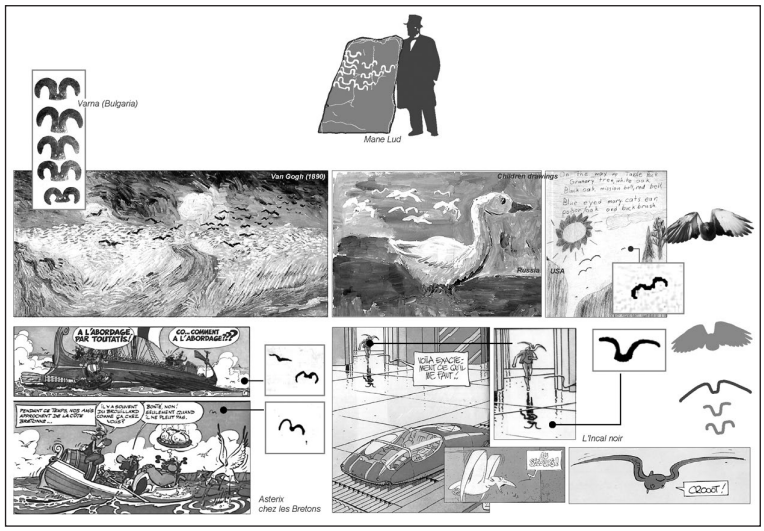

Fig. 6. Representation of birds in comics and children's drawings; analogies with the 'horned' from Varna (after* Ivanov 1988; Moebius, Jodorowsky 1981; Gosciny, Uderzo 1986; http://ladoga.krc.karelia.ru/environ/ecosystems/fauna/birds/gooses/pictures/index.phtml*); http://www.or.blm.gov/Medford/images/table_new/art11.jpg

More generally, it is also a great benefit for prehistorians to follow in detail the process by which it no longer represents a simple hunter, as in Antiquity, but the protagonist of mythical hunts, no more a bygone weapon but a mythological badge (in Etruria, for example, with the *lituus*; in Greece, with the *lagobolon*). Fearsomely efficient in the hands of a skilful hunter, we know that painted or engraved, from Australia and Africa, Europe to America, the crook of the throwing weapon seems to pass invariably from a representation of "action" within a narrative sequence to an ostentatious figure. And here and there, the same process repeats an irresistible transformation, evolving from the fundamental distance weapon – in the simplest form of throwing a stone – to a hieratic emblem, an insignia of status, an weapon that will come to distinguish a divine king (Hittite, Egyptian, etc.) or a Siberian shaman (Altaï) by the fact, perhaps, that it does not spill blood.

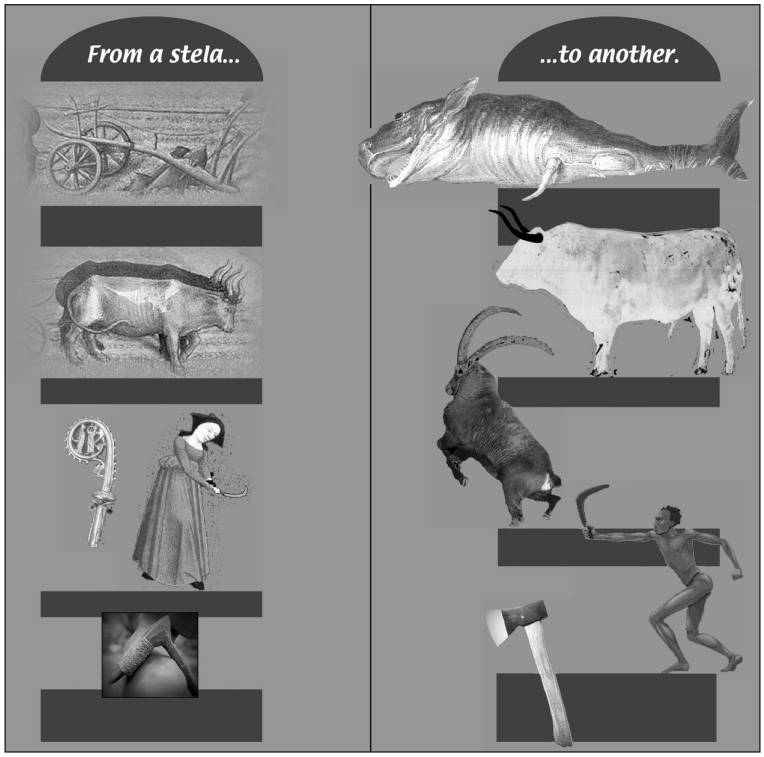

Fig. 7. From the usual peaceful representation to a violent association of arms and animals on the Table des Marchand/Gavrinis stele.

The Horned

In Brittany the interpretations of this sign have been generally accepted in 19th century. The interpretative model was so popular that it would be necessary to have a powerful arguments to contest it. This decisive argument was discovered on a stele in Locmariaquer (Morbihan), with the deciption of a "raised" bird in full flight, the head turned outwards (Fig. 4), superposed to a white quartz vein (*Cassen, Vaquero 2003b*). We will focus on this sign more than on the other signs (*Cassen 2005*). Above the bird, an immense crook, also processed in *champlevé*, bars his rising way, a form which was inventoried in the region thanks to some objects of similar morphology and comparable size (Petit Mont, Er Grah, etc.), but different from our identification because classified by archaeologists in the category of 'horned', others horned (*Le Roux 1992*).

A first empirical approach has allowed us to evaluate the obvious differences in the multitude of birds, even before evoking in detail the classifications of ornithologists. Finally, the alone possible confrontation obtained after our research was the opposition between the *colombidae* and the *corvidae*. But argument against the last one is that neither the form of the beak, impressive in its length and its crookedness, nor the flight, sometimes similar to the raptors (the great raven), are visible in Locmariaquer.

But on the contrary, the flights of the raven and the crow are quite varied. It can be frequently observed that when they fly in groups, their wings are turned down in a similar roundness as on 'Men Bronzo'. This design is indeed a figure that we could connect with the "playing" ravens , executing some buckles, zooms and stung swirling.

However, neither the crow nor the raven have tails as straight, nor heads so round, or beaks so short as the engraved representation indicates. We therefore decide that this signs represents *colombidae*, especially the migratory pigeon.

But whatever the species, if a bird as clearly legible as the 'Men Bronzo' figure has played a decisive role in the mythical bestiary of the Armorican Neolithic (similar as its sea pendant, the sperm whale), no doubt it requires a scientific approach to reinterpret other signs as birds, which were previously badly understood. A representation of such importance in

our interpretive pattern, unique in Brittany, can not reside isolated.

Within the group of inventoried signs (sperm whale; bovine and ovine snake; horned; "sheathed axe", blade and handled axe; crook; bow and arrow; phallus), we eliminate first the phallus and the animals, including the snake that, even stylized, seems impossible at first sight to confuse with the bird. Objects, unanimously recognized, will not be among the pretenders (axes, bow and arrows). So, by subtraction, it is necessary to consider two exclusive interpretations: the "sheathed axe" or the horned.

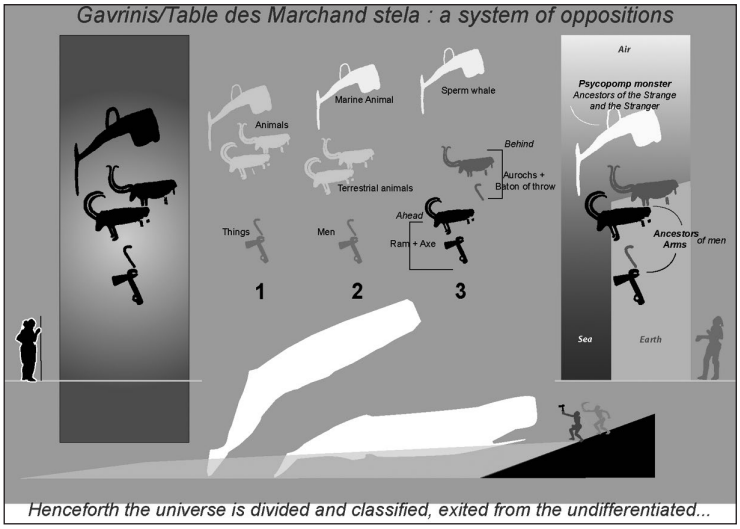

Fig. 8. The stele of Table des Marchand/Gavrinis (Morbihan): decomposition of the scene (after* Cassen, Vaquero 2003*).

The first, "sheated axe" is a composition where no analogous morphology as for bird can be found (*Péquart, Le Rouzic 1927; Shee-Twohig 1981*). The second interpretation was broadly accepted (*Déchelette 1908*) and, we would be pretentious to contest it. And yet... A cranium of bovid, perhaps of cervid, integrates systematically two meaningful graphic elements: a pair of horns, and a "head" (Fig. 5). No representation anywhere contradicts with this rule. The cases from alpine regions (Monte Bego in France, Val Camonica in Italia), the historical place *par excellence* for this type of representation do not contradict this assertion, too.

The "head" can be realistic, or square and massive, or on the other hand, reduced to a vertical line. The horns can be limited to simple jagged lines or developed in a filled hyperbole, while passing through the exact reproduction of the Morbihan "horned".

Nothing mentioned above appears in the Armorican corpus where the sign presents no structural analogy with the graphism of the real horned sign. We can claim correspondingly, from coherent and logical research based on the discovery of the 'Men Bronzo', that the only solution possible to the famous horned signs is a representation of a bird figured full face, in flight, with raised and deployed wings (Fig. 6).

The Axe

It is not only a simple tool for cutting down virgin forests, but most of all a new defense and attack weapon that acts in *percussion lancée*, the expression of the self by means of force, creating the shock of one body confronted with another. It will split better if the impact is violent. Slivers make a vivid noise, the *fulgurance* of knocks warms up the blade. The impetuous and sharp axe is expressive and without restriction. Here is the intense power of action and the expression of an weapon/tool, brutal and resonant, thundering and tumultuous.

And furthermore, where the stylized representation of an adze in the form of a cross, can be recognized in as representation of human form (Mané Lud; *Péquart, Rouzic 1927; Cassen et al. 2005*). Its cruciform figuration corresponds to the universal disposition of the static body where legs are joints and where arms are tended in the lateral and opposite directions and not to the form of the figure of the "orant", with arms raised to the sky and legs parted by a symmetrical and similar opening of the body, a body which is no more oriented in the same manner. In our opinion this can only be "Man of stone" (*Gouletquer 2001*).

A new order of meanings – an other type of communication (Fig. 7)

These engraved signs are the expression of a myth, a message about the world, about life and death, and because it supposes adherence to spoken words, it expresses both the knowledge and beliefs of oral societies. The myth tells a sacred history, returned sometimes to a real history, and undergoes in its transformation, the vagaries of the history lived. The myth ensures the system of oppositions by the intervention in the indistinct.

Let's take the stele of 'Table des Marchand' as an operative example: to observe and to construct such a system, used by anthropologists. The separation

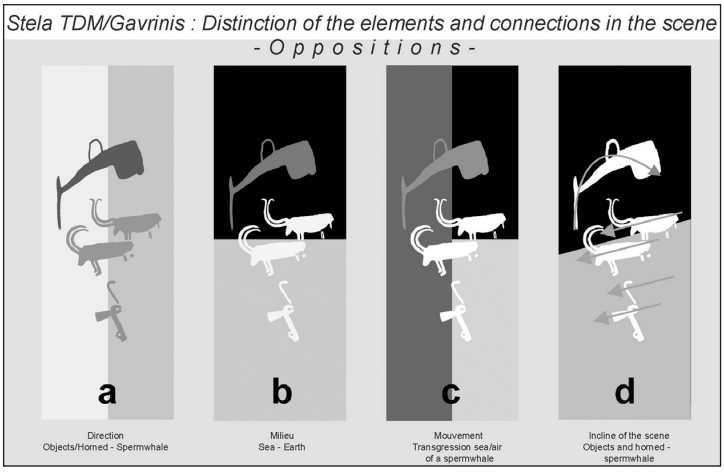

Fig. 9. The stele of Table des Marchand/Gavrinis (Morbihan): structural analysis of the signs (after* Cassen, Vaquero 2003*).

works as an opposition between things and animals and, between a savage marine animal, two terrestrial animals, and the objects of men, made by men. It creates spatial composition, (3) the sperm whale, and under it, two couples formed by a bovine and a crook, and a ram accompanied by an axe; the ram is engraved *on* the bull, in a second moment, while the axe is also engraved *on* the crook, in a same secondary process which is 'promoting'» a figure to the detriment of the other, in addition to the visible hierarchy of positions, which presents the ram and the axe before the bull and the crook, placed in a retiring situation (*Cassen, Vaquero 2003a; Cassen 2005*) (Fig. 8).

We are facing (a) an opposition of directions, between a sperm whale on one hand, head opposed to the right, and objects and animals on the other hand, heads and blades directed to the left; (b) an opposition of a *milieu* between the sea and the earth; (c) a contrast of movement, where a sperm whale transgresses the air, flying over the ocean and the seashore, and (d) flying above animals and weapons which present and oppose their forms and their active and functional elements (horns, blades) according to a slope in direction and relation to the sea, as the sea in a lower part of the composition (Fig. 9).

Here, on the edge of the Ocean, in a reversed order of weightlessness, a sperm whale exits flying from and over the unknown and confronts with the arms of humans and with the animals of men (Table des Marchands). While a crook in full down thrust of its tedious touch hinders a knock down of pigeon coming from the southern horizon ('Men Bronzo') and, in the same time, a gigantic phallus' gland opposed to the active sharpness of the axe ('Mané Rutual').

Here are restrictive images proclaim hierarchies and power, cosmological myths also answering the question: who are the most powerful, gods or angels, man or animal?... So many aetiological myths legitimate the order of the sovereignty...because the world of the beginning is also the world of the government. Worked out by our symbolic activity, transcendence is the projected image of this shared desire for power, and the confession of our impotence. For the god or the gods, it is the first and essential value and attribute of the deity, that is symbolized by a wing, a tooth, a horn, a meteor, an axe or a boomerang...

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back to contents

UDK 903.2(498)"633/631":291.37
Documenta Praehistorica XXXII (2005)

New archaeological data refering to Tărtăria tablets

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ABSTRACT – *We analyze and present new points of view regarding the 'Danube' script based on recent investigations of the old Tărtăria discoveries: archaeological context, anthropological expertise, absolute dating and the meaning of the renowned tablets.*

IZVLEČEK – *Analizirava in predstavljava nove poglede na 'Donavsko' pisavo, ki temeljijo na sodobnih raziskavah starih odkritij iz Tărtărije: arheološki kontekst, antropološko strokovno mnenje, absolutne datacije in pomen slovečih plošč.*

KEY WORDS – *Tărtăria tablets; 'Danube script'; signs; symbols; priestess; ethno-religion*

DATA ABOUT THE SITE

When the Tărtăria tablets were discovered many discussions and questions arose concerning their absolute chronology. At that time, the beginning of the Starčevo-Criş culture was dated to around 3400 BC (*Grbić 195.25, 27; Benac 1958. 41*). Tărtăria-Groapa luncii is located near the CFR station Tărtăria, on a small promontory. Some time ago, below this promontory a branch of the Mureş River flowed; this branch received water from a small stream and other springs from the high terraces of the Mureş River (15 m high), which was greatly very much eroded flooding. Because of this we can now see a very abrupt and eroded bank in the area of trenches made by Kurt Horedt, Nicolae Vlassa or Iuliu Paul (*1995*),

Fig. 1. Vinča settlement at Tărtăria.

Fig. 2. Tărtăria: location of the excavations.

which cover an area of about 200 m (Figs. 2 and 3).

Nicolae Vlassa believed that the tablets were related to proto-Sumerian writing, and that they offer the chance of making a cultural and chronological synchronisation of Europe and the Near East (*Vlassa 1962; 1964; 1965*). His opinion on this subject has been confirmed by Milojčić (*1965*) and Sumer expert Adam Falkenstein (*1965*). This opinion was also sustained by Makkay (*1969; 1990*), Hood (*1967; 1968*) and others.

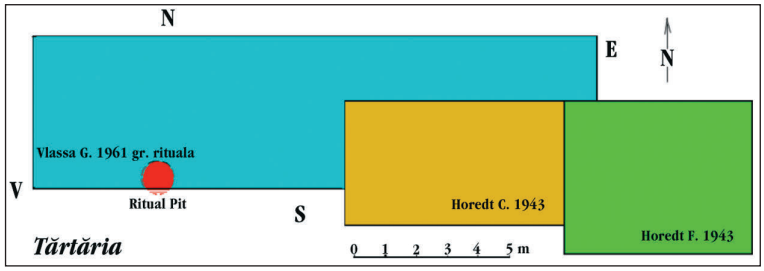

Fig. 3. Topographic plan of the Tărtăria site, after Vlassa.

Most other archaeologist, champions of the long chronology, have not agreed with this opinion, looking for different kind of 'vices', 'errors' or 'myths'. They adopt other hypotheses (see *Merlini 2004; 2004a*).

Some new projects looking to reveal the truth about Tărtăria are supported by Marco Merlini with his "Focus on Tărtăria" from the *Prehistory Knowledge Project*, or the Institute of Archaeo-mythology, which with the Serbian Academy of Science and Arts has initiated a very interesting debate focused on the Danube Script.

Such a subject raises great in some other countries, among them Germany (*Schier 2002; Sinn 2002*), Bulgaria (*Karlovo 2002 online*), Austria (*Der Turmbau zu Babel 2003*) and Serbia (*Symposium Novi Sad 2004*). Therefore, in our opinion, the Ljubljana symposium is a new stage in the definition and results obtained by recent research.

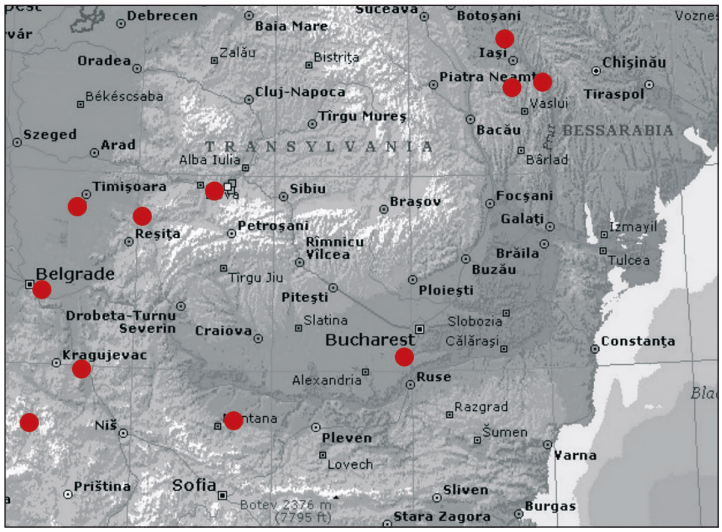

Fig. 4. Map with tablet distribution in SE Europe.

We now know that there are many tablets with signs in Europe (Fig. 4). There are also new data, information and even interpretations of such kind of discoveries (Gradešnica: *Nikolov, Georgiev 1970; Nikolov 1986; Winn 1981; Winn 2003*). Such pieces are known from the Early Neolithic in Romania and neighbouring regions (Perieni, Glăvăneşti), the Developed Neolithic (Tărtăria, Parţa), Late Neolithic (Turdaş, Orăştie, Sălbăgel, Tangâru, Gradešnica, Rast, Suplevac) or Early Eneolithic (Isaiia, maybe Poduri too) (Fig. 4). The Tărtăria tablets are special because of their context.

STRATIGRAPHICAL DATA AND THEIR INTERPRETATION

These tablets were discovered in what Vlassa called a ritual pit (*Vlassa 1962; 1964*). He connected this pit with a pit house found nearby (Figs. 8 and 11). We must remember here that some pit houses have related areas nearby for household activities (Figs. 8–11). It is the same situation with the pit house and the ritual pit at the Tărtăria site. Both belong to the same level (h11) of excavation (Fig. 11).

The distance between the ritual pit and the pit house was 70 to 90 cm, and they belong to the same archaeological complex. We have checked this, comparing the radiocarbon data obtained from the ritual pit and the pit house.

As we mentioned before, Vlassa (*1962; 1964*) and Sinclair Hood (*1967; 1968*), considered that these complexes contemporary. J. Makkay (*1990.Fig. 1*) put together on a larger plan Vlassa's sections and those made by K. Horedt to suggest their correlation and (Figs. 3 and 10).

Some archaeologists broke the ritual pit from its archaeological context and made free interpretations, as D. G. Zanotti did

(*Zanotti 1983, and our response, Lazarovici-Maxim 1991*), in trying to solve the problem of chronology or typological association, as the anchors generally considered as belonging to the Coţofeni level and so on (see stratigraphy position Fig. 11).

Makkay wrongly located the ritual pit near the south profile of the trench. The correct position is in the northern border of this G trench's profile (Fig. 11). In the photo (Fig. 9) we can see the pit profile projection. We underline once more that the ritual pit was located in the northern profile of the cassette (Fig. 8).

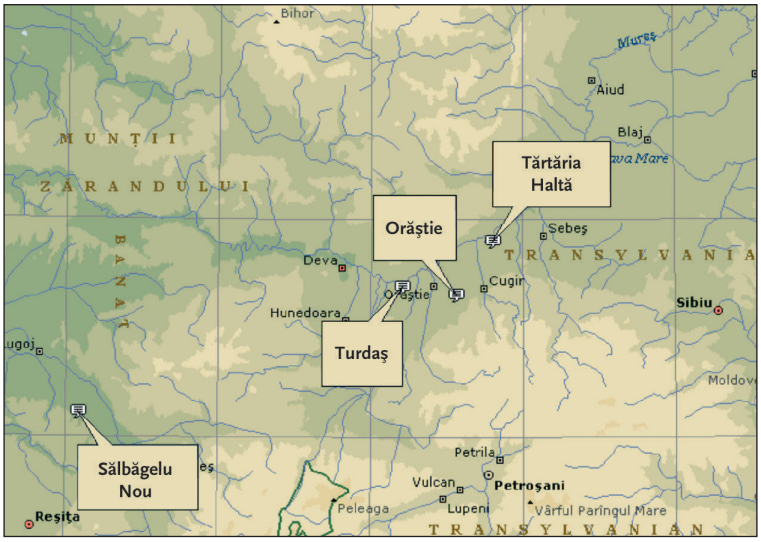

Fig. 5. Transylvanian sites with tablets.

Other scientists have furnished new, precise data (*Masson 1984; Milisauskas 2002.236–237*), while others have minimized the information and pictures published by Vlassa (*Berciu 1967; Comşa 1982. 82–85*). Therefore, we have to underline once more that is necessary to accept the fact that the pit house and the ritual pit belong to the same archaeological complex, they are contemporary, as the radio-carbon data prove. We do not intend to analyze here different speculations that have been made, because Merlini has done this already. The aim of this paper is to present new data and to reanalyse the objects and their conditions of discovery, to offer new arguments for their stratigraphy.

THE SKELETON – ARCHAEOLOGICAL DATA

The ritual pit contains various archaeological remains, as well as some parts of a human skeleton. The shape and the extent of the ritual pit did not permit the deposition of an inhumation, and in fact the human bones were placed there after the flesh had been removed or an exhumation process.

Vlassa believed that the bones had been burnt. The bones had a charred appearance and traces of sponge or foam. Some parts of the skeleton, the skull and smaller bones, are missing. Only one of the bones among those recovered was burnt. Because at that time it was not possible to make an anthropological analysis, Vlassa did not wash the bones. We washed them and requested anthropological expertise. We believe that in fact the bones were bleached in the sun and therefore they have a whitish colour; a similar situation and rituals are known from the end of the Coţofeni culture until the Early Bronze Age (*Lazarovici, Kalmar, Maxim 1987–1988; Lazarovici 1998*; for defleshing/excarnation see *Merlini 2004*).

Fig. 6. Location of excavations by Horedt, Vlassa and Paul.

Fig. 7. Old River channel.

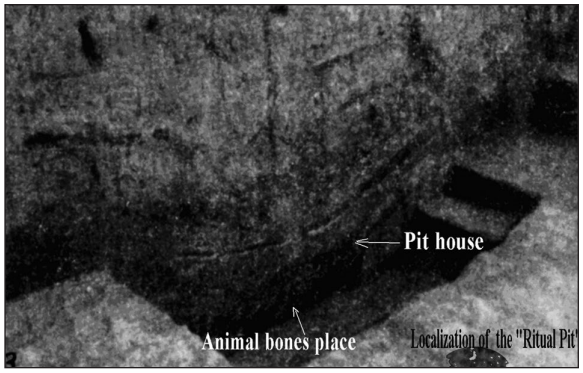

Fig. 8. The pit house; southern profile of G cassette made by Vlassa (photo N. Vlassa).

Our hypothesis was sustained by the forensic study made by Georgeta Miu, at the Center for Biological Research, of the Romanian Academy. Only one bone belonging to an animal, showed signs of burning, and this was mixed with the human ones, which had no traces of burning (*Lazarovici, Miu 2004*). The animal bone may have been be put together with the human upon interrment, perhaps in relation to mortuary or funerary rituals. Georgeta Miu has also observed that the skull and many small bones (such as those from the palms or feet) are missing. This might be the result of a natural process, such as when scavengers take these parts (see *Lazarovici 2000*). We cannot explain the absence of the skull bones. In almost cases of defleshing process, skull bones as well as teethes are preserved even the small bones of the face are disappearing. Therefore, we hypothesise that the absence of the skull might be related to a skull cult (our opinion and bibliography, *Lazarovici-Maxim 1995*). But we have also to check the materials once again from the earlier excavations by Horedt and Vlassa to be sure that they were not mixed with other materials or overlooked when the profile was cleared (Fig. 11). This last hypothesis is supported by Vlassa's photos, which shows that the pit was partially cut (Fig. 9).

The radiocarbon date for the human skeleton from the ritual pit is *level h11, Rome – 1631, 6310 ± 65 yr BP (1σ, 5370–5140 Cal BC)*; the radiocarbon date for the animal bones found at the bottom of the pit house is *level h16+h17, Rome – 1655, 6210 ± 65 yr BP (1σ, 5280–5060 CAL BC)*, and mixed *cultural level, Rome – 1630, 6200 ± 65 BP*. These results show that they were partly contemporaneous. We believe that in this case Tringam's observations (*Tringham 1971*), or Zanotti (*1983*) have no real basis.

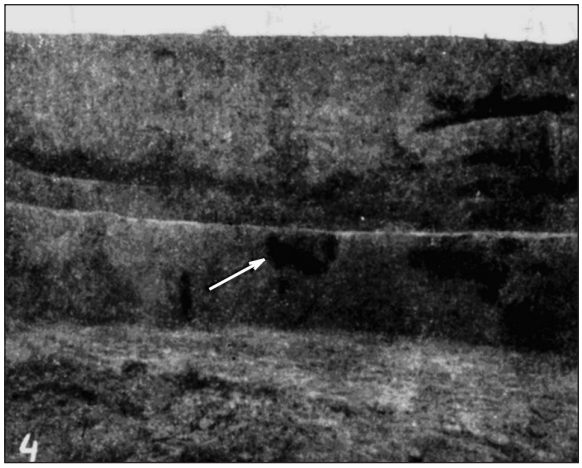

Fig. 9. Ritual pit, the northern profile of G cassette, projected in a photo profile by Vlassa.

THE SKELETON – ANTHROPOLOGICAL DATA

The whitish colour of the human bones might be related to long exposure during a defleshing/excarnation process. The forensic results were stated by Merlini (*Merlini 2004a*): "*The skull and pelvis are missing (from the latter there are only some fragments); the sex and age determination of the subject has some limitations. Dr. Georgeta Miu, based on metric and morphological features of the long bones (entire or fragmentary) and others anthropological features, considers that the bones belong to a female of 50–55 years old. The age was estimated based on: reabsorption of spongy tissue, the appearance of the pubic area, and some particular pathological degenerative processes in some bones. The height is 147 cm, indicative of a small woman. It was calculated on the basis of classic known methods (radius, cubitus and tibia length).*

Our analysis and conclusions are based on the small height of the subject and on the gracile features of the bones. We recall that the skull

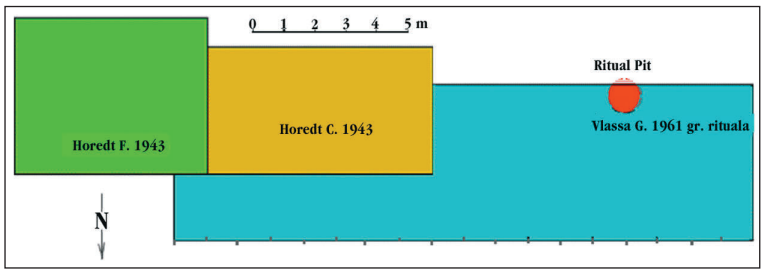

Fig. 10. The site of the ritual pit after Makkay and others is wrongly located on the southern profile.

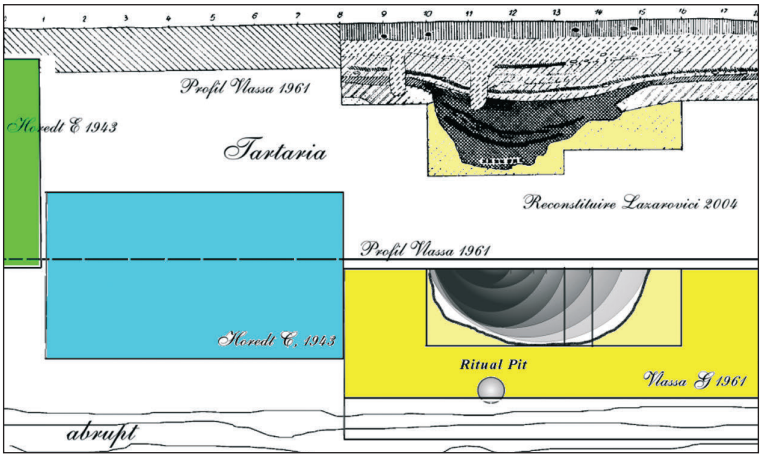

Fig. 11. Tărtăria, stratigraphy; location of the ritual pit ▲; profile of cassette G made by Vlassa, and different levels of excavation (Reconstruction, Lazarovici).

and facial bones are missing. Based on the available data we believe that all these features indicate a Mediterranean type.

The lower part of the articular surfaces of the pubis show a similar degenerative process. We do not know the origin of these bone lesions, but they are associated with a quite high process of osteoporosis. All these degenerative processes may have produced great pain and it is probable that she experienced pain in the last 10–15 years of her life. But her death can be related to other reasons" (*Lazarovici, Miu 2004; Merlini 2004a*).

Fig. 12a. Distorted femur.

We would like to underline some aspects related to the first impression that the bones were burnt. This might be related to the spongy aspect of some of the bones, with holes and swellings. Miu observed these features and asked for a further opinion from Dinu Oneţ a radiologist and physician at the Neurosurgery Clinic in Cluj-Napoca, who suggested some explanation for these kinds of deformation.

Radiological expertise and clinical analogies indicate *gummatous osteoperiostitis, tuberculosis or osteomelites. We also do not exclude an ancient strain of syphilis* (*Merlini 2004; Marcsik 1994; Baker and Armelagos 1988; Dennie 1962; Hershkovitz et al. 1995*).

OPINIONS ON THE MEANING OF THE CULT OBJECT FROM THE RITUAL PIT

The modification of some information relating to the content of the ritual pit, of anthropological or geological data, lead us to present new data, information, and opinions about the meaning of the pieces discovered in the cult pit (close to or different from those of Vlassa), about their deposition and their state of preservation.

Taking into account the fact that the human bones belong to an old, ill woman with specific disabilities in walking (*Merlini 2004a*) we believe that two hypotheses must be considered: a) it is a "priestess" or a person with a similar function, not well enough defined; b) or a "shaman"/"sorcerer" (as Vlassa suggested, but in this case it is a woman) who inherited

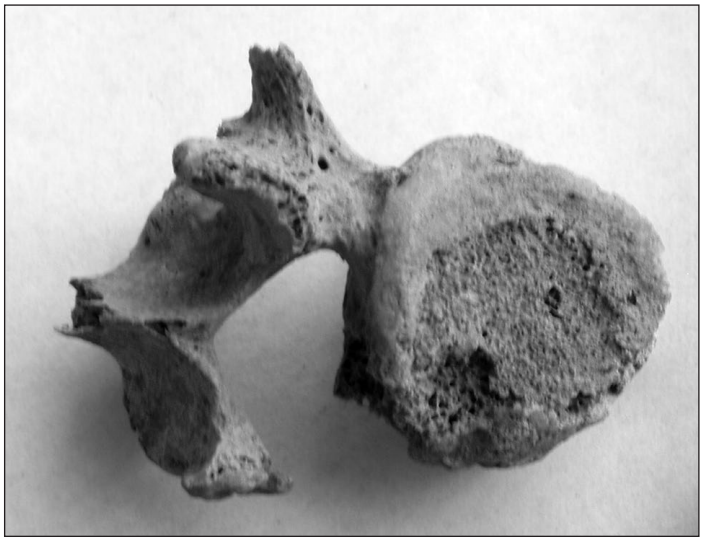

Fig. 12b. Distorted rib.

Fig. 13a. Rib with specific feature of gummatous osteoperiostitis.

the objects, together with some knowledge (in both cases this last assumption is probable). The pit contained many objects (Fig. 15), some broken, intentionally or not, others whole.

Broken objects

● Both anthropomorphic idols. In this case, the meaning is that there are not relations between this owner and divinity (Figs. 16a, 16b).
● Fragment of the "anchor". This might have been used for weaving (Fig. 16c).

Fig. 14. Tărtăria tablets T1 and T2 up, T 3 down left ▲; 4) pendant, tablet T3 cover the signs from T2, upper register.

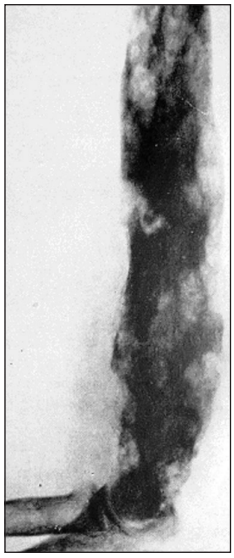

Fig. 13b. Gummatous osteoperiostitis, form of a humerus pseudo tumor (child 14 years old).

● Intentionally broken alabaster idol (Fig. 16d).
● Bracelet, made of a very perishable material, might have been broken intentionally during the defleshing process (Fig. 17a).
● Altar, with right part broken (Fig. 17b).
● Fragmented head of an anthropomorphic idol (Fig. 17c).

There are many rituals related with intentionally broken cult pieces which are then burnt.

Whole objects

Among the whole pieces we have to mention two idols of a phallic type. Perhaps their destruction was prohibited because they were objects directly related

to fertility, fecundity, or ritual defloration. Their destruction might bring trouble to their makers.

GEOLOGICAL DATA ABOUT THE TABLETS (FIGS. 14–15, 19–21) – THE MIXTURE AND THE PASTE

Professors Lucreţia Ghergari and Corina Ionescu made microscopic studies of the tablets at the Faculty of Geology, Geological Department of Cluj University and observed the following:

- All the pieces are made of the same type of material, which contains a very small quantity of clay and a large quantity of sand. This mixture is still a problem. The pieces have been treated with clorhidric acid to clean the surface. Because of the mixture of the material which contains a lot of calcium carbonates, many cracks appear during this process.
- On the surface of the pieces there seems to be a high concentration of calcium carbonate. To solve this problem it is necessary to obtain new samples; this is very difficult, since the pieces belong to the "treasure" of the national cultural heritage and there are special rules for preservation and investigation.
- Signs were made by incision, repeat pressure or impression (especially the small signs: Figs. 19 and 21.3); the long incisions have irregular traces which deform the route of the lines (Figs. 19 and 21.2).

Fig. 15. Pendant, tablet T3 cover the signs from T2, upper register.

About the "faking" of the tablet

In the archaeological literature, on different notes, but also in different discussions, some archaeologists say that the tablets are fakes and that they were fired. From our discussions with Vlassa, we conclude otherwise. After the three pieces were cleaned in the clorhidric acid, many small cracks appeared, so that the pieces had to be conserved. For this a special fluid (nitro-varnish and dilutant) was used; for better, deeper penetration after the pieces were

We noted that to clean the calcareous deposit from the surface of the pieces they were placed in a clorhidric acid bath. This greatly affected the calcareous inclusions and the binding of the material the pieces were made of (based on calcar). To reanalyze these thin section analysis is needed.

There was a grass fibre (Fig. 20) on the superior part of one of the pieces. This fibre was covered with a clay stratum and a carbonate scab.

Fig. 16a and 16b. Intentionally broken female idol.

treated with this mixture, they were placed in a drying chamber at a low temperature. Therefore it was this which caused the fragility of the pieces the cleaning with clorhidric acid affected the carbonates binding the tablets. Other pieces, made of similar material, if not washed in clorhidric acid, do not suffer such a problem. A coarse/rude material can be used to make many cultic objects. This custom is a religious condition, not related to technology or the skill of the maker.

Fig. 16c. 'Anchor'.

Fig. 16d. Intentionally broken alabaster idol.

The best examples are the Isaiia or Poduri cultic treasures of Precuteni culture, kept in pots of rough clay, withough a careful finish, in a civilization renamed for the quality of its ceramics (*Ursulescu 2004.327, Fig. 4; Ursulescu et al. 1999; 2001; 2002*).

Such situations have been observed too for other clay artefacts (altars, pintaderas, cult pots etc.).

Opinions regarding the meaning of the tablets

Vlassa considered that writing system related to proto-Sumerian civilization; adherents of the short chronology have seen the tablets as a chronological landmark through a connection with Uruk-Warka-Djemdet Nasâr cultures (see *Vlassa 1970; Milojčić 1965; Falkenstein 1965; Makkay 1990; Hood 1967*). Opposing opinions have been expressed by the long chronology camp, based on the ^{14}C data presented and analyzed by M. Merlini (*2004; 2004a*).

We consider that the cultic inventory belonged to a 'priestess'. We believe that this inventory was related to ritual and specific procedures, as rites of passage or other rites. Writing in this case has a cultic character; it is sacred writing expressed through ideograms, but also through signs and symbols; some might represent words or estates (*Lazarovici 2002; 2004a; 2004b, 2004c*).

The tablets we refer to here are not the first. We know others from the Paleolithic period at Mitoc, Cosăuţi (*Borziac 1991.67, Fig. 2/3; Merlini 2004*), from the Early Neolithic at Glăvăneşti and Perieni, the Late Neolithic at Turdaş, Orăştie, Homojdia, Parţa, Svetozarevo, and Gradešnica etc. In all these cases, the signs have a cultic purpose. We have to mention another 3000 signs, variants and combinations

Fig. 17a. Bracelet.

Fig. 17b. 'Zoomorphic altar'.

Fig. 17c. Head from a cylindrical idol.

found on idols, pintaderas, altars or cult pots (*Lazarovici 2003; 2004a; 2004b*).

Absolute chronology (Figs. 22 and 23)

Radiocarbon data have been obtained using samples (animal bones) from the deepest levels of the Tărtăria pit house, and female bones from the ritual pit. We collected samples from all levels of the site, but there were funds to analyze only three samples.

Sample R 1631 was taken from one of the arms of the skeleton (very rich in bone material). The result of the sample is 6310±65 BP. Calibration with 1σ indicates 5370–5140 calBC.

The second sample was obtained from animal bones from the deepest level of the pit house investigated by Vlassa (Fig. 8). Calibration with 1σ indicates 5190–5060 calBC, with 43.1% probability (Fig. 23). The third sample was selected from the material of the first levels, which contains bones from the cleaning of the profile and those thrown away during by the excavation by Horedt.

CONCLUSIONS

● The ritual pit is contemporary with the pit house: radiocarbon data sustain this conclusion. It is also possible that its function is related to the same pit house. We suppose that this woman was living in the pit house and the ritual pit was for storing religious paraphernalia. Her bones, after exhumation were returned to the place where she was living.

Figs. 18a and 18b. The large and the small ceramic 'phalli'.

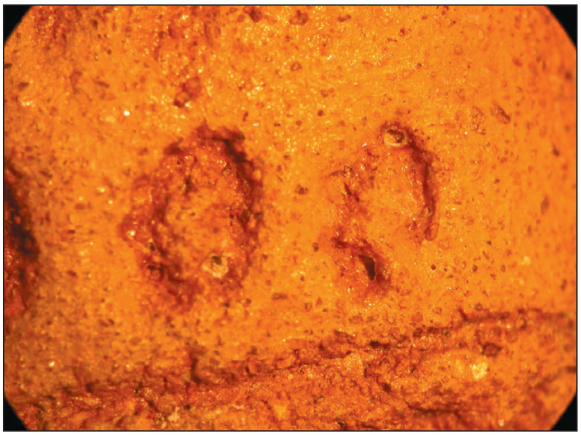

Fig. 19. The round tablet 2. Detail l – some calcareous areas destroyed by acid treatment.

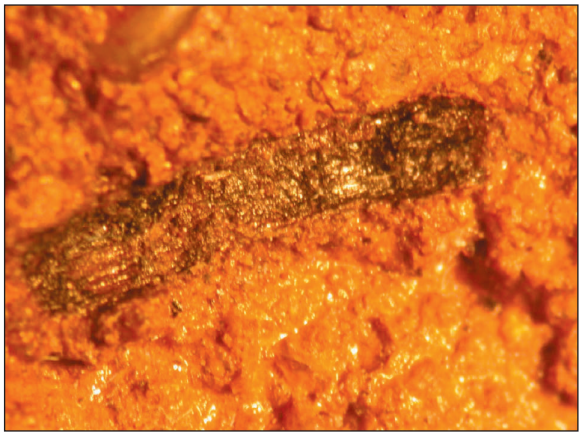

Fig. 20. Organic mixture from modeling, final stage.

Fig. 21a. 1, 3 – tablet 1; 2, 4 – tablet 2; 5, 6 – tablet 3.

Such a hypothesis is supported by two cult discoveries from Poduri and Isaiia which contained 42 pieces. We presume the existence of some special houses belonging to the 'priestess', 'older' or 'wiser' women, often related to the number 7.

● The tablets and other objects from the ritual pit belong to the cult inventory of a priestess. The same is true of the pit house. The objects belong to different cults relating to fertility and fecundity (the Great Goddess and her hypostasis: fertile mother, clever mother). The tablets and their signs represent another problem: they are related to an initiation process; they represent symbolic objects with signs and have a religious meaning.

● Excarnage supposes a period of between some months to 6/7 years. It is possible that in this period the house was abandoned. To this period we can relate the first filling levels. Perhaps the cult inventory of the priestess was destroyed after her death, as a ritual, when she was not in direct relation with the divinity.

● The Tărtăria complex, based on ^{14}C data and stratigraphy, belong to the early Vinča period, between the Starčevo-Criş IVA discoveries (contemporary with Vinča A2), and those from the Cârcea, Banat culture (*Mantu 1998a; 1998b; 2000; 2002; 2003*) or those early Vinča from Liubcova, Orăştie, Turdaş I and Uivar (*Man-*

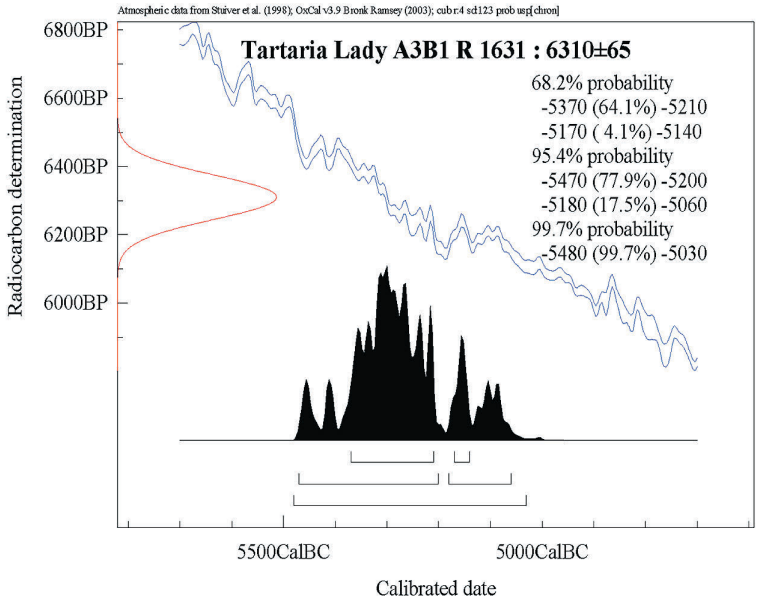

Fig. 22. Tartaria lady – absolute chronology.

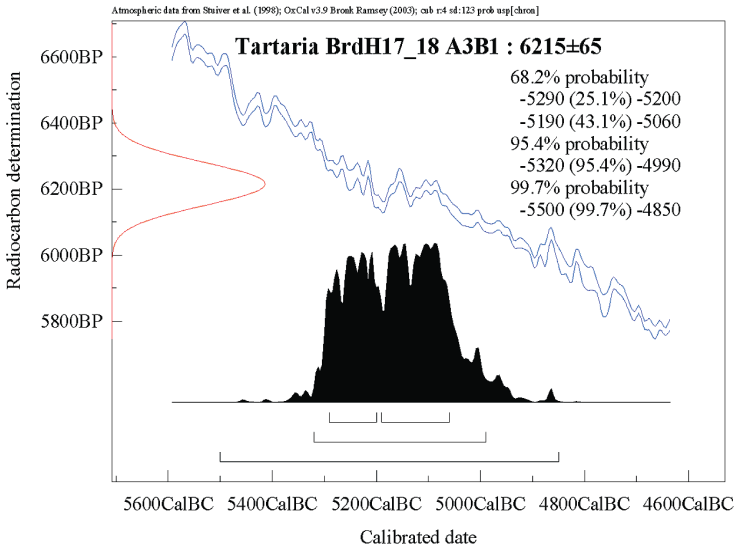

Fig. 23. Diagram of data obtain from the bones of the pit house base.

tu 1995; 1998a; 1998b; 2000; László 1997; Schier & Draşovean 2004).

● On the Tărtăria tablets we find the greatest number of sign combinations. Before and after the Tărtăria discoveries some have spoken of an ancient European script (*Masson 1984*), with southern or Near Eastern connections. Such ideas have been assumed and developed by Vlassa (*Vlassa 1971.161–197; 1976; PhD 1977 m.s*). Tablets discovered in Romania and other places have been summarized and analysed by various archaeologists, such as Winn (*1981*), Makkay (*1990*), Ursulescu (*1998*), Lazarovici (*2001; 2002; 2003; 2004*) and Merlini (*2004*). Today we have a larger number of such pieces, and scientists speak of a 'Danube script' (*Haarmann 1996; 1997; 1998; 2002; 2004; 2004 on-line; Symposium Novi Sad 2004; Merlini 2004a; Lazarovici 2004a; 2004b; Winn 2004; Winn on-line*). This involves the 'Vinča script' (*Winn 1981; 2004; Starović 2004*), „the Turdaş script" (*Makkay 1969; 1990 and bibl.*), or the 'Gradešnica script' (*Nikolov, Georgiev 1970; Nikolov 1986*). We believe that in fact this is merely the beginnings of a script, with a cultic, initiatory character; therefore we believe that many meanings were esoteric, being revealed only partially on the occasion of specific initiations.

The problem of the signs on the tablets and their meaning is a very complex one. Merlini has observed that when we overlap the perforated tablets (T2 and T3, Fig. 14), perhaps a pendant, a part of the text from tablet 2 was covered by tablet 3, possibly an esoteric text. We have analysed some groups of signs and their meaning, but the formation of the database is still in progress; our method of interpretation is still developing, and thus far now we have analysed only some subjects as light fire, sexuality, consecrated liquid (*Lazarovici 2000; 2000a*).

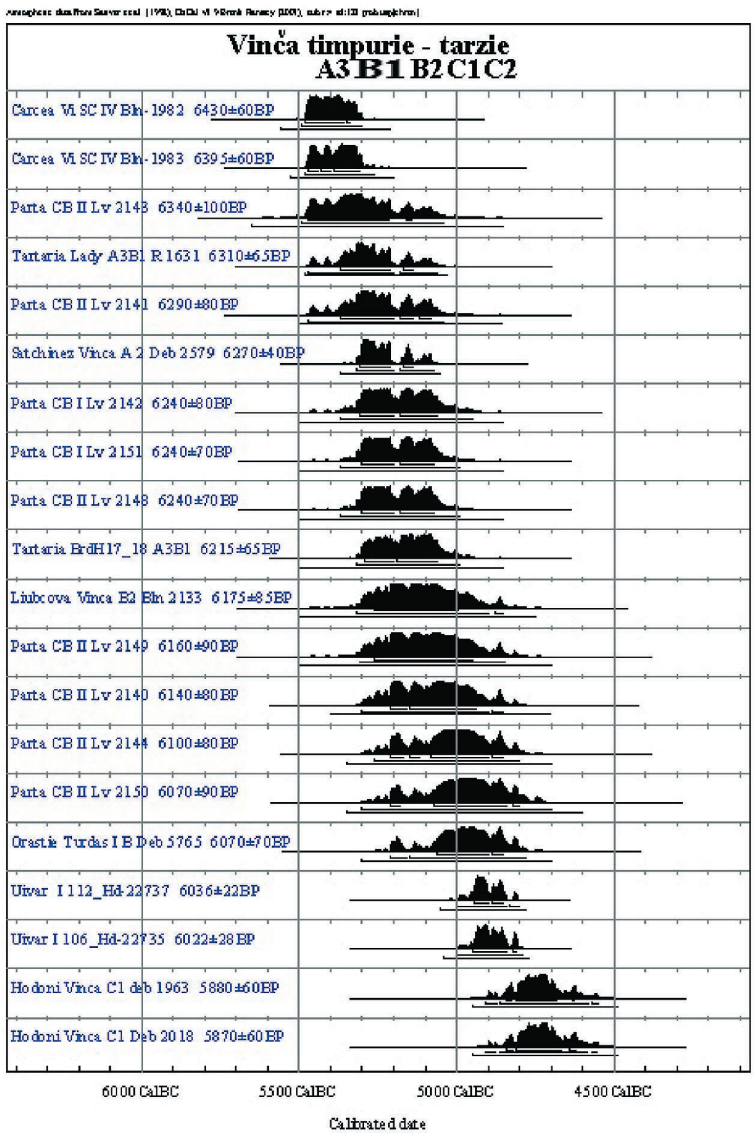

Fig. 24. Absolute chronology of Early Vinča.

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back to contents

UDK 903(4)"633/634":003:291.37
Documenta Praehistorica XXXII (2005)

The challenge of the abstract mind: symbols, signs and notational systems in European prehistory

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ABSTRACT – *Since the earliest manifestations of symbolic activity in modern humans (*Homo sapiens sapiens*) in the Upper Palaeolithic, there is evidence for two independent cognitive procedures, for the production of representational images (naturalistic pictures or sculptures) and of abstract signs. The use of signs and symbols is attested for archaic humans (*Homo neanderthalensis*) and for Homo erectus while art in naturalistic style is an innovation among modern humans. The symbiotic interaction of the two symbolic capacities is illustrated for the visual heritage of Palaeolithic cave paintings in Southwestern Europe, for rock engravings in the Italian Alps (Val Camonica) and for the vivid use of signs and symbols in Southeastern Europe during the Neolithic. Around 5500 BC, sign use in Southeastern Europe reached a sophisticated stage of organization as to produce the earliest writing system of mankind. Since abstractness is the main theme in the visual heritage of the region, this script, not surprisingly, is composed of predominantly abstract signs.*

IZVLEČEK – *Od prve uporabe simbolov pri modernih ljudeh (*Homo sapiens sapiens*) v mlajšem paleolitiku so znani dokazi o dveh neodvisnih kognitivnih postopkih, ki ju predstavljata ustvarjanje naturalističnih slik ali kipov in ustvarjanje abstraktnih znakov. Uporaba znakov in simbolov je izpričana pri neandertalcih (*Homo neanderthalensis*) in za vzravnanega človeka (*Homo erectus*), medtem ko je naturalistična umetnost inovacija modernega človeka. To medsebojno prepletanje simboličnih zmogljivosti smo ponazorili pri dediščini paleolitskih jamskih slik Jugozahodne Evrope, pri skalnih gravurah v italijanskih Alpah (Val Camonica) in pri živahni uporabi znakov in simbolov v neolitiku Jugovzhodne Evrope. Okoli leta 5500 pr.n.št. je dosegla uporaba znakov v Jugovzhodni Evropi visoko raven organiziranosti in nastal je najzgodnejši sistem pisave v zgodovini človeštva. V pisavi prevladujejo abstraktni znaki, kar ne preseneča, saj je abstrakcija glavni motiv slikovne dediščine te regije.*

KEY WORDS – *symbolic activity in humans; representational images; abstract signs; early experiments with writing*

INTRODUCTION

Man/Woman The Symbol-Maker

Man is known as the tool-maker (*Oakley 1961*). For a long time, this image was the only one that spurred scholars with an interest in human evolution. Much later, the image of woman the gatherer was added to complete the picture (*Cashdan 1989.28 ff*). Yet there is still another capacity which is as essential as a marker of human evolution, and this is symbol-making.

"The symbol-making function is one of man's primary activities, like eating, looking, or moving about. It is the fundamental process of his mind, and goes on all the time" (*Langer 1942.32*).

Ever since modern humans (*Homo sapiens sapiens*) colonized the European continent, they have left visual traces of their symbolic activity in self-created

cultural environments. These experiments with culture have yielded remarkable variations in space and time. If human beings' general capacity for symbol-making is the key to culture, then the ability to distinguish between divergent cognitive procedures to produce different categories of symbols is the practical approach to constructing culture. These procedures include iconicity (image-making as expressed in naturalistic pictures) and abstraction (as expressed in motifs such as dots, strokes, circles, etc.).

There has been much speculation among scholars about peoples' ability to make symbols in the Palaeolithic Age. Was *Homo sapiens* capable, from the beginning, of expressing him/herself in abstract symbols, or did this ability develop at a later period? In earlier research, the potential of the abstract mind in early humans was widely underestimated and, still nowadays, many scholars believe that abstract symbolism originated relatively late, later in any case than the oldest manifestations of rock art in Europe. What caught the eye of the discoverers of the painted Palaeolithic caves of Southwestern France and Northern Spain were naturalistic of animals, and these easily dominate the modern viewer's attention also. It is therefore quite understandable that, until recently, abstract motifs were explained as originating from naturalistic forms, identifying abstract symbolism as a secondary capacity of the human brain (see *Lorblanchet 1989* for traditional views). In fact, the pictorial heritage of prehistoric people contains an array of abstract motifs (e.g. dots, strokes, grids, nets). However, the existence of abstract motifs in the picture friezes of the Palaeolithic caves was hardly taken note of, and the repertory of abstract signs was long marginalized in scholarly research. Modern analyses of Palaeolithic rock art pay due attention to both pictures and abstract motifs (*Clottes and Lewis-Williams 1996.62 ff*).

Fig. 2. A painted panel from the La Tête du Lion Cave (Ardèche) (after* Clottes and Courtin 1996. 165*).

Fig. 1. The oldest man-made notches on a bear's skull from the Azykh Cave in Azerbaijan (after* Gusejnov 1985.16*).

The panels where abstract motifs appear are as old as the friezes with pictures in representational style. Consequently, humans have demonstrated a capacity to produce both representational images and abstract signs from the times of their earliest cultural activities onward. The synchronic manifestation of this dual visual capacity provides evidence that the sense of abstractness is not a secondary achievement in the cultural evolution of humans, but is as primary as the sense for representation. It is noteworthy that this duality as expressed in rock art exhibits a parallel in "the appearance of both representational and non-figurative mobile art" (*Straus 1990.293*).

Fig. 3. A painted panel with a variety of different abstract motifs in the El Castillo Cave (Santander) (after* Clottes and Lewis-Williams 1996.76–77*).

ICONICITY AND ABSTRACTION IN VISUAL REPRESENTATION

The Evolutionary Stages of Symbolic Activity

This elementary insight into the synchronic working of the two cognitive procedures (i.e. iconicity and abstractness) in modern humans notwithstanding, we are left with the question: what was first in the visual manifestation of symbolic activity, the representational or the non-figurative? In order to find a reliable answer to this question the modern observer is challenged to extend the search for the origins of symbolic activity beyond the appearance of modern *Homo sapiens* into the cultural horizon of other hominid species. There are indeed very old traces of the use of signs by hominids.

The oldest cultural strata so far known which contains such evidence is found in the Azykh Cave in the Karabakh Mountains (Western Azerbaijan). Here, archaeologists discovered a fireplace around which the bones and jaws of bears had been placed. The bear skull, the lower jaw of which had been removed, attracted much attention, and for a certain reason. The skull bears notches which were intentionally carved (Fig. 1). "All the notches are made by dented tools with bifacial edges. The notches seem to be related to some religious ideas of the Azykh people. The skull notches in Azykh are the most ancient in the world" (*Gusejnov 1985.68*). The positioning of the skull near the hearth is noteworthy, as is the assembling of two lower jaws from bear skulls in the form of a cross. Judging from circumstantial evidence, one can assert some magical purpose in connection with a cult of the cave bear.

The cultural strata with this particular find dates back to the Lower Acheulian period, to about 430 000 years BP. Those who lived in the Azykh cave at that

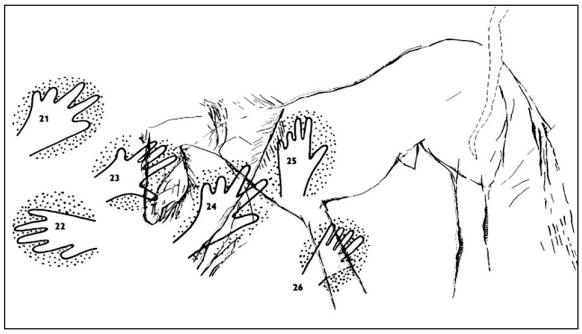


Fig. 5. An animal engraving in association with hand stencils from the Cosquer Cave (Bouches-du-Rhône) (after* Clottes and Courtin 1996.73*).

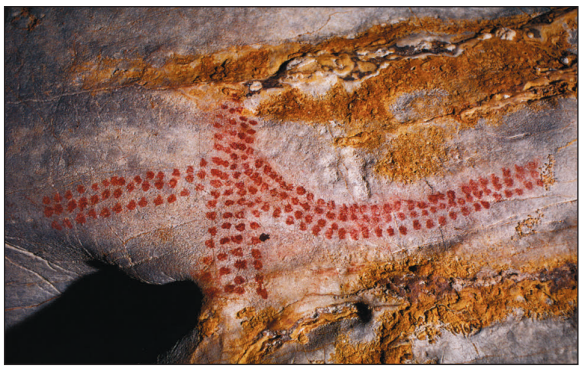


Fig. 4. An ensemble of painted dots in the El Castillo Cave (Santander) (after* Clottes and Lewis-Williams 1996.93*).

time were representatives of the hominid species *Homo erectus*, who lived between 1.9 and 0.4 million years BP. The beginnings of abstract symbolism lie with *Homo erectus*. However, no visual manifestations of a sense of naturalism are known from this hominid species. Similarly, the cultural record of archaic *Homo sapiens* (*Homo sapiens neanderthalensis*) also lacks mobile art in a naturalistic style, although there is evidence for abstract symbolism; e.g. a cross scratched on a fossil *nummulite* from Tata in Hungary, dating to c. 100 000 years BP.

"In the preserved media, *Homo sapiens neanderthalensis* produced non-figurative graphics (*e.g. Marshack 1976*), and on the present view, image-

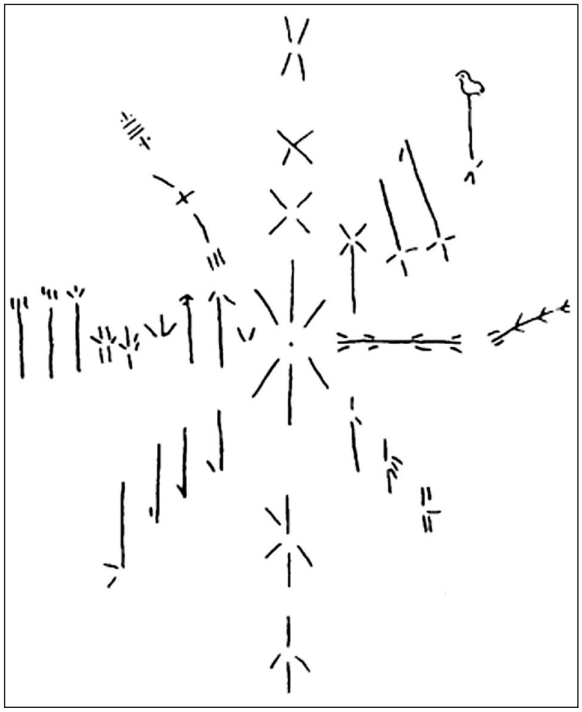
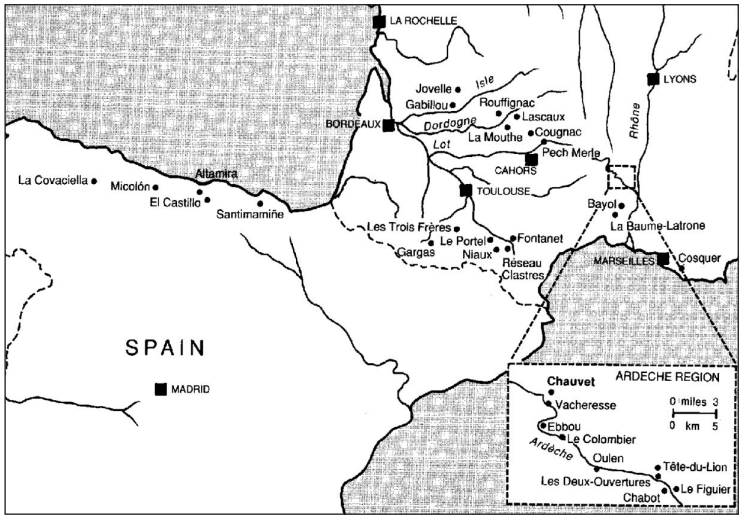


Fig. 6. A general diagram of the "disjointed" signs in the Lascaux Cave (after* Ruspoli 1987.155*).

making is associated with the technologically 'modern' Upper Palaeolithic culture of *H. sapiens sapiens*" (*Davis 1989.180*). Most of the archaeological evidence for symbolic activity "comes from the Mousterian period and the Eurasian area of Neanderthal habitation" (*Marshack 1990.459*). The use of red ochre, perhaps symbolizing blood or the life force in general, is evidenced for archaic *Homo sapiens* since the Late Acheulian period (c. 120 000 years BP).



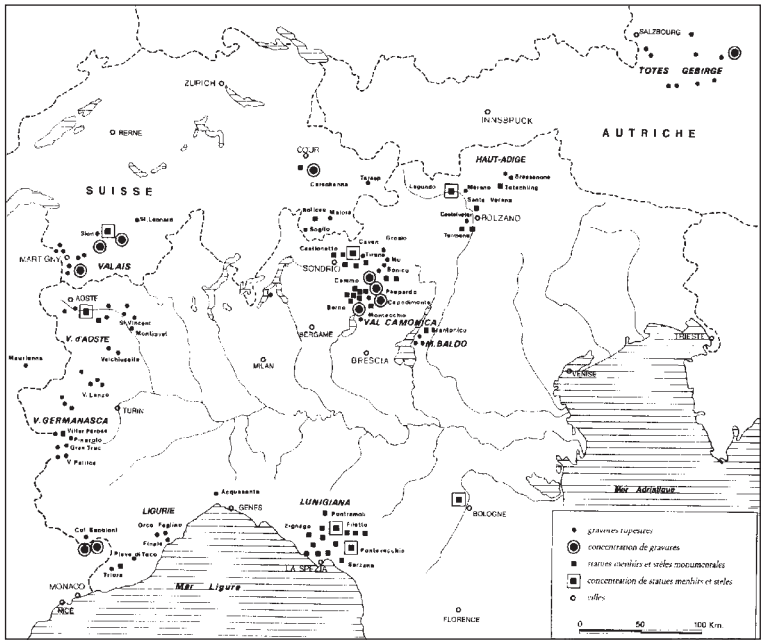
Map 1. Major Palaeolithic caves in Southwestern Europe (after* Chauvet et al. 1996.13*).

In a cross-hominid comparison, the manifestation of abstract symbolism speaks in favour of an inter-species continuity. Consequently, the question of what was first in the visual record, images or abstract motifs, can be answered by identifying the latter as the older category. On the European continuum from archaic to modern *Homo sapiens* we find a chronological scaling of iconicity and abstraction. In the Middle Palaeolithic (beginning c. 63 000 years BP), in the cultural horizon of archaic man, there is evidence for abstract motifs only (as incisions and/or ornaments). "The earliest examples of fully figurative art appear in the Aurignacian technocomplex..." (*Kozłowski 1990.434*), that is, its earliest evidence for the cultural horizon of modern man is no older than c. 35 000 years BP. This time lag in the appearance of representational art is evidence which counters earlier assumptions according to which visual motifs as expressions of a sense of abstraction in *Homo sapiens* were derived from iconic sources (*e.g. Lorblanchet 1989. 133 ff*). Later, in the Upper Palaeolithic, the synchronicity of naturalistic representation (e.g., animals, human beings) and the presence of highly abstract motifs (e.g., grid, circle, dotted line) in the pictorial record highlights the independent functioning of the two capacities (image- and symbol-making) in modern humans.

SYMBOLIC ACTIVITY AND THE SENSE OF ABSTRACTION IN MODERN HUMANS

Iconicity and abstractness as fully-fledged capacities, documented for the horizon of modern humans, mark a leap in the evolution of culture when compared with earlier hominid species that lack iconicity. Representational art is an innovation that fits in with the overall picture of the revolutionary transition from the Middle to the Upper Palaeolithic.

The dual capacity to produce signs of both categories has been perpetuated and developed through the ages. The ways in which iconic and abstract signs interact in the visual record of modern humans vary considerably. I refer here to three regions of Europe, where the cultural heritage testifies to lively symbolic activity in prehistory: Palaeolithic cave painting



Map 2. Val Camonica and other areas with rock art in Northern Italy (after* Anati 1979.52*).

Fig. 7. Catalogue of motifs found in the rock engravings of Val Camonica (after* Anati 1979.72*).

in Southwestern Europe, the area of Camunian civilization in the Italian Alps and, Southeastern Europe.

The visual record of Palaeolithic cave painting

Most of the Palaeolithic caves in Southwestern and Southeastern France and Northern Spain were discovered in the 19th century and in the first half of the 20th century (Map 1). Some spectacular discoveries were made in the 1990s. The Cosquer Cave (Bouches-du-Rhône) near Marseilles, with its underwater entrance, was discovered in 1991, and the Chauvet Cave (Ardèche) in 1995. The paintings and engravings at Chauvet are the oldest so far known, dating back to 32 410 BP. The oldest radiocarbon date for the Cosquer Cave is 27 110 BP. The dates for the other caves are later, ranging from 25 120 BP for Cougnac (Lot) to 11 600 BP for Le Portel (Ariège) (*Chauvet et al. 1996.131, Clottes and Lewis-Williams 1996.54*).

The paintings in the caves of Southwestern France and Northern Spain show a great variety of pictorial elements and their groupings. There are panels comprised of representational images, primarily of animals and, in some ensembles, of human beings. Animals also feature in isolation. In a number of friezes one finds, in addition to animals, various abstract motifs, singly or in groups.

Where pictures of animals appear in close association with abstract motifs – as in the case of the aurochs, with a set of dots painted above the back line of the animal (Fig. 2) – it becomes clear that the visual elements of both categories (iconic and abstract) form a meaningful unit, although the interpretation of the narrative groupings in question remains, for the most part, speculative (see *Anati 1989.95 ff* for a variety of interpretative approaches). There are painted cave walls with abstract motifs only (Fig. 3). In many caves, abstract motifs may appear in isolation, and certain individualized forms may appear in groupings having no association with other motifs (Fig. 4). In this case, the dot is the basic motif, and is featured on the wall in rows of three (extending from left and right) and in fours (in a vertical alignment). Iconicity and abstractness may even form a symbiotic unit, as in the case of settings with an image of an animal (horse) superimposed over traces (with the silhouettes painted in black) of human hands (Fig. 5).

The images in such panels are obviously meaningful components in narrative sequences, the meanings of which have, so far, defied convincing interpretation. The abstract motifs must have been highly significant markers in the context in which they appear. This can be deduced from the fact that certain motifs which abound in some caves are absent from others. This is true for the so-called "disjointed" signs which are typical of Lascaux (Dordogne), but are absent from other caves (Fig. 6).

Images and symbols in the rock art of the Southern Alps

There is another area of Europe where the local peoples' symbolic activity has crystallized in thousands of pictures which were all engraved in stone: Val Camonica in the Italian Alps (Map 2). The Camonica Valley is an administrative division of the Italian province of Brescia. The area has been continuously inhabited since the late sixth millennium BC. In pre-Roman antiquity, the valley was settled by the Camunni. Ethnically, the Camunni belonged to an ancient Mediterranean population which was not Indo-European. The language of the Camunni was written in a variety of the Etruscan alphabet (*Amiotti et al. 1994.19 ff*).

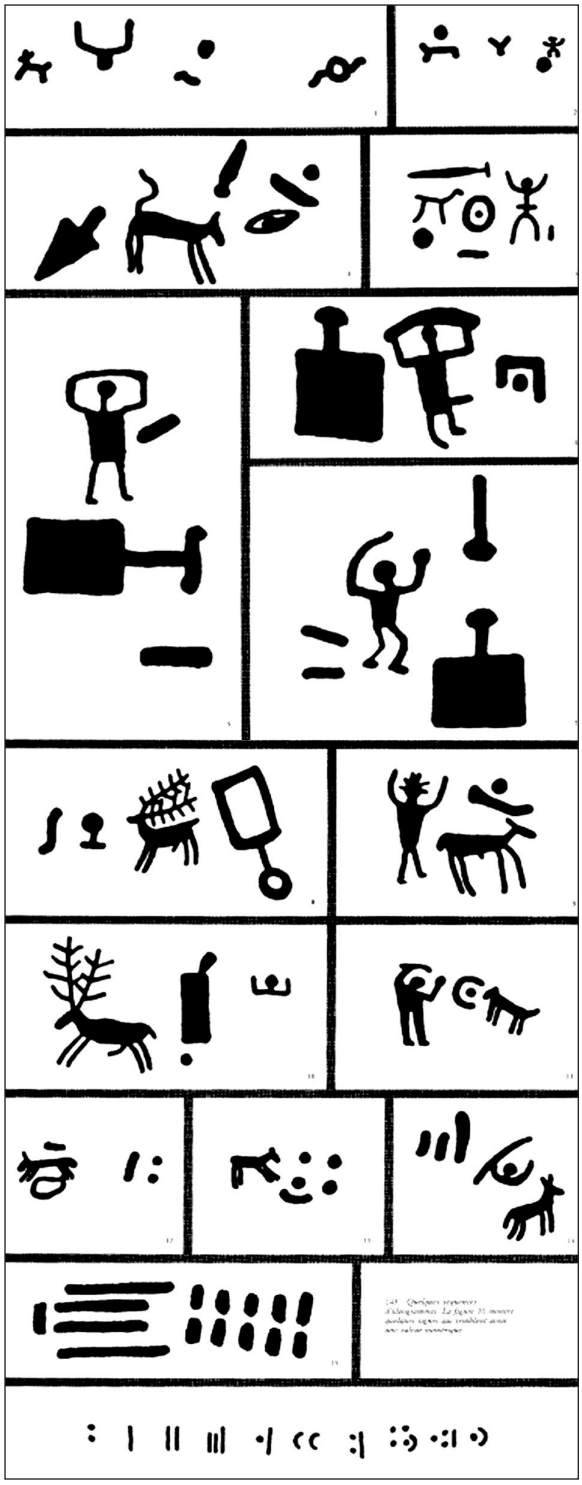


Fig. 8. Images and signs in the rock engravings of Val Camonica (after* Anati 1979.126–127*).

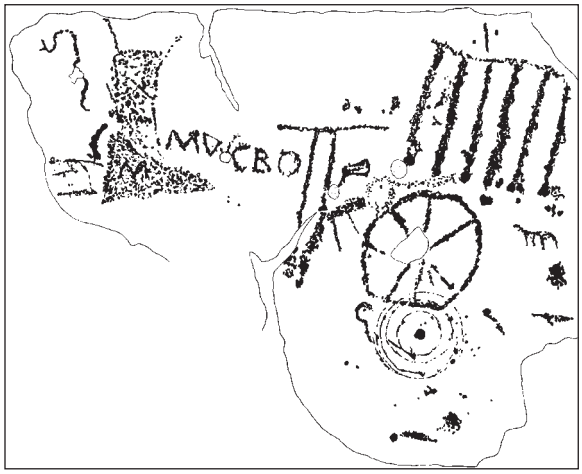


Fig. 9. A panel with naturalistic pictures, non-figurative motifs and alphabetic writing in Val Camonica (after* Anati 1979.124*).

The time span when rock engravings were executed extends over six thousand years, until the Middle Ages. Although the visual record of human symbolic activity in Val Camonica is not as old as the cultural heritage of Palaeolithic cave painting in Southwestern Europe, the setting in the Italian Alps is of particular interest for the study of images and symbols. The tradition of rock engravings shows continuity from the pre-literate into the literate period. The approximately seventy short inscriptions in Camunian were all scratched into the surface of rocks.

The pictorial record of the picture panels in Val Camonica contains many individual motifs, iconic and abstract, which may be classified into five major categories (Fig. 7):

❶ anthropomorphic figures, some shown in action (e.g. I/12 – a man ploughing, III/6 – a warrior with a sword, V/2 – a rider with a spear and shield);

❷ zoomorphic figures representing different species of land animals (e.g. I and II), birds (III) and fishes (e.g. IV/1);

❸ constructions (e.g. I), vehicles (e.g. II) and devices (e.g. III);

❹ weapons (e.g. I), tools (e.g. II) and utensils (e.g. III);

Fig. 10. Bone artefacts from Mezine (Ukraine) with incisions (after* Kozłowski 1992.Pl. 41*).

❺ abstract and geometric signs (e.g. circle, triangle, square, spiral, grid, dot), alphabetical signs (e.g. II/10 and II/11).

In the friezes at Val Camonica, iconicity and abstractness often display a symbiotic interaction, with visual elements of both categories featuring in the same context (Fig. 8). Apparently, some settings comprised exclusively of strokes and/or dots, point to the use of these signs as elements in a system of numerical notation (see also below).

The world of literacy had opened up to the Camunians in the pre-Roman era. Writing technology was exported to the region from the Etruscan cultural centres of Etruria (*Haarmann 2004.57*). Alphabetical writing was used in the same contexts and on the same material as the pictures and non-figurative motifs, i.e. on rocks. In some contexts, the writing and images form a symbiotic unit (Fig. 9). The Latin word MUCRO means 'short sword, large dagger'. This type of weapon is depicted to the left, and is typical of the Iron Age of Northern Italy.

The visual heritage of rock art in Val Camonica testifies to the symbiotic interplay of pictures, abstract motifs and writing. Writing was imported in this cultural area from elsewhere. Contrasting with these settings is another region where a writing system originates amidst an intensive use of signs and symbols, and this is Southeastern Europe.

The trend toward abstraction in Southeastern Europe

In certain regions, the archaeological record of cultural symbolism reveals a marked trend toward abstraction. This was true of Southeastern Europe and adjacent areas from the Mesolithic. Illustrative of the richness of abstract signs and the great variety of forms are the incisions on bone artfacts from the Mezine site near Novgorod-Seversk (Ukraine) which is dated to c. 15 000 years BP. Among the signs occurring most frequently are the meander, the V sign, parallel wavy lines, the triangle, and the lozenge (Fig. 10).

The sense of abstract that dominates cultural symbolism in the Neolithic was obviously inherited from earlier periods. A link between the visual heritage of Mezine and the Vinča tradition of signs and symbols of the sixth millennium BC is the cultural symbolism of the sites in the Danube Gorges, the best known of these being Lepenski Vir, a seasonal settlement which flourished in the seventh millennium BC (*Borić 1999*). According to Kozłowski (*1992.20*), this Mesolithic culture may have been based on foundations laid by migrants from Central Europe who occupied sites in the Danube Valley between about 29 000 and 27 000 BP. On the continuum of cultural evolution, the complex of Lepenski Vir (*Ivić 2000*) is the immediate predecessor of the Vinča tradition (see *Brukner 2002* for an outline). In the visual heritage of Lepenski Vir, one finds the basic abstract forms well known from the later Vinča continuum (see below). Most illustrative is an assemblage of signs on a spherical stone (Fig. 11). Such abstract motifs repeat themselves, with a delay of several hundred years, in the inventory of Vinča

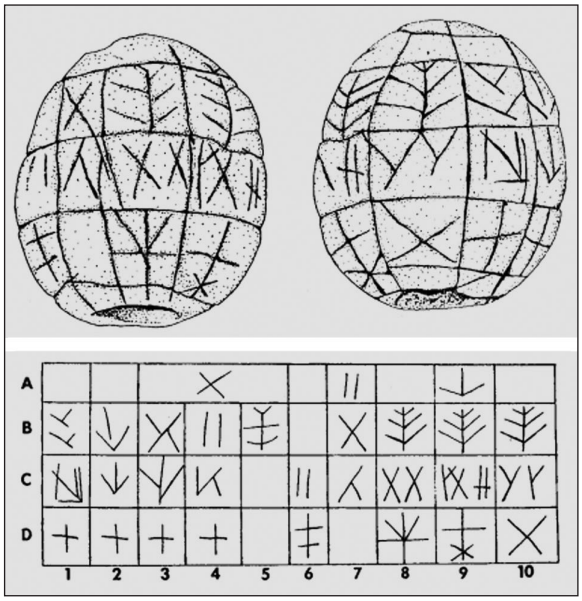


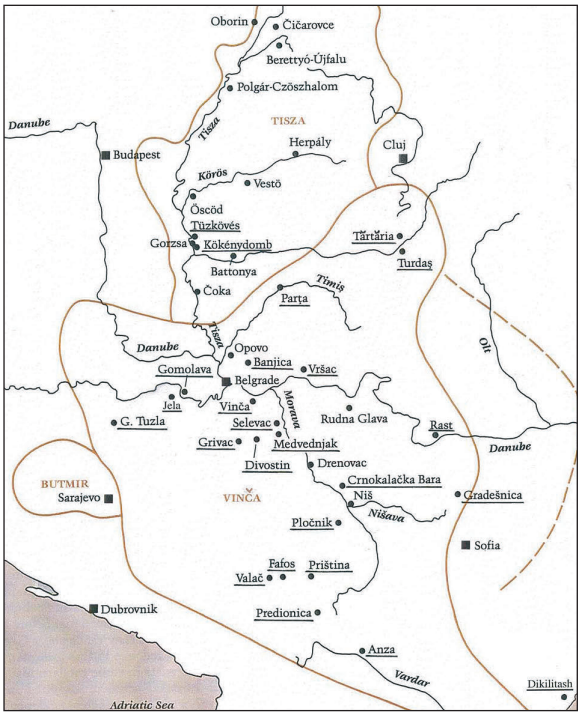
Fig. 11. A spherical stone from Lepenski Vir with incised signs (after* Winn 1981.259*).

signs. It is still a matter of dispute how closely the cultural symbolism of Lepenski Vir is related to that in the Vinča region. The objects with incisions from the sites in the Danube Gorges are still too few to determine whether the tradition of the Vinča script may find its ultimate roots in the seventh millennium BC.

COMPLEX SYMBOLIC ACTIVITY AND EARLY EXPERIMENTS WITH WRITING TECHNOLOGY

When, during the sixth millennium BC, the use of abstract symbols and signs in the Vinča region virtually began to explode, this was not a sudden leap of the human mind into a hitherto unknown dimension. Rather, this phenomenon represents the intensification of a process of experimenting with symbol-making that had developed over millennia.

In South-eastern Europe, sign use reached a higher organizational level than elsewhere, and eventually developed into systemized forms of notation and an archaic form of writing (see *Haarmann 2005* for an analysis of the Danube script and its organizational principles). The notational systems of Neolithic cultures in South-eastern Europe are among the markers of high culture, and contributed decisively to the formation of the Danube civilization which flourished from c. 5500 to c. 3500 BC. Writing may not have originated in the region centred around Vinča (south of Belgrade), with its pivotal role connecting trade routes along the Danube and its tributaries, but the cultural complex of Vinča played a significant role for the spread of literacy. Inscribed objects have been found at more than a hundred places throughout Southeastern Europe (Map 3).



Map 3. The central area of the 'Danube civilization' (major sites with script finds are underlined) (after* Winn 1981; Gimbutas 1991 and Haarmann 1995*).

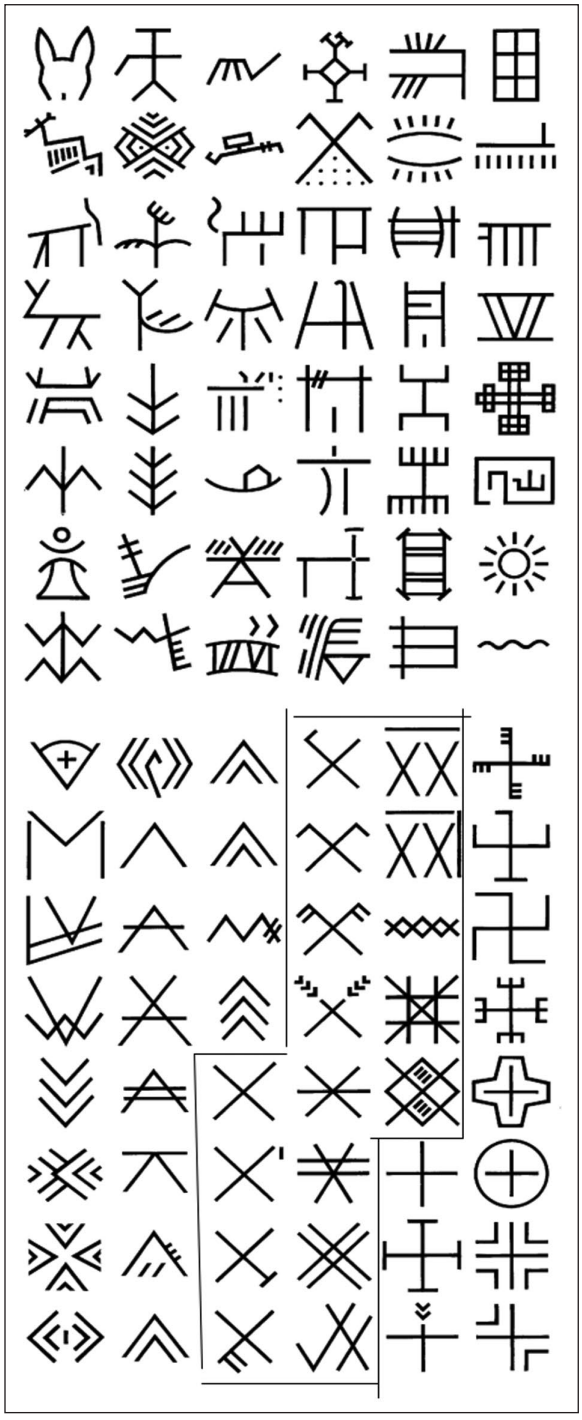


Fig. 12. Selected signs from the Danube script (after* Haarmann 1995.Fig. 32*).

Fig. 13. The system of Indus signs (after* Parpola 1996.167*).

"The Vinča culture was certainly the most developed, the longest lasting and, territorially, the largest culture in the Balkans and Southeastern Europe. A whole series of regional groups in the area are genetically and culturally linked to it: Karanovo II–IV in Thrace, Paradimi on the northern Aegean shore, probably a part of the Cretan Neolithic, the Larissa group in Thessaly..." (*Garašanin 1998.65*).

A multitude of individual signs have been identified in the cultural strata of the Danube civilization. Their number exceeds 1000 in the Vinča region alone (*Starović 2004.8*). Iconicity and abstraction are both clearly recognizable in the repertory of signs and symbols, with abstract signs forming the majority. In the realm of iconic signs of the Danube script, the following subcategories have been distinguished (*Haarmann 1995.32 ff*):

- animals
- human beings and parts of the body
- plants
- tools, utensils or implements with different functions
- structures with different functions
- natural phenomena
- (stylized pictures with possible naturalistic origin).

Among the abstract motifs, we find basic forms such as the circle, the square, the triangle, different hatches, strokes and dots. The inventories of all ancient writing systems in the Old World are composed of two categories of signs, of iconic and abstract signs:

- The iconic signs are motivated, and the natural objects which are depicted can be recognized and identified (e.g. the depiction of a tree). It depends on the degree of stylization whether the recognition of natural objects in signs of ancient scripts is easy or problematic.

- The abstract signs are arbitrary, and lack any recognizable visual association with natural objects. The associated meaning of abstract signs has to be learned, because it is not evident in the visual representation (e.g. the meaning of a cross sign).

No ancient writing system operates only with iconic signs, and no writing system operates only with abstract symbols. In all sign inventories, both categories of signs are integrated. Each sign inventory singles itself out by the proportion of iconic and abstract signs which serve to render information. In certain inventories, there is an abundance of iconic signs, which outnumber abstract signs, as in Egyptian hieroglyphs (*Davies 1987*) and early Chinese writing of the Shang period (*Boltz 1994*). The inventory of the Danube script abounds in abstract signs and geometric motifs (Fig. 12).

A dominance of abstract signs is also characteristic of other ancient writing systems. This is true of ancient Sumerian pictography, which predates cuneiform (*Green and Nissen 1987.169 ff*), and of the ancient Indus script (*Parpola 1994.70 ff*). The proportions of the two sign categories in the Danube script and the Indus script are very similar (Figs. 12 and 13).

Other similarities between the two systems include techniques to produce variants from basic signs by

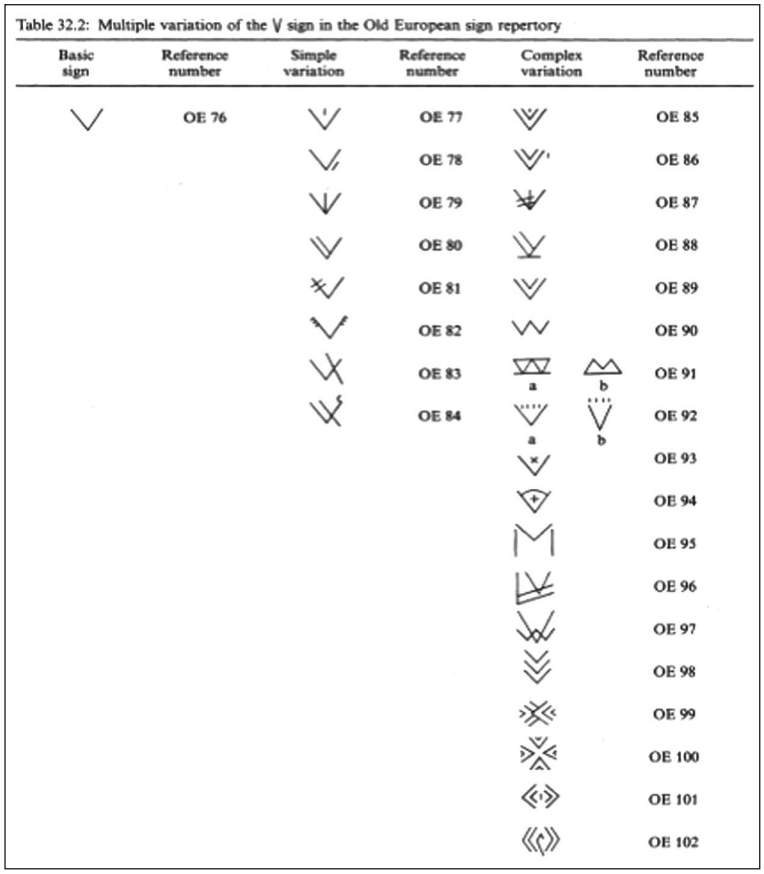


Fig. 14. The V sign and its variants in the Danube script (OE = Old European; numbering after* Haarmann 1995.Fig. 32*).

means of auxiliary signs such as dots and strokes or other components. The motif of the cross is found, as a basic sign and as a basic element in derivations, in the Danube script and in the Indus script (see the marked sections in Figs. 12 and 13). When inspecting the sign inventories of ancient writing systems, one recognizes the working of the principle of cultural relativity, not only in the domain of iconic signs, but also in the composition of the abstract inventory. For example, among the abstract signs of the Danube script, the V sign and its derivatives are prominent (Fig. 14). In a comparative view, it is surprising to learn that the V sign is absent from the inventory of the Indus script. Other items of contrast are the meander and spiral motifs, both well known from the Danube script, but absent from the Indus script.

All ancient writing systems are composed of hundreds of signs. The reason for the high number of signs is the logographic principle of writing, which demands individual signs for writing individual concepts or ideas. The concepts which dominate daily communication easily amount to several hundreds, and including special terms in professional fields, the number further increases to several thousands. In the Danube script, more than 1000 signs were used with conventional values (meanings). Ancient Sumerian pictography (of the Uruk III and IV periods) operated with about 770 signs; from the collection of oracle bone inscriptions from ancient China, some 1200 to 1400 signs are known. The Proto-Elamite script is characterized as "using less than 1000 individual signs and thus in the range of logo- or ideographic writing systems" (*Englund 1996.161 f*). Even in Egyptian writing, where there is a stable set of phonographic signs, the majority of signs were used in ideographic functions. Ancient Egyptian writing applied between 700 and 1000 hieroglyphic signs (*Hannig 1995*).

NOTATIONAL SYSTEMS IN NEOLITHIC EUROPE

Marshack (*1972; 1990*) has made a strong case for the assumption that the people who painted the Palaeoli-

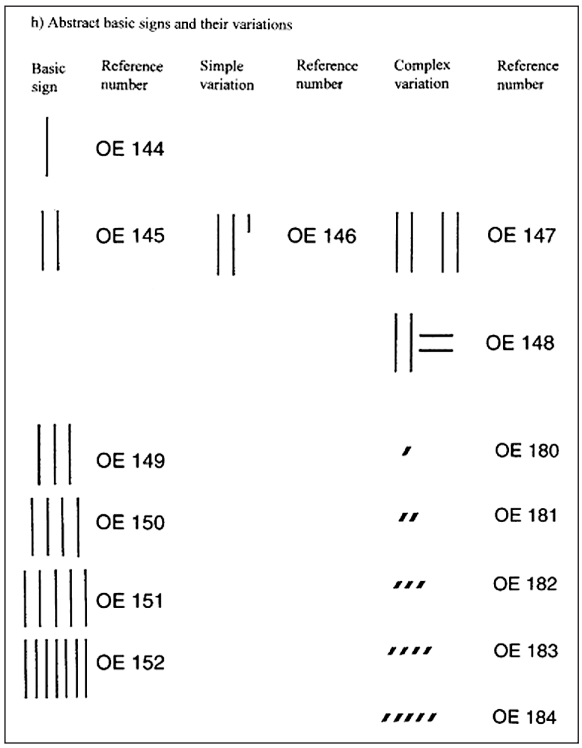


Fig. 15. Dots and strokes in the inventory of Danube signs (after* Haarmann 1998.76*).

thic caves in Southwestern Europe knew some kind of calendrical notation. The abstract signs found on antlers and other bone artefacts seem to represent intentional markings of lunar phases and seasonal changes.

The revolution that symbolic activity experienced with the emergence of notational systems in the Neolithic in Southeastern Europe was, however, unprecedented. In the Vinča area, sign use not only reveals the typological features and organizational infrastructure of a writing system, but also of one or even more notational systems with functions other than writing. Among the inscribed objects found at sites of the Danube civilization there were weights with incisions. What may well belong to a system of numerical notation are the dots and strokes which appear singly or in groups (Fig. 15).

The existence of numerical notation (and possibly also of calendrical notation) in the cultural horizon of the Danubian civilization is more than probable (see *Haarmann 2005* for further details). Observations about numerical notation have been reinforced by the discovery of "celestial symbolism" in the Vučedol culture (*Durman 2001*) which, in view of its heritage, can be considered to be the last offshoot of the Danubian civilization.

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back to contents

UDK 903.2(4-12)"633/634":003:291.37
Documenta Praehistorica XXXII (2005)

Semiotic approach to the features of the 'Danube Script'

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ABSTRACT – *The article presents a matrix of basic semiotic markers and rules for examining the internal structure of the sign system developed in the Neo-Eneolithic in the Danube basin. It is intended a) to test the hypothesis that these cultures had an early form of writing, the so-called Danube script; b) to infer the principles of this system of writing; c) to distinguish between bi- and multi-signs texts of the Danube script, without knowing what any of them meant, from compounds of signs associated with other communication codes, among them decoration, symbols, and divinity identifiers. The matrix is applied to some recent discoveries selected not from the core area of the Danube civilization in the Vinča region, but from peripheral regions, in order to document how widespread the Danube script was.*

IZVLEČEK – *Članek predstavlja matrico osnovnih semiotičnih označevalcev in pravil za preučevanje notranje strukture sistema znakov, ki se je razvil v neo-eneolitiku Donavskega bazena. Nameravam a) testirati hipotezo, da so te kulture poznale zgodnjo obliko pisave, tako imenovano 'Donavsko' pisavo; b) povzeti principe tega sistema pisave; c) poiskati razliko med dvo- in več-znakovnimi besedili donavske pisave, ne da bi poznal njihov pomen, iz sestave znakov povezane z drugimi kodami komunikacije, med katerimi so krašenje, simboli in določevalci božanskega. Da bi ugotovili kako razširjena je bila 'Donavska' pisava, je bila matrica uporabljena za preučevanje nedavnih odkritij, izbranih iz obrobnih območjih in ne iz jedra donavske civilizacije na območju Vinče.*

KEY WORDS – *Danube script; Danube civilization; Neo-Eneolithic; Symbolism*

DID A FORM OF LITERACY DEVELOP IN THE NEO-ENEOLITHIC IN SOUTH-EASTERN EUROPE?

The existence of a script which developed in the Neolithic in the middle and lower Danube basin was seriously believed by eminent archaeologists, historians, linguists, and philologists at the end of the nineteenth century and in the early decades of the twentieth. But the precocious specimens of European writing could not be related to the Neo-Eneolithic due to a lack of reliable dating methods. The shards found at Turdaş, at Vinča, or in other Danube-Balkan settlements were clearly inscribed with the signs of some sort of writing, and scholars sought links between south-eastern Europe and the more 'civilized' regions of Mesopotamia, the Levant and eastern Mediterranean[1].

From the middle of the twentieth century, the introduction of well-established dating methods determined that the inscribed Danube-Balkan objects dated to the Neo-Eneolithic, and as a result their signs suddenly became mute, being considered mere deco-

1 For the "Turdaş script" see Zsófia von Torma, Heinrich Schliemann. Heinrich Karl Brugsch, Arthur Evans, H. Schmidt. For the "Vinča script" see Miloje Vasić.

ration, ownership marks, or simply scratches. The invention in south-eastern Europe of an *ars scribendi* in Neo-Eneolithic times was held so unthinkable that the simple possibility of it has been ignored, and its evidence given very scant attention.

It was the discovery in 1961 of three inscribed tablets at the settlement of Tărtăria-*Gura Luncii* (Alba county, in Romania) that kindled a wave of controversy regarding the *possibility* that Neolithic and Eneolithic cultures might have had an early form of writing in south-eastern Europe (Fig. 1).

Paradoxically, the Tărtăria discovery cracked the scepticism of some scholars over the spectacular claim that the Neo-Eneolithic Danube Civilization used an early form of writing, and at the same time reinforced that of others. In fact, since their discovery, the Transylvanian tablets have occupied a unique and often contentious position in European prehistory because of the dispute over two main points: their dating and the assertion that their symbols could be a form of writing[2].

Regarding their dating, the archaeological documentation from the discoverer (Nicolae Vlassa from Cluj Museum) is not completely reliable. Therefore they have been used by some scholars as evidence of a low chronology for the Danube Neolithic period (*Hood 1967.99–102; 1968; Makkay 1969; 1971; 1984; 1990*): the Tărtăria tablets might have belonged to the Vinča C migrations, when such a 'writing' system was largely used not only in south-eastern Europe, but also in the area of proto-Sumerian civilizations (*Lazarovici 2003.87*). At the same time, the Transylvanian tablets have been considered by others scholars as genuine, early Vinča artefacts of the fifth millennium BC (*Gimbutas 1982. 87*) or the latter half of the sixth millennium BC (*Haarmann 1990.76*). Therefore, they have been considered as the earliest attestations of Old European script (*Masson 1984; Haarmann 2002*).

But how old are the Tărtăria tablets? For forty-two years no one considered they were accompanied by human remains, which are still preserved in Cluj in the basement of the National History Museum of Transylvania. Gheorghe Lazarovici and I, under the patronage of the *Prehistory Knowledge Project*, in October 2003 went in search of the bones, found them, and requested a ^{14}C analysis at the laboratory of the Earth Sciences of La Sapienza University of

Fig. 1. The group of the three inscribed Tărtăria tablets.

Rome. The results are: Rome – 1631 (human bones): 6310±65 yr BP; 5370–5140 calBC (*Merlini 2004b; Merlini on line*). Therefore, the earliest evidence of a European script comes from Transylvania (Fig. 2).

Sometimes events do not change the course of history by their direct and immediate effects, but by their collateral effects. Indeed, in the last few years the possibility that the Tărtăria Tablets could be the

Fig. 2. The Tărtăria tablets were associated with human remains which are deposited in the National History Museum of Transylvania in Cluj.

2 For a survey see Merlini (*2004a.51–63*).

"most ancient European library" has stimulated a re-examination of the archaeological material found in the last century and a half in the Danube basin. And in a number of locations the checks still now in progress have allowed a re-evaluation of hundreds of inscribed artefacts which predate the earliest Sumerian cuneiform and Egyptian hieroglyphics.

Therefore, in the last few years a very rapid accumulation of archaeological evidence has occurred, supporting the thesis that European literacy existed in the Neo-Eneolithic, the *Danube script*[3]. The most exciting discoveries are happening in museum and university archaeological collections. Many signs and their combinations unearthed during the last century's excavations were not published by their discoverers because, not having a pattern of decoration or symbols, they did not dare speculate that they might be a system of writing. Other archaeologists did not realize that their findings, catalogued and published even from decades before, might have inscriptions. They considered that the strange geometrical, abstract and linear signs only badly executed decoration scratched by confused artists. Thus in reproducing and publishing them, they amended and adjusted them in a more fashionable way by regularising their shapes, or imposing symmetry upon their original patterns. A third wave of scholars maintained that the strange signs were magic-religious symbols or ownership/manufacturing marks. If both interpretations failed, the ultimate resource was to consider them simply as random scribbles made by bored and idle potters.

Finally, some scholars simply did not realize that the objects they had discovered had signs on them. In the fifties Milutin Garašanin found an inscribed figurine at Supska (near Čuprija, Republic of Serbia and Montenegro), but he did not notice the A, I, M, H, and Y-like motifs positioned on a large triangle incised on the chest. This inscription was re-discovered in 2002 by Andrej Starović (*2004*).

On the other hand, a considerable number of books and articles have been devoted to a (quasi) scientific fiction aimed at 'reading' the Vinča 'documents' as alphabetic texts. The present interest in a 'Neolithic alphabet' in the Balkans is connected to the reinforcement of nationalistic "archaeo-political" manoeuvring.

THE POSITION OF THE DANUBE SCRIPT WITHIN THE DANUBE SYSTEM OF COMMUNICATION

The Danube script appeared in south-east Europe around 5300 BC, some two thousand years earlier than any other known writing. It originally appeared in the central Balkan area and developed locally. It quickly spread to the Danube valley, southern Hungary, Macedonia, Transylvania, and northern Greece. It flourished up to about 3500 BC, when a social upheaval occurred: according to some, there was an invasion of new populations, whilst others hypothesise the emergence of new elite (Fig. 3).

The early European writing was later to be lost, and what remains of it is unfathomable, and tenaciously resists the efforts of anyone attempting to decipher it. Nothing is known about the existence of such a referential language. Moreover, it is too ancient for us to hope to find anything like the trilingual Rosetta Stone which would permit us to translate it into a known language. Although it is now lost and pro-

Fig. 3. The region where the Danube Civilization and the Danube Script flourished in 5 millennia BC. The Danube Script was used in the core area of the Danube Civilization only. From on-line Signs.

3 I employ the term "Danube signs"/"Danube script" as general allocution and "Vinča signs"/"Vinča script" strictly limited to the Vinča culture which developed in the central area of the great Danube basin. This terminology is coherent with the challenge to demonstrate that the "early civilisation" status can no longer limit itself to the regions which have long attracted scholarly attention (i.e. Egypt-Nile, Mesopotamia- Tigri and Euphrates, the ancient Indus valley), but it has to expand to embrace the Neo-Eneolithic civilisation of the Danube basin. The script is only a mark – although important – of the high status of the civilisation which flourished along Danube River.

bably undecipherable, some scholars are using a semiotic approach to crack some elements of its generic code (*Haarmann 1995; 1998a; 1998b; Merlini 2002b; 2003b; 2004a; on line; Winn on line*).

According to this semiotic research, Danube script is a very archaic system of writing, and possibly not capable of encoding extended speech or long narratives because phonetic elements are absent or insufficiently rendered in the writing. It consists probably of a mix of logograms, ideograms, pictograms, and some phonetic elements occasionally and marginally marked. The connection to the conceptual sphere is much stronger than the connection to the phonetic. Other ancient writings of this type are the Elamite script, the Indus script, the hieroglyphs of the Phaistos disc, the Chinese writing on oracular bones, and Olmec glyphs.

Although the Danube script was probably only in *statu nascenti* and had a very weak association with phonetics, it should not be confused with other communication channels used by Neo-Eneolithic populations such as religious symbols, geometric decorations, aides memoires, astrological and terrestrial charts, ritualistic markings, numerical notations, family identifiers or community affiliation marks, as well signs stating the owner/manufacturer of an artefact. The *Danube System of Communication* was composed of several elements of which writing was only one. It is a very exciting communicative means for us, but possibly not the most important for the people of the Danube area.

The problem is that the distinction between the Danube script and other means of communication is not so evident. Firstly, signs of writing could co-exist on the same object with marks of other informative codes. In fact, sometimes more than one channel of communication was in use at the same time on the same vase, figurine or spindle whorl. Secondly, when inspecting the internal structuring of the Danube Communication System, evidence of a writing system in a very archaic phase becomes noticeable, so the outline of its signs as well their organization in space were not clearly distinguishable from other communication channels. In particular, they share the same geometrical roots (showing sometimes the same outlines) with decorations, symbols, divinity marks, owner-manufacturer marks, chronographic representations, and astronomical signs.

However, an object considered a mignon, phallus-like artefact standing on an altar (*Gimbutas 1991. 313*) offers us some reference points, because it is a communicative "three-faced Janus" which combines a plastic representational code, graphic symbolism and an inscription, and the linear writing system is in *statu nascenti*. The object was found in 1976 at Ocna Sibiului (in Romania) in a "community dwelling" dedicated to a religious cult. It belongs to the first phase of the Pre-Criş II culture, and is 8000 years old (absolute dating). Both the phallus and its support are made of stone (micaceous grit). (Fig. 4)

According to the discoverer, Iuliu Paul, the object is not a phallus, but a small (2 centimetres wide at the base and 4.5 centimeters tall) and highly schematised conic statue. Its style is reminiscent of a similar piece, made of calcite, found in sanctuary no. 21 from the layer VII of the Çatal Hüyük settlement, dated to 6500–6200 BC, but not bearing an inscription. James Mellaart, the former head of the excavations at Çatal Hüyük, asserts that the statuette corresponds to a bearded man riding a bull (*Mellaart 1963*). Hökmann believes that it represents an embracing couple (*Hökmann 1968*). Comparing the two interpretations, Paul chooses the second, and extends it also to the Ocna Sibiului statuette, suggesting that it was

Fig. 4. The inscribed "not phallus" from Ocna Sibiului (Romania).

modelled under a strong Anatolian influence. The minute statue is that of a bearded man, carved in bas-relief to enable us to identify his features, bound to a woman now unrecognizable. On its right side the object possibly bears the sun and a crescent moon, the cosmological symbols of the couple. Thus the Transylvanian statuette, although similar in shape and general features to that from Anatolia, differs from the latter because the main message (the embracing couple) is suggestively represented not only iconographically, but also through a combination of incised symbols (Fig. 5).

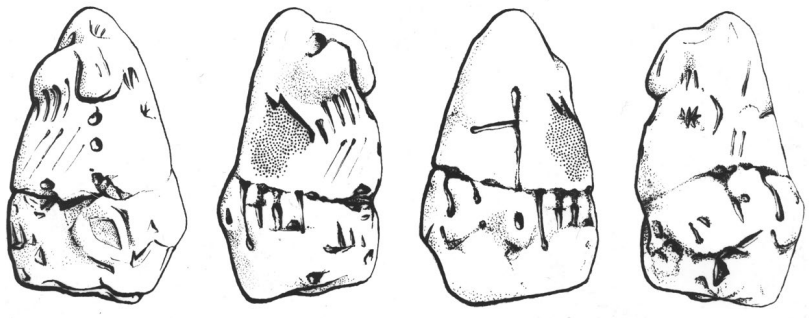


Fig. 5. Cosmic symbolism on the inscribed "not phallus" from Ocna Sibiului (Romania).

The statuette's parallelepiped base was found beside it. Its dimensions are 4 cm long, 2 cm tall and 2.5 cm wide. It bears an inscription composed of N, X, V, /\, <, > motifs, parallel horizontal lines and a lozenge. The signs are simple rectangles organised in linear sequence. According to Paul they are "ideograms made in a linear manner" (*Paul on-line*). If one compares them and the signs of writing in Haarmann's inventory[4], one finds that they have a more archaic and not well-standardised pattern (Fig. 6).

The text, of course, is indecipherable, but one can note that, although the small statue has mainly male symbols (and its actual shape is phallic), the altar presents an inscription predominantly composed of female signs. In particular, the lozenge is placed in a central position and is slightly in relief, like the bearded man on the statuette. It is also associated with some pairs of signs executed similarly to those from the statuette representing the sun and crescent. The only difference is that the predominant technique on the base seems to be excision (*Paul 2002*).

Statuette and altar form a "cultic assemblage" which represents the oldest existing combination between plastic illustration, symbols and signs of linear writing, and which maybe construed as a conversion-table between these three different types of communication codes. Iconic representation, symbolism and written message are elements of the same symbolic complex, the one reflecting or partially defining the others. Whether or not one agrees with Leroi-Gourhan's interpretation of most of the abstract signs as gender related, his discovery that figuration (animals in Upper Palaeolithic messages) and abstraction were related in an organised way and were, in some sense, of equivalent value, is significant (*Leroi-Gourhan 1964*).

One can presume that on the Ocna Sibiului "cultic assemblage" a single message could be transmitted through three channels and therefore, each narrates in its own code, the same myth. But what is the myth being reported by the Ocna Sibiului "non phallus"? It probably involves a narration which acted in the Danube basin as the foundation of all the regional spiritual beliefs, and which was common also to other primitive agricultural societies. It could well concern the creation and re-creation of the world, which is closely connected with the conjunction of the opposites expressed by the sacred union between a female and male divinity (*ieros gamos*). This mythical drama consists of sexual union, birth, death, and re-birth; i.e. "the mystery of the life cycle". It is therefore possible that the small statuette and its base are the earliest example of Danube art which employs iconography, magic-religious symbols and signs of a linear writing for the narration of the myth, the motion of the universe as a perpetual sexual act between sun and moon, the mother of all other myths (fertility, rebirth, the vitality of water etc.).

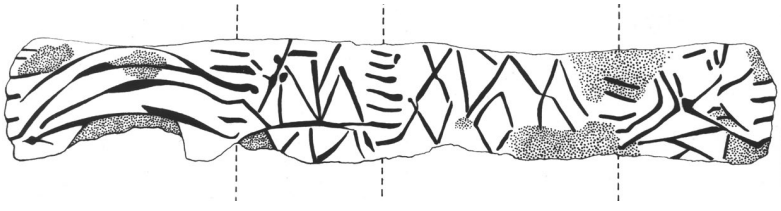


Fig. 6. The inscription on the inscribed "not phallus" from Ocna Sibiului (Romania).

4 Haarmann's inventory (1995) is now available in the Prehistory Knowledge Project web site: www.prehistory.it

But what need was there to transmit the same myth by the three different codes? The demiurgic meaning of sacred sexual intercourse rendered in a plastic way is mentioned above. Regarding the language of symbols, it conveys meanings in a synthetic way, and the effectiveness of a symbolic message can be measured by means of its own fundamental essentiality. For Christian believers the minimal sign of the cross evokes a complex myth. Two segments placed cross-wise immediately recall the figure and story of Christ, already handed down in a sequence of events, both oral and written. Similarly, the astrological symbols, the sun and moon, were probably used on the small statue of Ocna Sibiului to fix and convey the essence of a spiritual message, the power and the blossoming effect of *ieros gamos*, by simply triggering the memory of the observer.

Ultimately, the sequence of linear written signs on the altar, although in archaic style, was used to mark the various passages of the myth of divine creation and, perhaps, detailed the makers' drama as recalled during collective rituals. It is possible to imagine that the inscription was the graphic expression of oral formulae, depicting ritual sounds which were organised into a logical sequence. Were these single words or systems of words, or some tape sort of mantra? We do not know for certain, and probably never will.

If a mythical story can be transmitted by more than one code, we cannot expect each iconic detail or symbol to correspond to a linear written sign (or vice-versa). However, it is important to observe that the ritual object of Ocna Sibiului shows us the foundations of the combined use of an iconographic code, archaic magical-religious symbols, and signs of a linear script; and these are the same writing signs which, when inscribed or painted on other artefacts in different patterns, are able to narrate other myths.

The "non-phallus" informs us that the inscriptions in Danube script were not used only to evoke the name of the divinity or some of its attributes, or recall the name of the worshipper, but contain a ritual formula, and were sometimes employed as "mythograms", texts which narrate myths, stories and epopees. The mythograms' purpose was probably "to record (fix), preserve and transmit this kind of spiritual knowledge. It might also have induced the spectator to recall and orally express the whole myth, as well as to perform the related ritual practices" (*Paul 2002*). The Ocna Sibiului ritual object is also important because it shows that the Danube Neolithic population invented a linear writing based on a threefold Palaeolithic and Mesolithic heritage: a range of visual indigenous symbols which persisted for several thousand years, specific principles in the spatial distribution of the signs. and an archaic native spiritual tradition. For this reason I agree with Budja that "the external symbolic storage employing technical and symbolic culture was a characteristic of hunter-gatherer as much as of agrarian societies. For this argument here we should expect that hunter-gatherer symbolic structures in the Balkans and Carpathians maintained long traditions and that the 'revolution of symbols' in the context of the transition to farming is not a paradigm we have to adopt" (*Budja 2004.81*).

In addition to the Ocna Sibiului ritual assemblage there is other evidence of Danube texts co-existing on the same object with marks of other informative codes. For example, on a clay model of a temple from the early 5th millennium BC found at Gradešnica (north-west Bulgaria), and also on heavy restored, facade, walls and lateral walls are decorated with a symbolic design and decorations. The main beam has M and W motifs characteristic of the constellation of Cassiopea. The front columns on either side of the entrance are vertically inscribed with script signs divided by dots (Fig. 7).

Fig. 7. This temple model from Gradešnica (north-west Bulgaria) facade, walls and lateral walls are decorated with a sacred design and symbolic decorations. The main beam presents "M" and "W" motifs characteristic of Cassiopea constellation. The front columns at either side of the entrance are vertically inscribed with script signs divided by dots.

A MATRIX OF SEMIOTIC MARKERS AND RULES FOR CHECKING POSSIBLE CLUES TO A SCRIPT IN THE DANUBE BASIN

Although the Danube script has a very weak association with phonetics and we are not able to read it at all, it should not be confused with other communication channels used by the Neo-Eneolithic Danube populations. But can we distinguish in the field, with a reasonable degree of probability, a sign or a grouping of signs belonging to the writing system or to the decorative sphere, the symbolic language, divinity marks, owner-manufacturer marks, or chronological representations?

I submit to the discussion a matrix of basic semiotic markers and rules in order to distinguish bi- and multi-sign texts of the Danube script, without of course knowing their meanings, from compounds of signs associated with other communication codes, among them decoration, symbols, divinity identifiers[5]. Of course, these indicators and guidelines are in progress, because one will be able to distinguish the different communication channels only when one is be capable of reading the script. On the other hand, one will not even be able to read the inscriptions if one is unable to isolate their signs from the others. It is really a loop that one has to break step by step and by progressive approximations.

How to distinguish script signs from ornamental motifs

The writing has some features that distinguish it from decoration, but it is not always a clear distinction. If it is unclear, it is easy to explain the reason:

● Writing and decoration can both be finalised to transmit messages, packages of information. "The whole world outlook of prehistoric farmers was expressed in the ornamentation: the Land and Underground World, the Sky, the Sun, the Moon, the Stars, the Plants, Animals and People... Observant people can see complete 'texts' composed from ornaments: it is raining, grain is falling to the ground, it is sprouting..." (*Videiko 2002*).

● Script signs and decorations share the same geometrical root, which is why they sometimes have identical outlines. Their derivation from similar graphic sources is so strict that some signs appear to be a development of the schematic decorations on Lepenski Vir and Vlasac boulders, or an evolution of the linear ornamentation on Starčevo vessels.

● Some signs (for example, Λ, V, M, X, +, and some naturalistic motifs such as sun, rain, bird, tree) can be, depending on the context, either a written sign or decoration (*Gimbutas 1991*).

● Script signs and decoration can live together on the same object.

● Both written signs and decoration could have been conceived for aesthetic purposes.

Dealing with such subtle confines between a decorative design and a written text, and facing an uncracked code, which semiotic criteria can one use to distinguish between artistic applications and script? There are some guidelines to the writing system vs. decorative design:

● If one sets aside for a moment exceptional signs that can be used for writing messages as well for artistic ones, script signs are easily identifiable by their individuality, conventions and standardisation, and their membership in a precise and systematic inven-

5 Between 2001 and 2005 the author visited and investigated many Neolithic and Eneolithic collections of Danube Civilization. In Austria: Naturhistorisches Museum- Prähistorische Abteilung of Wien. In Bulgaria: National Museum of History, National Archeaological Museum. In Germany: Museum für Vor- und Frühgeschichte of Berlin, Archäologische (Vormals Prähistorische) Staatssammlung – Museum Für Vor- Und Frühgeschichte of Munich. In Greece: National Archaelogical Museum of Athens, Archaeological Museum of Volos, Archaeological Museum of Rodhes, Archaeological Museum of Thessaloniki, Archaeological Museum of Ioannina, Archaeological Museum of Florina. In Hungary: Budapest History Museum. In Italy: Museo Nazionale Preistorico ed Etnografico L. Pigorini of Rome. In the Republic of Macedonia: Archaeological Museum in Skopje, Gradski muzej of Skopje. In the Republic of Serbia and Montenegro: National Museum of Belgrade, Museum of Novi Sad, Museum of Kladovo, Museum of Vršac, Museum of Lepenski Vir. In Romania: Muzeul National de istorie a Romanici of Bucuresti, Muzeul de Istorie si Arta al Mun. of Bucuresti, Muzeu naţional de Istorie al Transilvaniei of Cluj-Napoca, Muzeul Banatului of Timişoara, Muzeul Naţional al Unirii of Alba Iulia, Muzeul Brukenthal of Sibiu, Muzeul Judeţean of Botoşani, Expoziţia Arheologicā Tibiscum of Caransebeş, Muzeul de Istorie al Moldovei of Iaşi, Complexul Muzeal Judeţean Neamţ of Piatra Neamţ, Muzeul Judeţean de Istorie şi Arheologie Prahova of Ploieşti, Muzeul de Istorie of Sibiu, Muzeul Regiunii "Porţilor de Fier" of Drobeta Turnu – Severin. The author also visited and studied many university collections. In the Republic of Serbia and Montenegro: Department of archaeology, Faculty of Philosophy, University of Beograd, Vinča "Belo Brdo" Archaeological Site and the exhibition *Signs of Civilization* in Novi Sad. In Romania: Pre- and Protohistorical Research Centre of Alba Julia University "1 Decembrie 1918", Universitatea "Al. I. Cuza" Facultatea de Istorie, Seminar de Istorie Veche şi Archeologie of Iaşi, Institutul de Arheologie of Iaşi, Cucuteni Rezervaţia Archeologica.

tory (in the progress of being built and with much effort by scholars who are also dealing with regional variants and chronological modification)[6].

● It is more probable that geometric, abstract, highly schematic, linear and not very complex signs (like the Y, M, N, X motifs) remained within the script framework rather than the ornamental. Only written signs can be modified by three techniques: a) duplicating-multiplying them; b) reversing them round as in a mirror, inverting them, or simultaneously rotating and inverting them; c) applying diacritical marks such as small strokes, crosses, dots, and arches. The sophisticated rule of multiple variations occurs only in written signs. On this basis, a V can be transformed, for example, into a V+, a V/ or a \I/. The variations can be simple (applying only one diacritical mark to a root-sign), or complex (applying two or more diacritical marks to a root-sign).

● Signs of writing occur in isolation as well in groups.

● When in groups, written signs have an asymmetric coordination and prefer a linear alignment (but a linear alignment is not an absolute prerequisite for a writing system). The lack of symmetry raises doubts about their decorative attributes. Sometimes the space is organized in registers, in columns or in lines to facilitate reading and writing, but Danube script signs are not symmetrically positioned in the aforementioned frameworks.

● Written signs can be combined by ligatures, which occur when two or more signs are written or printed as a unit.

● When in combination, script signs do not form a harmonious design, but a functional one (although they are sometimes positioned in an aesthetic way).

● The use of dots and vertical strokes in separating signs or groups of signs is a strong indication of the occurrence of an inscription.

● An inscription can combine both abstract and naturalistic signs.

● Writing does not suffer from horror vacui; it never saturates the available space.

Ornamentation has a completely different purpose, rules of composition and organisational principles. We can select those we feel are necessary for a comparison with written signs:

● If one sets apart for a moment those ambivalent signs that can be ornaments carrying messages as well writing, the decorations are form a specific collection, a corpus of artistic motifs.

● When one deals with geometric, abstract, highly schematic, linear and uncomplicated signs (for example Y, M, N, X motifs) there are many opportunities to move outside of decorative framework. In fact, it is difficult to appreciate the pleasing of the eye by such "unusual" ornaments: their outline is graphically banal and much less decorative than motifs such as spirals or labyrinths. Perhaps it is more productive to consider them as a means of writing or as symbolic messages.

● The artistic signs can be varied by duplicating or multiplying them or rotating them as in a mirror, inverting them, or rotating and reversing them simultaneously, but they are not subjected to the technique of multiple variations, which is a key characteristic of the Danube script. Therefore, decorations do not become more complex by the application to them of diacritical marks such as small strokes, crosses, dots and arches.

● Ornamentations occur preferably in groups; single-sign decorations are very rare, because they are preferred as symbols.

● In general (but there are important exceptions), the space is not organized in different registers, in columns or in lines typical of a script layout.

● An ornamental element is in general arranged with others in order to capture a symmetrical balance to enhance the aesthetic value of the object. The rhythmic and symmetrical repetition of a geometrical motif is the principal feature of the decorative system of the Danube Civilization (*Todorova 1978*). If the search for graphic harmony drove scribes to systemise the decorations along repetitive and regular patterns, the patterns are not necessarily linear. When forming combinations, it is not infrequent that the ornamentations are arranged according to a hierarchical principle: the units are grouped to create ever-widening patterns. In conclusion, a decorative motif is very rarely based on the asymmetrical combination of its units.

6 Shan Winn in USA, Harald Haarmann in Finland, Gheorghe Lazarovici in Romania, Andrej Starović in the Republic of Serbia and Montenegro, Adamantios Sampson in Greece are occupied to build inventories of Danube script signs.

● Ligatures are absent in the field of ornamentation.

● An ornamental element is in general arranged with others in order to give pleasure in exercising the sense of regularity and order. But since the greater artists of the Danube culture were aware that an excess of standardized monotony in a decoration could dilute its fascination, they sought variations in the signs outlines and in the signs patterns which are pleasing in terms of balancing boring repetition and confusion deriving from an excess of innovation, a tangle or an alteration in the proportions. The exploration of the complexity generated from slight variations in the framework of general homogeneity is one of the key principles by which the European Neolithic and Eneolithic realised artistic masterpieces.

● In decorative designs, dots and vertical strokes are in general not used to separate signs or groups of signs. If so, they are positioned symmetrically.

● In general, in ornamentation there is no combination of abstract signs and naturalistic motifs.

● It is not infrequent that a decoration, stricken by *horror vacui*, saturates the entire available space.

How to distinguish script signs from symbols

In the Danube Communication System, signs of writing and symbols could have been superimposed in many spheres, and the objective difficulties of distinguishing between writing and symbolic messages are so hard as to render the first invisible to many scholars. The reasons for the overlap between the two communication channels are that:

● Written texts and symbolic language can both be finalised for the transmission of messages, packages of information. Script signs and symbols, meanwhile share the geometrical roots inherited by the rich Mesolithic and Upper Palaeolithic visual inventory, which is why they sometimes have the same form.

● The Danube Script is a very archaic system of writing, so it consists probably of a mix of logograms, ideograms, pictograms and some limited phonetic elements occasionally and marginally marked. Logograms, ideograms, pictograms were mainly derived from the language of abstract symbols.

● Going deeper into the relationship between writing and symbolic code, one can note that the Danube script is primarily a sacred archaic system of writing employed in liturgies and to express magic-religious beliefs and, consequently, its signs often have the same outlines as sacred symbols, geometrical and abstract ones in particular. This sometimes causes confusion, but demonstrates at the same time the origin of many written signs from a language of sacred symbols.

● Some signs can be, depending on the context, a unit of writing and a symbol (*Gimbutas 1991*). There are three kind of ambivalent sign: abstract, simple-linear signs such as V, M, X, +; some (numerical?) signs based on strokes or dots; and naturalistic motifs such as sun, boat, animal head, hook, ring, star, tree roots, crescent, dancer, decapitated person, and ladder (*Merlini 2004a*).

● The symbols used in writing and symbolic language can be organised in the same way. In fact, symbols sometimes also follow a linear, logical, albeit not phonetic sequence, i.e. symbols can be linear, progressing from seed to the bud, thereupon to the developed plant, or on a hierarchical basis, as in Mesopotamia, with a distribution of divinities stratified according to their importance.

● Script signs and symbols (particularly religious abstractions) can be found side by side on the same object, because the two channels of communication were sometimes used together on the same item.

Here are some indications to help distinguish between inscriptions and symbolic messages.

● If one sets aside ambiguous signs which can also be involved in writing messages as well as in symbolic communication, one can observe signs which are merely units of script, and signs which are purely symbolic. Therefore, one can build an inventories of writing and of pure symbols, as for example, in the multiple variations on the circle on many pots from the Precucuteni and Cucuteni cultures. The signs ⊕ and ◎ are units of the Danube writing system[7] which are also symbols. On the other hand, solar marks, concentric circles, discs with differing internal features thus ⊛ ⊕ ◐ ⊕ ⊙ ● ⊕ ⊕ ⊙ are entirely symbolic. Other examples are the ellipse (the egg) and the double ellipse (the double egg), which are exclusively symbol (*Merlini 2004d*).

7 They are respectively OE 138 and OE 186 in Haarmann's repertory (*Haarmann on-line*). The first is DS 145 variant in the 2004 inventory of Winn, the second is not listed (*Winn on-line*).

Contraposition	Writing	Decorations
Inventory of the script vs. corpus of the ornamental motifs	If one sets aside the exception of ambivalent signs that can be involved in written messages as well as in ornamental ones, written signs can be collected in a precise and systematic inventory.	If one sets aside exceptional signs that can be involved in ornamental messages as well as in writing ones, artistic signs can be collected into a specific corpus.
Sign outlines	Geometric, abstract, highly schematic, linear and not very complex signs belong, with more probability, to the script framework.	When one deals with geometric, abstract, highly schematic, linear and uncomplicated signs, one is with less probability within the decorative framework.
Techniques and restrictions on modifications	Writing can be modified by diacritical marks such as small strokes, crosses, dots and arches, as well as by duplicating or multiplying them, reversing them as in a mirror, inverting them, reversing and inverting them simultaneously.	The decorations are not subjected to the technique of the multiple variation. They can be varied only by duplicating or multiplying them or rotating them as in a mirror, inverting them, or inverting and rotating them simultaneously.
Balance between isolation and grouping vs. inclination to grouping	Written signs occur singly as well as in groups.	Ornaments occur preferably in groups.
Principles of spatial organisation	When in groups, written signs are asymmetrically co-ordinated and prefer a linear alignment (but a linear alignment is not an absolute prerequisite of a writing system). Sometimes they are positioned along different registers, in columns, or in lines.	An ornamental element is in general arranged with others in order to capture a symmetrical balance which enhances the aesthetic value of the object. The rhythmic and symmetrical repetition of a geometrical motif is the principle feature of the decorative system.
Ligatures	Written signs can be linked by ligatures.	Ligatures are absent in the decoration.
Functionality/aesthetics	An inscription assembles signs in a functional way (although written signs are sometimes positioned aesthetically).	The combination of artistic signs can be subject to slight variations in the framework of general homogeneity.
Dots and vertical strokes	The use of dots and vertical strokes in separating signs or groups of signs is a strong marker of the occurrence of an inscription.	In a decorative design, dots and vertical strokes are in general not used to separate signs or groups of signs. If so, they are positioned symmetrically.
Abstract and naturalistic combinations	An inscription can combine abstract and naturalistic signs.	In general, in ornamentation there is no combination of abstract signs and naturalistic motifs.
Horror vacui	Written signs never saturate the entire available space, because they carry a specific message.	It is not infrequent that decoration saturates the entire available space.

Tab. 1. A matrix of markers and rules to distinguish between writing and decoration.

● When written signs are associated with ambiguous signs (be script units or symbols), they are inscriptions and not symbolic messages.

● Only the signs of the script can be modified applying diacritics (such as small strokes, crosses, dots and arches) and duplicating or multiplying them, or moving them around in various ways as alluded to above. The symbols do not vary in outline very much. They cannot be reversed, inverted or enriched by diacritics as units of the script can. Sometimes they are duplicated or multiplied to reinforce their meaning and power.

● Abstract written signs are more numerous than abstract symbols. On the contrary, naturalistic symbols

are much more than writing depicting objects, plants, animals or natural phenomena. To synthesis, one can note that symbolic language has less of a tendency towards abstraction than writing. When one observes a combination of simple, abstract, linear signs on an object, it is probably a form of writing.

● It is important to highlight that pictograms and ideograms are not at schematic drawings, but precise forms of writing. They are not draft images stylised by the arbitrary inventiveness of a scribe, but signs that, even representing real objects, have three kinds of features: they are standardised silhouettes; they are inserted in a precise inventory of signs of writing; they have definite meanings. In conclusion, pictograms and ideograms are not simply images, but those specific images which settle in the inventory of the writing characters: they are signs of writing with a naturalistic root. If we consider the Latin alphabet, for example, the A reminds us easily of inverted horns from the taurine pictogram from which it originated; the V owes its existence to the Egyptian hieroglyphic of a praying man with raised arms. Even if A and V derive from ancient drawings, it is usual to consider them as letters of our alphabet, as well as it is expectable to consider the bull horns as an ancient pictogram and the orante as a hieroglyphic.

● Writing can be linked by ligatures, symbols cannot.

● The use of dots and vertical strokes in separating signs or groups of signs is a strong marker of the occurrence of an inscription, whereas the other hand, the symbolic code does not employ dots and vertical strokes to separate signs or compound of signs.

How to distinguish writing from divinity[8] identifiers

Divinity identifiers can be inserted into the general category of identification marks (such as ownership or manufacturer marks), but they are very peculiar identification marks. In the Danube civilization every divinity revealed itself by a distinctive mark, with local variants indicating the regionalism of the divine representation, and rituals and liturgies, in the framework of the same magic-religious beliefs. Moreover, there were local divinities recognized by their typical symbols and known and worshipped only in a limited area.

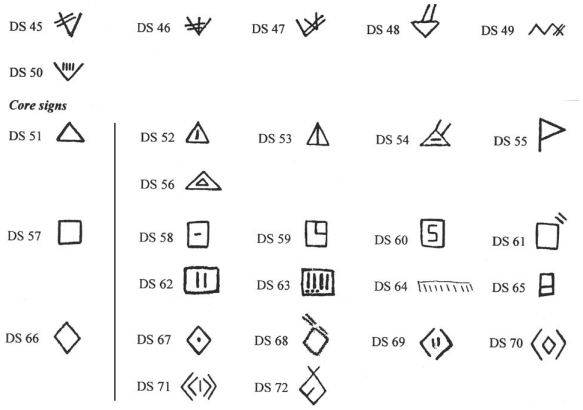
According to the traditional explanation, a Neo-Eneolithic divinity identifier may not be considered writing – although it identifies the essence of a divinity, synthesises its attributes and possesses/expresses its power – because it does not establish a link with verbal communication. Since it does not carry the name of the divinity, it is judged to be not a true god/goddess signature but merely a mark which might be abstract, arbitrary or synthetic, but which does not reflect the phonemes of its name or attributes. A divinity identifier is not written in a linguistic sense.

In the 2004 inventory, Winn placed the divinity identifiers among the signs of the Danube writing system (*Winn on-line*).

Contrapositions	Writing	Symbols
Inventory/repertoire	There are signs which are used only in written communication, so we can build an inventory of these.	There are signs which are used only in symbolic messages, so we can build a inventory of pure symbols.
The identification of the signs that can be writing units or symbols	When writing is associated with ambiguous marks (those which can be script units or symbols), one is dealing with an inscription.	One can be confident enough to assume to be outside of the symbolic framework when writing is associated with ambiguous signs (those which could be units of script or symbols).
Techniques and restrictions in outline modifications	Writing can be modified by applying diacritics.	Symbols do not vary in their basic outlines.
Pictograms and ideograms vs. schematic drawings	Pictograms and ideograms.	Schematic drawings.
Ligatures	Writing can be linked by ligatures.	Ligatures are absent in symbolic communication.
Dots and vertical strokes	The use of dots and vertical strokes in separating signs or groups of signs is a strong indicator of an inscription.	In symbolic language dots and vertical strokes are not employed to separate signs or groups of signs.

Tab. 2. A matrix of markers and rules to differentiate writing and symbols.

8 Regarding the Neo-Eneolithic period I prefer to use the term "divinity" and not "God/Goddess", which is much more pertinent for subsequent times.



I am very wary of considering divinity identifiers as a category of writing, but for completely different reasons than the usual ones. According to the usual hypothesis, *ars scribendi* consist in the practice of memorising and expressing ideas connected to language through graphic signs, but for a growing number of scholars, the aim of this technique is different: storing and transferring information for reuse. So in order to define what writing is, no connection with the spoken code of a language is needed: its connections with the world of ideas and concepts is enough. To create a text means to fix concepts, a process independent of how they may be expressed in spoken language and its rules. What actually stimulates the use of writing is its relationship to culture: its mission is to establish sequences of ideas, to connect concepts. This is a mental process not necessarily having to deal with the translation of sounds into visual marks, but with the cultural milieu of a society. The contingent link between sounds and signs is not a theoretical, but a historical observation. The first writing experiments and the increasing integration of signs into a system were not directed at reproducing the structure of spoken language (words, syllables or letters), nor to express grammatical structures. Our ancestors were more anxious to represent their ideas physically. Transcribing speech onto clay or paper was a secondary goal which prevailed only later. The Indus civilization and the Danube civilization perhaps, declined before their writing reached this degree of maturity.

I am disinclined to consider divinity identifiers as a category of writing because, firstly, divinity identifiers are not common enough for a script in use at so many of sites for hundreds of years. In fact, the choice of indicating a divinity through a distinct sign was a private decision, localised to a region and even a village, a sanctuary or, even a single holy man; divinity identifiers were not codified through a general organised system of signs and, even if had been, we are unable to find them in other regions or villages of the same culture. This observation is indirectly confirmed by Winn's list, which is polarized by so called "elementary signs out of time and space" easily encountered in any culture (i.e. triangle, square, and lozenge) and local, highly atypical signs. As a curiosity we can notice that Ds 55 (a flag hoisted on a pole), selected by Winn from divinity identifiers, is the same sign that in Egyptian hieroglyphs means god ("Necer", the carbonate hydrate of sodium employed to preserve the mummified corpses, and therefore to deify them).

Therefore, secondly, the Neo-Eneolithic divinity identifiers are like heraldic signs, where their numbers and shapes are not predetermined, but depend on how many aristocrats there are and on the pedigrees of their families.

Thirdly, the divinity identifiers go beyond some important conventions which rule the outline and organization of writing. Even if they can be modified by applying diacritics to express some particular attributes/powers or local hypostasis, they cannot be reversed or inverted as script units are.

In conclusion, a divinity identifier announces the presence and the powers of a divinity worshipped in a region or village or governing a specific cultic place. The idols marked by this kind of sign did not simply represent the image of a divinity, but became the divinity through a ritual in which they were imbued with godly essence. The action of tracing divinity marks in an appropriate way on figurines transformed them from everyday objects into concentrations of supernatural energies. For this reason one can infer that the most powerful statuettes, those worshipped outside the domestic sphere, were manipulated and inscribed only by initiates.

Which semiotic criteria can one use to distinguish between divinity identifiers and script units? Here are some ideas:

● Divinity marks are local; it is very difficult to find them elsewhere, even in neighbouring settlements. Therefore having found the single sign ⟪◊⟫ in prominent positions on Jela female figurines, Winn deduced it was the mark of a local goddess (*Winn 1981*). Contrariwise, the Danube script was in use from the sixth millennium BC to the middle of the fourth millennium in sites over a wide area between southern Hungary, Macedonia, Transylvania and northern Greece (*Merlini 2003a*).

● A divinity identifier was usually placed on objects representing the divinity, such as figurines, vases or seals, whereas inscriptions were on all kinds of objects.

● Divinity marks are positioned prominently. When, for example, it occurs on a figurine, it is located outstandingly and/or on strategic parts of the anatomy (particularly on the top of the head, forehead, neck, breasts, stomach, belly, vulva, back, or buttocks). A written text is not necessarily incised in a noticeable position, although some inscriptions are restricted to specific areas of objects.

● At times a sacred mark, representing the essence of a divinity in the abstract sphere, is so strictly connected to some of its key organs as to replace them: meanders in place of the vulva, spirals instead of buttocks, and so on. A written text never replaces a part of the denoted object.

● Scribes were careful and precise in making divinity identifiers. On the contrary, in many cases an inscription was engraved imprecisely due to the inexperience of the scribe or because of shaky hands. In others it as been corrected while the text was in progress (for example, the 'P' or 'D' in the upper left quadrant of the discoid tablet from Tărtăria).

● Divinity identifiers were made before firing and very deeply incised. An inscription could have been made before or after firing (in general it was made before firing) and with a have variable grade of pressure.

● A divinity identifier consists in general of a single sign, very specific in design, and distinctive in shape. Although script is mainly made up of one or two signs, one can also find long inscriptions.

● A divinity marker often has a pictographic root. The script is made up of abstract signs, rather than naturalistic motifs. Abstract signs and pictorial expressions are independent components in the formation of the Danube Script: the former played a more important role than the latter (*Haarmann 1995*).

● A divinity identifier is often a cartouche (hieroglyphic symbols enclosed in a loop) and is inscribed within an appropriate and reserved space organized according to a typical layout for reading a cartridge. The inscriptions show the most varied patterns, in horizontal, vertical or circular rows, but despite this variety signs are arranged in specific sequences (not necessarily linear).

● A divinity mark is preserved from superimposed scratches made during rituals or by accident. It was common for a scribe to leave some imprints on a written text (for example, on the tree of the other rectangular specimen from Tărtăria) and make scratches everywhere.

● There are signs which are used only as divinity identifiers, so we can make a list of them. There are signs which are used only in writing messages, so we can make a list of exclusively writing units.

In conclusion, observing the single sign of a pictographic root that was very well and deeply marked before firing in a prominent position and/or on strategic parts of a figurine, a seal or a vase, one has high probabilities of dealing with a divinity identifier, not an inscription.

THE OBJECTS OF DANUBE CIVILIZATION ARE BEARING WRITTEN TEXTS OR ONLY DECORATIVE MOTIFS, SYMBOLS AND DIVINITY IDENTIFIERS

A key step in searching for clues to scripts in the Neo-Eneolithic cultures of south-eastern Europe is to implement and test the markers and rules (aimed at identifying polyvalent inscriptions from compounds of signs associated with other communication channels) on the corpus of Danube inscribed objects. It is to detect the internal structure of the Danube sign system on the basis of the above mentioned typological and semiotic criteria and for evaluating the *possibility* of the presence of elements of literacy in these cultures.

A crucial piece of advice when applying this matrix of markers and rules in the field is that the falling of a sign or a combination of signs under one category of indicators does not mean they are forms of writing rather than decorative, symbolic and identifiable. The probability of hitting the bulls-eye is higher if a sign or a group of signs is simultaneously verified by as many as possible markers. To take an example, if its true that geometric, abstract, highly schematic, linear and simple signs are in general considered as writing, on can be sure of this only after this indicator of sign outlines is confirmed by others (e.g. linear sequence of the signs, multiple variation of some root signs by applying strokes to them etc.).

The following recent discoveries are just a few examples of how to apply the matrix of markers and rules. I selected them not from the core area of Danube civilization (the Vinča region), but from the peripheral regions in order to document how widespread the Danube script was.

Neolithic predators of classical Greek letters

An inscribed small-sized ceramic shard of 5000–4500 BC comes from the Cave of Cyclope on the desert islet of Youra (Northern Sporades, Greece). It bears the antecedents of the classical Greek letters Alpha, Epsilon and Delta which are aligned in a row. All three Youra signs fit Haarmann's inventory of the Danube script[9]. It is immediately evident that this sequence of signs is out of the decorative, the symbolic and the divinity mark frameworks (Fig. 8).

The fragment from the Cave of Cyclope proves that the *outlines* of the letters of the classical Greek alphabet are older than those of classical Greek script. The evidence for continuity in sign silhouettes does not obviously mean that the Greek alphabet originated from those ancient times, but that some symbols remained in use or were remembered down the millennia. The discovery also challenges the traditional theory that the Greek alphabet derived from the Phoenician, which is 3500 years later than the signs found on the potsherd from the Cave of Cyclope.

Contrapositions	Writing	Divinity identifiers
Global vs. local	Script was in use at sites over a wide area.	Divinity identifiers are local.
Occurring on all kind of object	An inscription can be found on all kinds of object.	A divinity identifier is prevalently placed on representational objects of the divinity such as figurines, vases or seals.
Occurring on many parts of an object	An inscription can be on any part of the object, although some kinds of inscriptions are restricted to specific areas.	Positioned prominently. When it occurs on a figurine, it is located outstandingly andžor on strategic parts of the anatomy.
Impossibility of replacing a key part of the object	A text never substitutes for a part of the object.	Sometimes a sacred monogram, representing the essence of the divinity in the abstract field, is so strictly connected to its key organs as to replace them.
Poorly marked vs. clear-cut	An inscription might be imprecise and carelessly wrought	The scribe is careful and precise in making a divinity identifier.
Independent of firing vs. before firing	A text is often made before firing, but it might also be made after. It could be incised with variable pressure.	In general, a divinity identifier is made before firing and very deeply incised.
Different number of units in play	Although script is mainly made up of one or two signs, one can also find three- and more- signs inscriptions.	A divinity identifier is in general a mono-sign.
Abstract roots vs. pictographic roots	The script is made up of abstract signs rather than naturalistic motifs.	A divinity identifier often has a pictographic root.
Patterns and layout	The inscriptions show the most varied patterns, in horizontal, vertical or circular rows. Despite this variety, signs are arranged along specific sequences (not necessarily linear).	A divinity identifier often has the shape of a cartouche and is inscribed within a reserved space organized according to a typical layout for reading a cartouche.
Superimposed scratches vs. preservation of the signs	Inscriptions are sometimes superimposed by scratches or scribal imprint.	A divinity mark is preserved from superimposed scratches made during rituals or accidentally.
Inventory vs. catalogue	Some are used only in writing. Therefore we can build an inventory of these.	Some signs are employed only as divinity identifiers, so they can be systematically catalogued.

Tab. 3. A matrix of markers and rules to distinguish between writing and divinity identifiers

9 From the left, the Youra signs resemble OE 103, OE 213a, OE185.

The unearthing of this inscribed, ceramic fragment of Neolithic pottery was by Adamantios Sampson, supervisor of the Inspectorate for Prehistoric and Classical Antiquities of the Cyclades. Between 1995 and 2004 he also discovered inscriptions sometimes composed of many symbols/letters at Ftelia (a settlement of the fifth millennia BC on Mykonos), at Yali (near Nisyros), in the cave of Skoteini at Tharrounia and in many other Neolithic sites in Cyclades (*Karantzola, Sampson, Ioannis 2002*). According to him, this succession of recovered inscriptions in the Aegean confirmed the existence of a "communication code which may have belonged to a Protobalkan script ... existing ...in the Balkans during the Neolithic age" (*Sampson 2002*).

The most interesting inscription is that found at Ftelia, because it is composed of many symbols/letters made up of geometric abstract signs rather than naturalistic motifs, with uniform dimensions organized in a linear alignment. The signs are clearly assembled in a functional way and not aesthetic manner. The text seems be split in two by a horizontal notch between the signs (Fig. 9).

A written message organized along linear registers and a scribe's mistake

If the most famous inscribed seal is the example from Karanovo, the most intriguing was discovered in 1999 by Panikos Chrysostomou (Pella Museum) at Yannitsa (northern Greece). It is of black stone and dates to 5250–5000 BC. The seal was moulded in a concave form, and its dimensions are 2.5 by 5.5 cm. The signs are incised on the concave side. Therefore the object was used to impress precise sequences of geometry on curved surfaces. Are they wrists, arms, sticks? (Fig. 10)

Fig. 8. A ceramic fragment from Cave of Cyclope (islet Youra, Northern Sporades, Greece) bearing the facsimile with the letters of classic Greek alphabet Alpha, Epsilon and Delta. It is dated to 7000–6500 BP.

Applying the matrix of markers and rules one can notice that the signs are deeply incised, intentional, well identifiable in their individuality, highly stylised in form, and simple. They are linear and many express X, V or inverted V forms. The inscription is made up of geometric abstract signs rather than naturalistic motifs. In fact, only one sign resembles real objects in the shape of a body of an animal. The signs are of the same size. Moreover, they are conventional and follow a standardized model, as documented by the fact that some occur more than once. Some signs were modified by applying diacritics, possibly to express meanings which subtly changed from time to time.

On the Yannitsa seal the signs are linked by ligatures and arranged in precise linear sequences. In particular, they have been organized along three registers: as in the Gradešnica plaque, the scribe traced a series of horizontal guidelines that run along the seal's length, and then wrote over them. But he made an error. He traced the first line too high, so he had to give up writing over it. He also risked a lot on the last line. However, he managed to fit in the entire text by compressing it (*Chrysostomou 2002*). The linear sequence of the signs, the occurrence of reading registers, and the scribe's mistake prove clearly that the signs were assembled for a practical purpose and not for aesthetic reasons, because were designed to convey a specific, complex message.

The most intriguing feature of the seal are numerous cupolas which imprinted dots on the skin, clothes and other objects. Regarding their relationship with the signs, three kinds of cupola-dots occur: positioned at the end of a sign, superimposed on a sign, or completely separate from any others. The cupola dots also vary in diameter. Unfortunately, their role is completely unknown to us. From the precise execution and fixed organization one can infer that they played a key role in the construction of the message and not merely to separate its constituent units.

According to the finder the text should be read from top to bottom and from right to left. What kind of written message could have been traced on the seal?

To dare give an answer, one has at least to know how long the text was. Two holes at the extremities indicate that Chrysostomou had found only half of the entire object and inscription. Besides, a leather cord could string, as a necklace, a number of hollowed seals made of two interlocking parts. Conforming to this reconstruction, the written message could be elongated according to need, thus creating some sort of record.

Secondly, the complexity of the text, the difficulties of carving it on a hard surface, and the fact that the seal could have been worn as a bracelet or as a bead in a necklace means it was not used within an administrative-accounting framework. It is more reasonable to assume that the seal was utilized as an amulet, indicative of the magical associations of the script. It might have been an amulet-archive.

Thirdly, one has to consider the context of the discovery: Chrysostomou found the inscribed seal among some discarded shards on the floor of a house. Therefore the seal had been discarded because it had lost its significance and powers.

Finally, one has to take into account the material from which the seal is made: very hard stone. The scribe must have made great efforts in carefully incising the complex text. In addition, the signs must have had a precise and important meaning for lots of people, considering their repeatability over and over again.

What kind of message was so important as to justify such a high investment in time and expertise, wanted to be unchangeable down the course of time and repeatable thousands of times, but was suddenly discarded because it had lost its significance and impact, despite the will and the hope of the writer? The archaeologist in charge hypothesises a mythical story or a prey. In any case, one can recognize on the Yannitsa seal a system of writing of extraordinary complexity (*Merlini 2003c*).

Precucuteni Carved tablets

In 2000, two inscribed tablets were found at the Isaiia settlement, near Huşi (in Moldavia,). One, discovered in a cultic building, belongs to its earliest period, the Precucuteni II culture, around 5000 BC (*Ursulescu, Merlan 2002.73–76*). The date of the second tablet is uncertain, but its grouping of signs has

Fig. 9. At Ftelia (Mykonos, Greece) an example of symbols-letters occurred. It is composed of many "characters".

a striking similarity to that of the first example (Figs. 11–12).

The tablets are fragmented, made from local clay, and fired at a high temperature. The signs are etched. Vicu Merlan, one of the finders, described them as "linear incisions similar to musical notation". He asserted that their recovery in a cultic place showed the ancient use of an "archaic pictographic writing" or a "rudimental writing" by a priestly cast. The signs might "have transmitted prayers"[10]. According to Nicolae Ursulescu, the other finder and head of the Isaiia excavation, the tablets do not have "early writing", but "a very early use of an incipient writing" (pre-writing) strongly influenced by oriental culture, in particular "Sumer" (*Ursulescu 2002.8*). They are coeval with the Tărtăria Tablets which, however, display the distinctive properties of writing.

The writing or pre-writing hypothesis is not inconsistent, because in the Precucuteni II period, Isaiia was a crossroads for trade and culture due to its location next to the confluence of Jijla and Prut on the Moldavian plain. The presence of an important cultic dwelling of the community in the central area of the settlement attests to a rich spiritual life. In the sanctuary, a small altar and an *askos*, which is the most ancient evidence of this kind in southern-eastern Europe, have both been found in the company of the inscribed tablets.

Fig. 10. Yannitsa seal, 5250–5000 BC.

10 *Vicu Merlan, personal communication 2002.*

Fig. 11–12. Inscribed tablets found at Isaiia settlement, near the town Huşi (Moldavia, in Romania): Precucuteni II culture, around 5000 BC.

According to a semiotic analysis based on the matrix of markers and rules, the signs on the Isaiia tablets have characteristics typical of a kind of writing, although their outline is not always clear:

● The few detectable signs are writing-like, being geometric, abstract, highly schematic, linear and quite simple. Only a direct microscopic study of the incisions will allow us to establish if the difficulty in detecting other signs are due to the poor state of the objects, the lack of ability of the scribe in signs of writing or in copying them for magical purposes, ignoring their meaning and proper use, the in accuracy of the published drawings, or that they are mere scratches.

● Some signs that are purely identifiable by their individuality can categorised as writing, for example, the y and inverted y.

● Linear writing-like signs occur in groups on the tablets.

● Linear writing-like signs do not saturate the available space.

In conclusion, the circumstantial evidence of the presence of a script is not very strong on the Isaiia tablets, but stronger than the occurrence of decorative designs or symbolic language.

CONCLUSION

When inspecting the internal structuring of the sign system, clear evidence of a writing system becomes noticeable, although it is archaic and in *statu nascenti*. What are the organizing principles of the Danube script? Although it is likely that this system of representation will remain undeciphered, one can detect some features of its semiotic code:

● The script has a distinctive tendency to abstraction. It is made up of abstract signs, rather than representational motifs, and only a few inscriptions are formed from a combination of abstract and iconic signs.

● Most of the signs of writing are geometric, abstract, highly stylised in form, uncomplicated, linear in features and rectilinear in shape.

● Root signs were changed by various diacritics, with the exception of dots. We do not have enough evidence to establish if these signs are the foundations of a script i.e. a set of signs from the script.

● The Danube script organized written signs in an orderly manner and in specific places within a logically coherent system especially designed for readability. In many cases this order of is linear.

● The script is mainly made up of one and two-sign inscriptions, as in other archaic writing systems. Sign clusters of three or more signs are less frequent. Longer inscriptions are rare. This essential quality should not lead to the refutation of the status of writing to those signs. Even Hindu script (4600–3800 years old) often has single-sign inscriptions, which are complete written words, as hypothesised by Parpola (*1994*).

● The technique of forming complex signs by ligature was in use. Sometimes, for writing it is not enough to be huddle together like sheep. They connect with opening and terminal lines, interlocking in some manner, positioned within the confines of another, and merging. The result is inscriptions apparently composed of one or two very complex signs, but in fact each originated in a combination of signs.

● Sometimes dots and vertical strokes are employed in separating signs or combination of signs in complex inscriptions

● Grammatical indications were probably omitted or left to out be understood with the aid of the surrounding context.

● Belonging to the first phase of writing, it was able to encode extended speech or long narratives because phonetic elements were absent or inadequately rendered. Sometimes the written message was used with signs referring to other communication channels.

● Any parallels between Danube inscriptions and Mesopotamian writing appears weak for chronological and graphical reasons. Firstly, the development of the Danube script predated similar evolutionary trends in Mesopotamia by almost a millennium. Secondly, if one compares the European signs with those on the ATU-list (*Green and Nissen 1987*), one can not observe any substantial convergence. In conclusion, chronological and graphic motifs exclude outside influences on the formation of the Danube sign system, either from the drift from east to west of the idea of writing, or in terms of any significant contribution to the sign inventory (*Haarmann 2002b*).

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back to contents

UDK 903.2(497.11) "633/634":003:291.37
Documenta Praehistorica XXXII (2005)

If the Vinča script once really existed who could have written or read it?

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ABSTRACT – *The paper considers about the possible meaning and social function of signs and symbols from Vinča, and used in Danube Neolithic society. Many scholars have tried to answer two main questions about the nature of the signs: first, does they form a system, and (if so), could such a system be interpreted as an original prehistoric script?*
A new approach to the problem, focused on an archaeological reconstruction of the basic function of ceramic objects bearing the signs, offers strong evidence that the signs were used in the context of ordinary domestic life, much more than in ritual and/or ceremonial contexts. An important set of data suggests that practically every single Vinča household had inscribed objects and that many of the signs and sign groups are uniform, just as in organized writing. Consequently, such a complex notation system could have been a form of written communication throughout Vinča society.

IZVLEČEK – *Članek preučuje možen pomen ter socialno funkcijo znakov in simbolov iz Vinče in njihovo uporabo v neolitskih skupnostih na območju Donave. Veliko raziskovalcev se je trudilo odgovoriti na dve poglavitni vprašanji o pomenu teh znakov: ali tvorijo sistem in (če ga) ali lahko takšen sistem interpretiramo kot prazgodovinsko pisavo?*
Nov pristop k problemu, osnovan na arheološki rekonstrukciji osnovne funkcije keramičnih predmetov z znaki, ponuja močan dokaz, da so znake veliko pogosteje uporabljali v kontekstu običajnega, posvetnega življenja, kot pa v ritualnih in obrednih kontekstih. Pomemben niz podatkov omogoča domnevo, da so skoraj v vsakem gospodinjstvu nastopali predmeti z znaki ter da je veliko znakov in skupin znakov poenotenih, kot pri organizirani pisavi. Posledično je tak kompleksen sistem označevanja, lahko oblika pisane komunikacije v celotni skupnosti, ki je sestavljala kulturo Vinča.

KEY WORDS – *Late Neolithic; Early Chalcolithic; Vinča culture; signs; symbols; writing; contextual analysis*

In May 2004 an important symposium was held in Novi Sad, Serbia[1] that offered a unique opportunity to discuss problems concerning the signs and symbols found at Vinča. Many scholars in archaeology, palaeolinguistics, ethnography, and socio-cultural anthropology have tried to answer crucial questions about the nature, context, origin, and social role of the Vinča signs.

Several generations of scholars have explored the Vinča culture. Many different sites have been discovered (around one thousand if we count all the published and unpublished sites in Serbia, Montenegro, Bosnia, Hungary, Romania, FYR Macedonia, and Bulgaria). Moreover, an enormous collection of artefacts has been gathered. During the 1850s and 60s Serbian archaeologists, Vasić himself (*1931; 1936*), then Milojčić (*1950*), Garašanin (*1951 et pass.*), Jovanović (*1961*), Srejović (*1990*) and others, fairly established a general framework of knowledge about the distinctive aspects of Vinča culture – environmental, socio-economic and cultural. Moreover, col-

1 Thanks to Serbian Academy of Sciences and Arts, Branch in Novi Sad and Institute of Archaeomythology, USA, International symposium on the Neolithic symbol system of SE Europe gathered more than 20 scientists from Europe and the USA in May 25–29, 2004.

leagues from elsewhere made important contributions to the creation of more specific databases about the culture. For instance, they conducted extensive studies of its intensive agricultural subsistence economy, processes of strengthening power and expanding territory, as well as methods for obtaining important goods and raw materials, such as salt, flint, or obsidian. A significant contribution made by Jovanović (*1971 et pass.*) in the 70s and 80s shed new light on the Vinča economy – the discovery of a copper mine at Rudna Glava suggests that the Vinča people, previously described as (only) farmers, were actually also "involved" in metal-working. The most recent archaeological discoveries at the Pločnik and Belovode sites (*Šljivar and Kuzmanović-Cvetković 1998; Šljivar and Jacanović 2001*) confirmed the idea that (as least) the second period of Vinča culture should be regarded as practically Early Chalcolithic (Fig. 1).

The Vinča culture has been studied in archaeology for more than a century. Archaeologists have witnessed a silent "war" for almost thirty years: endless debates between supporters of the "full literacy" of the culture and categorical opponents of such an idea. In fact, neither opponents nor supporters have provided convincing scientific arguments for their general opinion. This might cause a serious problem for a serious reader.

What should be stressed above all when addressing the question of the Vinča signs? The distribution of

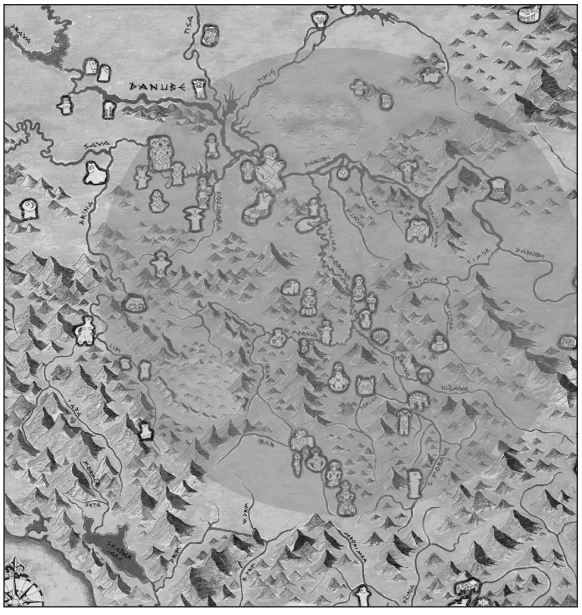

Fig. 2. Distribution map of the Vinča sites with objects that bear signs (the highest concentration is emphasised with a grey circle)

Fig. 1. Two copper axe-type tools from the Pločnik site, SE Serbia (National Museum in Belgrade, No. 16557 and 1821).

the finds (Fig. 2) is, generally speaking, regular. Perhaps it is important to emphasize that the highest concentration is in large Serbian river valleys (such as the Danube, Sava, Morava). But, contrary to prevailing views of experts who have studied the topic, the northern area (e.g. the Danube Valley itself) is not the heartland of the signs, but the whole area covered by Vinča culture.

Around the end of 19th century Torma excavated the site of Turdaş the in Romanian northern plain (then called Hunyad). In her research diaries she noted and drew over 200 of signs and symbols discovered on the bases of ceramic bowls. While the majority of signs were linear, the collection also included stylised representations of animals, and even humans. Roska published the collection for the first time, more than five decades later (*Roska 1941*).

Vasić made the most significant breakthrough, and improved our knowledge of Vinča culture. As the first trained Serbian archaeologist, he initiated systematic excavations Belo brdo ('White Hill') site in 1906. In one of his first reports (*Vassits 1910*), Vasić paid particular attention to "incised signs and marks", emphasising that these signs and symbols were not a part of a system of vessel ornamentation, i.e., they emerged independently of ornamentation. His assumption was that these symbols referred to the pottery workshops or to the owners of the vessels, and were specific to certain clans or families.

Several important discoveries from the northeastern region (for example, in Romania) reopened old discussions about the basic concepts of Vinča society – its ideological structure, cults and/or religion. In 1961, during excavations at the site of Tartaria, Vlassa discovered three plaque-like objects of badly fired clay, at the bottom of a bizarre spot (a grave? a sacrificial pit?). Two of these objects had a perfo-

ration (similar to those on amulets), while the third was simply a flat plaque. The fact that each of these objects had extraordinary signs and symbols incised in fresh clay made them important and internationally famous as the "Tartaria tablets". Clear representations of animals (goats?), humans, objects (a tripod?), organized in metopically separated zones, were combined with linear symbols in a manner which was already known to us as the Vinča-type style.

This discovery raised a storm among European archaeologists and palaeolinguists. Distinguished authors, such as Falkenstein (*1965*), S. Hood (*1967*), Makkay (*1968*) and others, started to write comprehensive studies on the importance and meaning of the Tartaria tablets. Apparently, the most confusing fact was a striking similarity between these objects (and their symbols) and the signs on cylindrical seals from a preceding, early phase of development of cuneiform, the so-called Uruk IV/Djemdet-Nasr phase. However, it was very difficult to explain a possible connection between the two, not only due to the huge geographical distance, but also due to a serious chronological mismatch. Djemdet-Nasr was dated to around 2800 BC, while Tartaria, e.g. its findings, must have been more than a thousand years older (bearing in mind that it belonged to an early phase of Vinča culture).

Interest in the phenomenon of incised signs and symbols on the prehistoric pottery from the Danube region and the Balkans increased upon the publishing of specific finds from Bulgarian sites: the so-called Gradešnica dish, Karanovo seal, etc. All these discoveries have created a controversy, and it has become inevitable to consider the possibility that the signs may represent a unique written communication system that was once typical of the Neo/Eneolithic in souteastern Europe. It should be remembered, however, that such a phenomenon existed in other parts of the world. A number of incised signs were found at the bottom of ceramic vessels from various cultures, such as the Greek Neolithic (especially the Thessalian Dimini phase), the Badari culture in Egypt, seals from the Mohenjo Daro in India, and the Yangshao culture in China, among others.

All these discoveries suggest that it may be possible to regard these finds as anthropological phenomena, typical of something I call the first information revolution in history, developing from the intensive life of permanent Neolithic communities. In my opinion, Vinča Culture went furthest in the process of developing this kind of communication.

The work of Garašanin (*cf. 1951*) had a crucial role in the process of defining the Vinča-type findings and sites as integral parts of a uniform archaeological culture. He established an internal chronology, recognizing two basic phases (Turdaş, and later, Pločnik). Through proficient and profound analyses of material and spiritual culture, Garašanin managed to explain the logic of development, its basic characteristics, and the richness of this extraordinary Neolithic culture of SE Europe. However, in this, as well as in his later work (*Garašanin 1973; 1979*), he claimed that the signs were merely property marks. Although he strongly denied Vasić's idea (and provided strong arguments to support his own conclusions) about the absolute age, as well as the Vinča cultural milieu in the Pre-Classical Greek world, he did not make an effort to reconsider the concept of Vinča signs as the owner's marks and/or manufacturer's "trademarks".

In the 20th century, during the 50s and 60s, nearly one hundred additional Vinča-type sites, mainly settlements, were been discovered and explored in Serbia, Montenegro, Bosnia, and Romania. Incised signs on the pottery were mentioned occasionally. However, in every single case the signs were assumed to be "owner's marks". It is rather likely that Garašanin's great authority influenced others' opinions, so his interpretation of signs has been taken for granted, and the phenomenon itself has been regarded as ephemeral, not relevant enough to deserve a thoughtful exploration.

Thorough and responsible researchers also might deserve certain criticism: evidently, only a few of them have undertaken a systematic and holistic exploration of the phenomenon. The latter remark particularly applies to Serbian archaeologists and linguists, who have had a full access to the major part of the heritage – the objects with signs. Garašanin (*1951; 1973*) and Srejović (*1994*) maintain that the signs were "owner's marks" or "potter's marks".

On the other hand, many non-scholars (and/or controversial, questionable scholars) have been trying to promote one doubtful idea throughout these years. Yet in 1940, Georgievskij interpreted the entire corpus of the Vinča signs as a genuine representative of full prehistoric literacy, invented by the Vinča people. Nowadays, we can also find "readings" of the Vinča "texts" fully translated by the "interpreters" of the Vinča language and script. Their "readings" have usually been rather convincing to the public, since they mention, almost as a rule, the glory

of some unnamed goddess (if the signs are on a statuette of a female figure – Fig. 3). Similarly, these authors manage to persuade laypersons, as they have the "courage" to "describe" fantastic events, for example, the "historical" and even "political" end of the Vinča civilization in the expulsion of the Vinča population from their homeland (*cf. Chudinov 2003; Pešić 1995*). According to these interpretations, the content of those "texts" undoubtedly connects Neolithic Vinča communities with Etrurians. Furthermore, Pešić, for example (op.cit.) without any criticism, has "discovered" the origins of the Vinča "literacy" – presumably, in the writing skills of the Lepenski Vir culture (?!) There is no need to waste paper on arguing with such ideas.

Probably the most important study of the Vinča signs was conducted by the American archaeologist Winn (*dissertation thesis, Winn 1981*). Through profound analyses of a series collected from around 50 Serbian Vinča-type sites, he took the most significant step forward in methodological approaches to the problem. Instead of dealing with single and/or "convenient" examples (as most authors have done), and comparing them with already known cases in order to come to general conclusions, Winn first categorized them, and, further, suggested a model of sign classification, based on features (categories), which he had determined as relevant. It appeared that the latter was the only correct and productive way to approach and possibly solve the problem.

Probably the most significant outcome of Winn's work was that he provided convincing evidence that the Vinča signs constituted a system, rather than a collection of arbitrary, random symbols. What was apparently missing in his comprehensive study was a clear analysis of the archaeological context in which the signs were found. Although this type of study could be extremely difficult to carry out in practice (especially due to problems related to systematisation), it has the potential of providing a clear archaeological answer to a crucial question: did the Vinča signs constitute a script in the full meaning of the term?

Of course, it is necessary to emphasis the work of Gimbutas, and the circle around the Institute of Archaeomythology. I would particulary like to stress Haarmann's papers and books (*cf. in this volume*), and, nowadays, Merlini's excellent and ambitious attempt to promote the possible crucial importance of the main dilemma (script or not?) on his website "Prehistoric Knowledge".

Eight years ago, I started to study the problem of the Vinča signs in order to solve my own dilemma about their possible significance in the context of Neolithic Vinča society. At first glance, it was obvious that the signs did not fit into the ornamentation pattern that once existed. While there were some examples (especially on figurines and altars) that the symbols were incorporated into the ornamental pattern, many of the signs appeared on pots and bowls with no additional ornamentation. Assuming, just tentatively, that the signs on votive figurines were integral parts of symbolic formulae, single signs or groups of signs on the bottoms of domestic pots more often than not implied a quite different interpretation. However, other signs attracted my attention – those on loom weights and spindle whorls. Having in mind that both kinds of artefact could be connected with basic economic activity, I started to consider two main questions. The first was – could the Vinča signs and symbols be a substantial system representing messages? Another question, even more difficult, was the following: was the entire corpus of the Vinča signs coherent enough to be regarded as a system of written communication in its original context?

In order to provide the answers to these two questions, I had to create an innovative analytical system. The first task was to develop a strategy to "rediscover" material, because it was virtually hidden. Needless to say, most of the artefacts had not been carefully studied, since they were considered unimportant or trivial. I studied 17 different museum collections throughout Serbia, and the collections from

Fig. 3. Non-experts' interpretation of the "Vinča Script": two translations of a Vinča type-site figurine "texts": Pešić (1995), and Chudinov (2003).

over 40 different Vinča sites collecting data on than 1000 fired clay objects with over 1500 signs and symbols.

Data gathered at sites can be divided into three groups:

❶ general data about the site, conditions of the object's discovery (the technical as well as archaeological context), museum documentation data, as well as relative and absolute dating

❷ analytical data relating to each object (formal and techno-morphological information, as well as dimensions and other features)

❸ analytical data about each sign (formal characteristics, number of lines, number of signs, intersections, typology, and so on)

Furthermore, I took photographs of each object and the signs. Similarly, I made drawings of the object (in many cases, where possible, this had to be virtually reconstructed), and of the sign itself. In this manner, I established a principal sign database.

It is obvious that there is a wide range of objects that once had signs and symbols on them (Fig. 4). But, a serious question as to their provenance and function within the structure of Vinča society is still unresolved. On the one hand, some scientists, e.g. Gimbutas (*1973; 1974 and later*) thought they were religious. Her efforts and insights had some merit.

According to my exploration, the most significant signs and their combinations (logograms, ideograms, groups of signs) were primarily on objects that could be religious: votive figurines, amulets, face-like lids, tablets, etc. On the other hand, the most frequent occurring signs/groups of signs were found on ordinary, utilitarian objects: containers for processing and consuming food, loom weights, etc.

Assuming that the second case predominated, the Vinča signs could be interpreted as evolving into a full writing system, since this is already known for the historical development of ancient writing systems (Mesopotamia, Crete, China). Certainly, the latter conclusion could be supported if the signs on the vessels referred to practical information, such as number of breeding stock, volume of jars, meat and hide weight, and so on.

A problem mentioned above has evoked the most intriguing question: is it possible that the entire set of Vinča signs did not constitute a single uniform, mono-sign system?

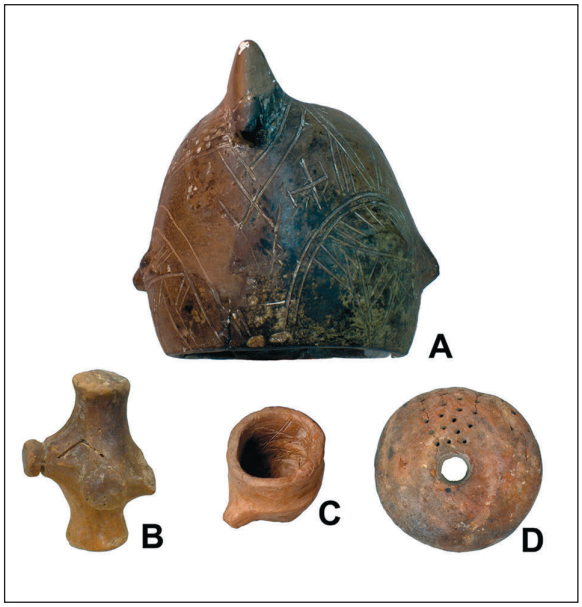

Fig. 4. Examples of various types of ceramic objects with signs: prosopomorhic (face-like) lid from Vinča-Belo brdo (A), amulet and miniature vessel from Gomolava (B and C), and, loom weight from Potporanj (D).

Is it possible to prove or reject the idea that the Vinča signs were a fully comprehensive system of written communication, even if we do not know its (possible) meaning? There are three main points that I wish to emphasise here:

❶ Formal grouping and/or classification should help to establish general the framework of the signs' sequence; however, since many authors have only tried to combine and compare graphic representations of the signs with each other, the results were unsatisfactory. More extreme attempts led to supposed analogies with symbols from recognised early writing systems, such the archaic phase in the development of cuneiform. If it even produced problems with chronological correspondence, such authors (*cf. Makkay 1969*) were ready to change drastically the chronology itself.

❷ Another possible approach is to concentrate on the objects with the signs. It is now quite clear that practically every single category of object of fired clay had been inscribed: pots, lids, loom weights and spindle whorls, as well as figurines, mask-like lids, small altars, peculiar artefacts resembling dolls, and even plaques or tablets. The latter (such as the famous Tartaria Tablets) were especially interesting to many scholars, because they offered evidence for reconsidering the existence of written communication. The main reason is than the exclusive purpose of

making such objects was to carry signs. But if we overturn the point of view, it could be assumed that the Vinča people needed to inscribe various utilitarian and non-utilitarian accessories; if so, why?

❸ Perhaps the most promising approach is a comprehensive analysis of the original context of the object (and the signs', too), when possible. In the evaluation of previous attempts to solve the problem of the Vinča signs and symbols, their importance and original significance, I noticed that none of the authors paid enough attention to this point except in general terms. The signs were found in house interiors, in the context of households, in different kinds of workshop activities (such as weaving, or pottery production), and even in graves. But, all of it – in what proportions? Having been analysed the question, I would like to present some interesting evidence.

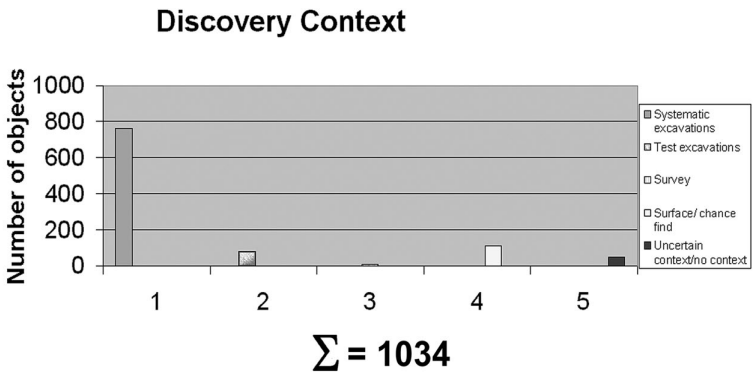

Fig. 5. Way of providing of analysed Vinča ceramic objects with signs (after* Starović 2002.85*)

Of course, it should be stressed that none of those three starting points for the study of the Vinča signs is exclusive or matchless: a fully comprehensive analysis has to interrelate all of those three levels of data.

Firstly, when we look at the studied corpus, it is obvious that the quality of basic contextual data is quite high (Fig. 5). More than 80 % of all finds were discovered through systematic and/or test excavations. Basic information about the cultural sequence, stratigraphy, and relative date potentially exists.

But, if we consider more closely not only the stratigraphic or technical, but also the structural context of the signs, the situation is even more informative: almost 95 % of well-defined artefacts were found inside houses or backyards (e.g. the household area), including storage/ garbage pits. In my opinion, this is very significant, because it clearly implies that the predominant use of the signs was connected to domestic activities (Fig. 6).

Moreover, another result of the study seems to be most significant. During the basic contextual analysis of 38 different sites, I found 79 different houses had been excavated from every sequential phase, and, beyond my expectations, signs were found in all of them (Fig. 7)!

This is probably a very important result, but, what does such evidence tell us? Before we jump to conclusions, I would like to provide only one example. When we try to calculate the minimum number of pots (MNP) in a well-defined context, the results might be surprising. When I did such a calculation (*Starović 1993*) through an analysis of the Late Vinča set that belonged to only one house in its lifespan, probably one generation only, I reached a total of 3552. I must also emphasise that the technomorphological quality of this pottery collection was high. Further, the size of the house was quite common. If we take a closer look, it can be assumed that such a large number of pottery products could also mean a high degree of intensive economic activity, such as food production resulting in a surplus, so it is possible to consider the idea of a food trade.

Furthermore, scholars who have studied the problem of Late Neolithic socio-cultural transformations

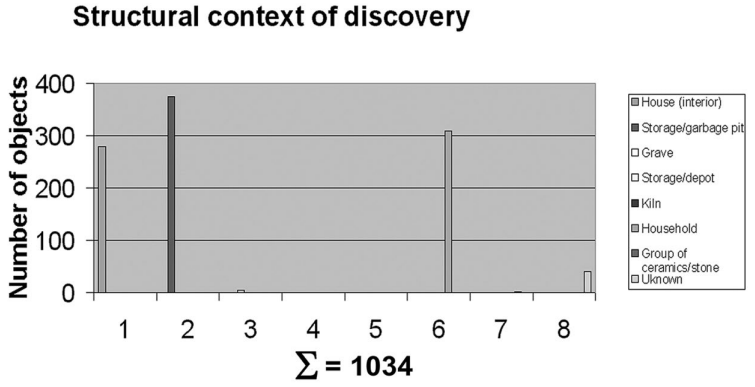

Fig. 6. Types of structure in which objects with signs were found (after* Starović ibid.*)

Fig. 7. Ideal reconstruction of an ordinary house from a Vinča-type site (after* Tasić 2003*).

in SE Europe (especially in the Balkans) have admitted that the most sensitive (archaeologically speaking) "filter" for testing and understanding basic ideology of the Vinča culture has probably been absent: representative evidence of funerary practices. Without a doubt, the substantial lack of graves (in comparison to the number of settlements) became the "trademark" in archaeological explanations of Vinča social activities. If we exclude almost sporadic discoveries of single graves within the settlements (like those at Vinča itself, then, possibly Tartaria and some other sites), only two 'proper' cemeteries have been found: Botoš near Zrenjanin, and Gomolava near Ruma. Both were outside the settlements: the cemetery in Živanićeva Dolja (Botoš) was in the vicinity of two settlements, Stari Vinogradi and Aradac, while the necropolis in Gomolava was in a temporarily uninhabited sector of the tell.

Finally, I would turn to the anthropological, and even palaeo-sociological point of the main question (script or not?): perhaps this is surprising, but it becomes irrelevant. In other words, if one wants to elaborate on the further significance of the phenomenon, then the fact that a regular system of written communication existed is satisfying. While understanding that many obstacles seriously hinder attempts to decipher the signs, we should remember that the Vinča symbols were once messages, notes, information. Then who could have written them, and why? After much consideration, I have concluded that the origin and invention of the signs and symbols were religious and ceremonial. The most common signs, the repetition of formulaic sign groups, votive and religious objects incised before firing (just as in a kind of initiation) all support this idea.

But archaeological evidence strongly supports something else. In time, starting from the Vinča B2 phase, the signs incised (or rather scratched in) after firing become the most common. It seems that in later phases pots became very convenient media for the transfer of practical information in everyday life. Many numbers, different sign groups, and even ligatures (just as in the modern system of stenography), and regional types of sign design, should mean that the Vinča people had started to write more precise messages, and to understand them. So, who could write and read it? The dynamics of the social and economic transformation of a relatively simple tribal community into a more complex society are also evident. Extra goods such as flint, salt, copper, and, particularly, their increasing number, imply the possibility of commercial trade. Perhaps travelling craftsmen and traders were the authors of the majority of the signs and symbols?

As a final conclusion, I suggest we begin to re-consider common attitudes to the nature and complexity of Vinča society.

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back to contents

UDK 903.2(497.4) "633/634"738.8
Documenta Praehistorica XXXII (2005)

Miniature vessels from the Neolithic site at Čatež-Sredno polje. Were they meant for every day use or for something else?

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ABSTRACT – *Archaeologists use models based on ethnographic analogy and theory to recreate the meanings of symbols, but rarely can the archaeological data by itself provide us with a story. The extensive excavation at Neolithic Čatež-Sredno polje provided us with new information concerning Neolithic society in the first half of the 5th millennium B.C. in Slovenia. The abundance of pottery finds offered a huge opportunity to explore several aspects of pottery production. In this article a closer look at one group of pottery finds will be presented. A detailed picture of the symbolic aspects of miniature vessels will be presented in terms of their production, use, function, and distribution.*

IZVLEČEK – *Arheologi pogosto uporabljamo modele, ki temeljijo na etnografskih analogijah in teoriji, da bi z njimi pojasnili pretekli simboličen pomen, saj arheološki podatki sami le redko lahko ponudijo razlago. Obsežna izkopavanja na neolitskem najdišču Čatež-Sredno polje so ponudila nova spoznanja o neolitski družbi iz prve polovice 5. tisočletja B.C. v Sloveniji. Obilica odkritih keramičnih najdb je ponudila izjemno priložnost opazovanja različnih aspektov keramične produkcije. V prispevku podrobneje predstavljamo segment odkritih keramičnih najdb iz najdišča Čatež-Sredno polje. Predstavljen bo oris simbolnega pomena miniaturnih posod z ozirom na njihovo produkcijo, uporabo, funkcijo in distribucijo.*

KEY WORDS – *Neolithic; Slovenia; pottery; miniature vessels*

INTRODUCTION

Miniature vessels are a part of material culture that has usually been quite insufficiently studied. There are probably several reasons for this, but the most important is undeniably hidden in the traditional approach to handling and interpreting prehistoric pottery.

Pottery studies almost certainly have the longest tradition in archaeology. Yet only in recent years have pottery studies begun to move beyond a mere concern for typology, chronology, and cultural definition. Most recent developments in pottery studies have changed the way archaeologists deal with and interpret pottery. The technology and use of pottery, the symbolic and social implications of the pot itself, are considered as anthropological phenomena. So called 'Symbolic archaeology' forms one of the most productive parts of the general movement in archaeology towards a more sophisticated understanding of how material culture was perceived and manipulated in ancient cultures (*Jameson 2002a.556*).

Our current interest in miniature vessels is connected with the fact that miniature vessels are a rather common find at the Neolithic site Čatež-Sredno polje. However, their quantity is not the only issue that drove our attention. Various questions arose in connection with different aspects of their production in terms of technology, use, function, distribution and discard during our investigation.

ČATEŽ–SREDNO POLJE

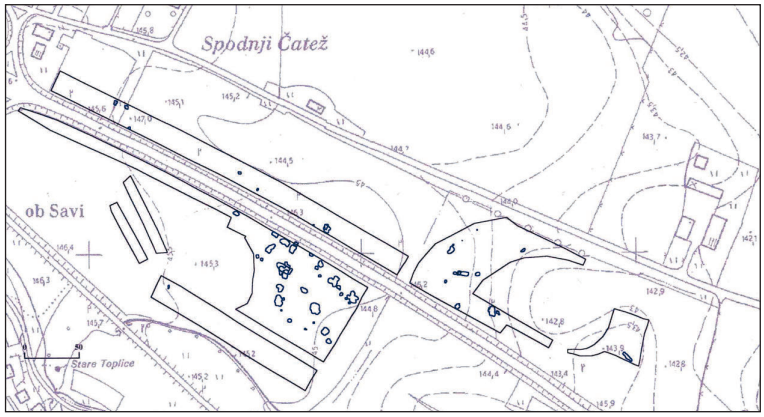

Fig. 1. Čatež-Sredno polje. Location of the site with spatial distribution of Neolithic structures.

The Čatež-Sredno polje site is located on fields along a regulated stream in the lowland beneath the settlement of Čatež, in the southeastern part of Slovenia, and at present it is fairly distant from the Sava River (Fig. 1). The site was first identified during a field survey in 1998. According to the field report, Bronze Age and Roman settlements were foreseen (*Djurić et al. 2000*). The extensive rescue excavation, conducted in 2002, exposed a huge prehistoric settlement, with archaeological finds dated to the first half of the 5th millennium BC. The excavation of the site provided us with important information concerning different aspects of Neolithic society in Slovenia (*Guštin 2002; Guštin, Bekić 2002; Guštin 2003a; Guštin 2003b; Guštin 2004*).

It is also important to emphasize that Čatež-Sredno polje is a rather exclusive site, not merely in Slovene surroundings, but also in broader terms.

Firstly, it is a rather large site, where the settled area covers approximately 31 ha, all of which was thoroughly investigated (Fig. 1). With an estimated settlement area, Čatež-Sredno polje represents the largest excavated Neolithic site in Slovenia and adjacent areas.

Secondly, more than 24 larger and nearly 40 smaller well-defined Neolithic structures were discovered beneath the plough-soil (Fig. 2). Twenty-three of these were also ^{14}C dated, the majority of dates ranging between 4800 and 4600 BC cal. (*Guštin 2004. 255*).

Thirdly, approximately 13 000 flakes and 2000 cores were discovered at the site. The excavated material suggests that stone tools were manufactured on the site. Čatež-Sredno polje thus represents the only known site in Slovenia which might be described as a quarry site (*Kavur 2003.117*).

The next issue of importance is the ceramics finds. In total at Čatež-Sredno polje more than 68 000 pottery fragments were discovered, including complete vessels. At this point we have to mention that results offered in this article form part of an extensive research programme of the archeological record from Čatež-Sredno polje which is still in progress. Nevertheless, as for now in a broader sense the pottery assemblage seems quite homogenous in terms of technological, typological and ornamental indicators. The pots are all handmade. According to macroscopic observation of the 1482 sherds from two different structures (093 and 055), the greater part of the pottery assemblage was made from medium-grained and fine-grained fabrics, while coarse-grained and very fine-grained fabrics are rather uncommon. The surface of the pottery is generally burnished, and in some cases smoothed. Only in rare cases was red slip applied. Decoration of the pottery is relatively frequent and dominated by impressions, particularly of fingernails; in some structures more than 70% of decorated sherds are decorated in this manner. The pottery assemblage comprises several different shapes, including bowls, pedestal bowls, dishes, pedestal dishes, jars, beakers, ladles, lids, miniature vessels, and some other ceramic objects (Fig. 3). The variations of particular basic shape are rather numerous, meaning that almost each vessel is in fact unique, when taking into consideration all its detailed characteristics. Numerous variations of the same basic shape are within prehistoric pottery not unexpected, since all the pots were handmade and there-

Fig. 2. Čatež-Sredno polje. Neolithic structure.

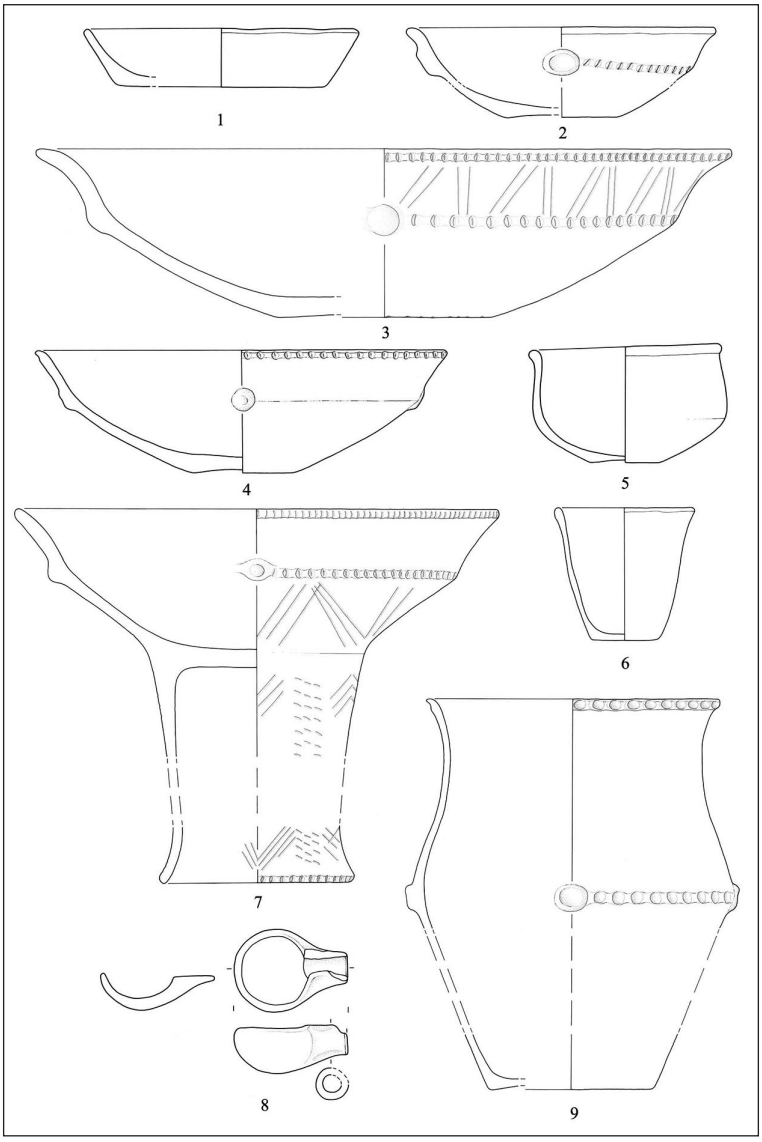

Fig. 3. Čatež-Sredno polje. Neolithic pottery (1:5).

fore unique (*Tomaž 1999.97*). The distribution of the basic shapes in different settlement structures, and particularly their frequencies, indicate that different areas of the settlement were used for different activities, but these are issues still to be studied.

MINIATURE VESSELS

Our first question topic is: 'What precisely is meant by 'miniature vessel'?' We can safely argue that miniature vessels are, in comparison to regular pots, relatively small sized. They usually do not exceed 6 cm in diameter or height. A further question is: 'What is a vessel?' The immediate and most direct answer is that vessel is a hollow container in which food may be stored, cooked or served. And to explore further: 'How do we recognize a vessel?' The most probable answer is: 'The vessel must have firm body parts and a volume, some space that can be filled with various substances'.

In our opinion, this is a rather fine example of how material culture is perceived today. Our first thought is usually connected with the function of an item and only later does the material aspect of the same follow. So, if we accept that a symbol is usually defined as a signifier that is entirely arbitrary in its connection to the signified – that is, the connection is formed by social convention (usage) only (*Jameson 2002b. 527*) – this would mean that vessels can function symbolically. And we have to recognize them as such.

But are these perceptions also permissible when dealing with Neolithic societies? Pottery has an undeniable practical quality, but at the same time it can provide information about technologies applied in a society, and it can function as social-symbolic information. Urem-Kotsou, Kotsakis and Stern argued that whether vessels are viewed as an exchange or symbolic object, non-utilitarian or utilitarian artefacts, the majority of them were produced for a certain purpose. Their morphological, technological and stylistic characteristics are correlated to the practical task for which they were manufactured, and are closely related to the social context of their makers and their users. Elements such as fabrics, morphology, decoration and surface treatment all structure affect the way the pot is socially perceived and will determine how it is used in specific social contexts (*2002.110*). In this regard, miniature vessels are no exception.

The archaeological evidence for social/symbolic interpretations is the objects themselves and their archaeological context. We will try to demonstrate how social and symbolic indicators can be traced in the archaeological record with reference to the miniature vessels from Čatež-Sredno polje. In doing so, a closer look at production technologies, distribution and frequency of miniature vessels will be presented.

As we have already mentioned, miniature vessels are quite numerous at Čatež-Sredno polje in contrast to other Neolithic sites in Slovenia; altogether, twenty-eight of them, or parts of them, were found.

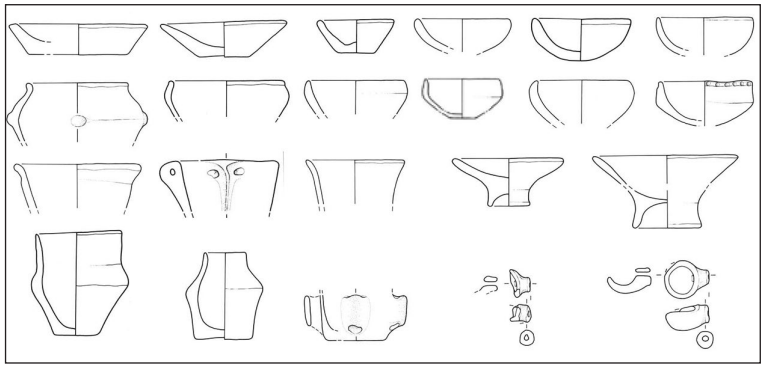

Fig. 4. Čatež-Sredno polje. Basic shapes of miniature vessels (1:5).

Production technologies applied in making miniature vessels are similar to those used in the making of other ceramic items. Production is similar in terms of manufacturing technique, fabric and surface treatment. The greater number of miniatures was made from medium-grained and fine-grained fabrics. The surface of the vessels is generally burnished, and in some cases smoothed. Their production is also similar to that of other ceramics in terms of decorative techniques, although it should be said that decoration of miniature vessels is fairly rare.

One characteristic of miniature vessels kept attracting our attention: their shape. The 'miniature assemblage' comprises several different basic shapes, including bowls, dishes, pedestal dishes, jars, beakers, and ladles (Fig. 4). What we find interesting is that all the basic shapes of miniature vessels in some way match those of pots that are usually viewed as everyday, utilitarian items. Each miniature vessel has its 'bigger version', as seen in Figure 5. An important difference between the items is that miniature vessels do not have a characteristic that traditionally defines vessels, i.e., volume great enough to contain substances.

Important observations were also made in relation to their spatial distribution. Miniature vessels were discovered in several Neolithic structures, but not in all (Fig. 6). Their appearance at the centre of the site clearly demonstrates a slightly central preference for their deposition. In our opinion, duality in the spatial distribution of miniature vessels on the one hand and utilitarian pottery on the other demonstrate that the principal modes in which each group of pottery was used at the site were different.

The next important issue is the frequency of miniature vessels within individual Neolithic structures. In contrast to other pottery finds, their frequency in individual structures is relatively low. Nevertheless, we established that evident micro-variations in proportions are by no means influenced by the size of an assemblage, as demonstrated in Figure 7. According to existing data, we can assume that miniatures might have been special items within an individual settlement structure and also in broader terms. Their place in the socio-economic organization of the set-

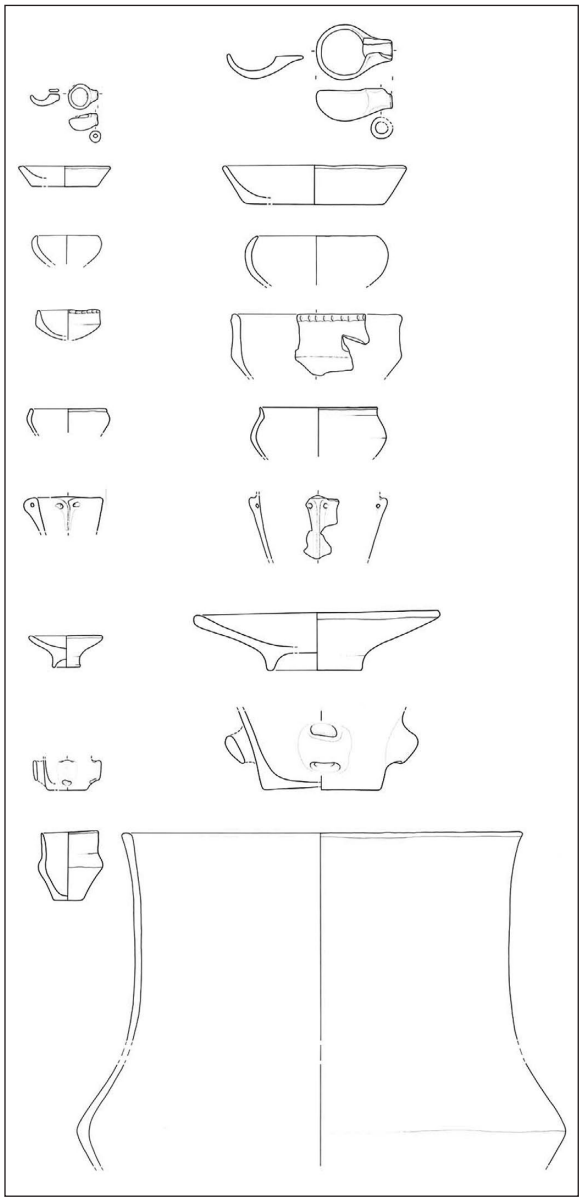

Fig. 5. Čatež-Sredno polje. Basic shapes of miniature and common sized vessels. (1:7).

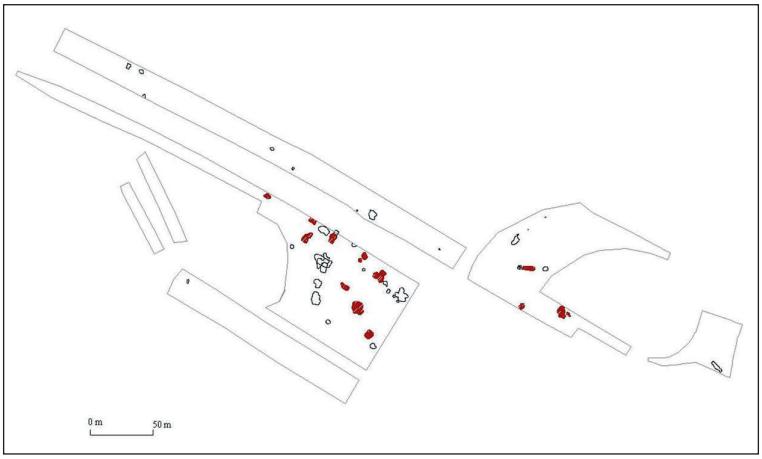

Fig. 6. Čatež-Sredno polje. Site plan with spatial distribution of miniature vessels.

tlement and, consequently, their symbolic meaning, most definitely differed from other ceramics.

CONCLUSIONS

As Clive Gamble (*2004.99*) puts it in his 'Archaeology. The Basics', written for a broader audience: "*There is nothing self-evident about the past. The enterprise of archaeology is not simply confined to the things of our past, but more importantly, deals with questions, approach and interpretation. The archaeological debates and disagreements are not just about the dates of this pot and that city. Rather they are more fundamental. They concern approaches to gain knowledge about human action in the past. The outcome produces expectations about what is known, and can be known, of activities in the past. Because such activity is invisible, objects are crucial to all our debates. The way we investigate and interpret them is therefore important...*"

This article has attempted to explore the potential social-symbolic character of miniature vessels within the pottery assemblage from the Neolithic site of Čatež-Sredno polje. From the archaeological record it is evident that social-symbolic implications of miniature vessels can be traced in archaeological artefacts themselves, and also in their archaeological context. Visible elements for social and symbolic interpretation can be observed in different features of miniature vessels. Attributes such as vessel size and fabric composition might easily shift back and forth between 'functional' and 'symbolic' significance over time (*Thomas 1999.97*). In our case, the size of miniature vessels evidently supports the symbolic significance of the item, since the practical one is reduced due to the lack of volume for containing substances, which traditionally defines a vessel. Important evidence for the social and symbolic interpretation of miniature vessels can also be traced in their spatial distribution on the site and in their frequency within individual Neolithic structures. The difference, between the spatial distribu-

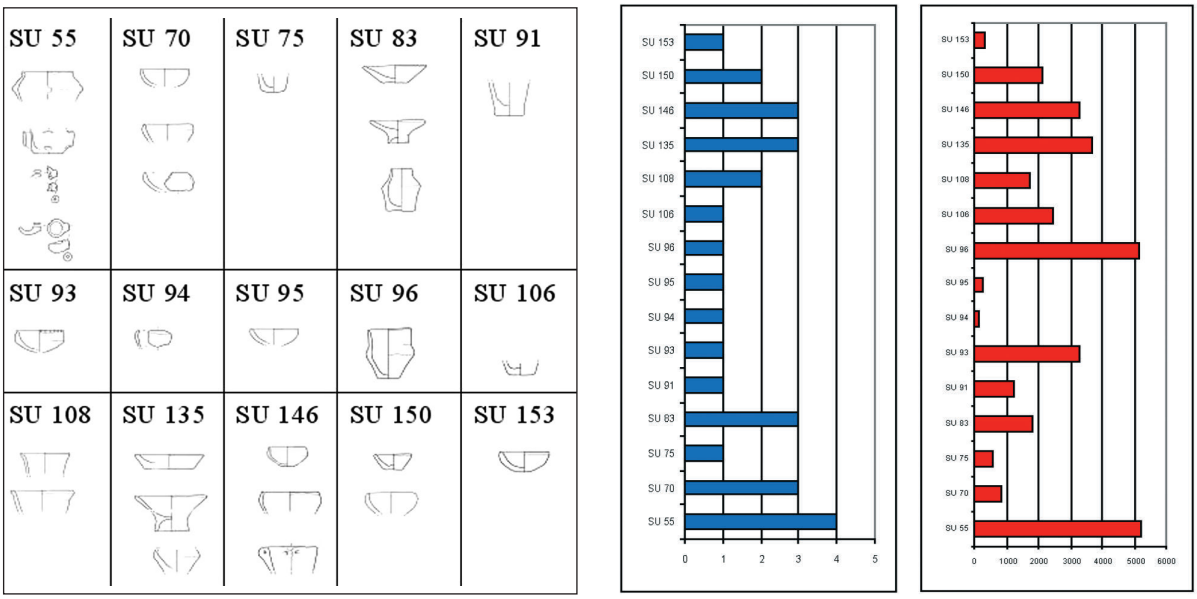

Fig. 7. Čatež-Sredno polje. Frequencies of miniature vessels in individual Neolithic structure in corellation to the size of their pottery assemblages.

tion of miniature vessels and so called every day pots suggests that the modes in which they functioned in the socio-economic organization of the settlement were different. Thus the social and symbolic implications of both ceramic groups could not be alike. This is also confirmed by observing frequencies of miniature vessels within different individual Neolithic structures.

To conclude, we wish to explore some suggestions for interpreting the potential function and use of miniature vessels. In doing so, we are aware that defining a pot's function can become very complex because vessels could have had multiple uses or been reused after being considered not suitable for their primary function (*Rice 1987; Urem-Kotsou, Kotsakis, Stern 2002.111*). Nevertheless, in many cases it is suggested that miniature vessels should be interpreted as children's toys (*Balen-Letunić, Rendić-Miočević 1982; Karmanski 2005.67*). It has also been suggested that some were manufactured by children and some by adults (*Balen-Letunić, Rendić-Miočević 1982*). For the first part, we agree that miniature vessels could function as toys, although we should not exclude other possibilities. Moreover, we think that on such occasions we must be extremely cautious with interpretations, since many items with different primary functions can be used as toys. Therefore, our primary task in the future will be to explore all ranges of possible interpretations, including different methods of analysis. As for the other part of the statement, we assume that miniature vessels from Čatež-Sredno polje were most probably made by adults, if their quality of manufacturing is taken into consideration, and also the fact that potting skills are relatively difficult to learn (*Thomas 1999. 97*).

ACKNOWLEDGEMENTS

I would like to thank Professor Mihael Budja for accepting my presentation at the 11th Neolithic Seminar "Symbols and Symbolism" held in Ljubljana in November 2004, and for the opportunity to share my work with a broader public. My sincere thanks go to Professor Mitja Guštin for his kind offer to work with pottery finds from Čatež-Sredno polje. I am also grateful to my colleagues Boris for his suggestions, and Zrinka for reading the final text.

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back to contents

UDK 903.3(436)"633/634"738.8
Documenta Praehistorica XXXII (2005)

Settlement of the Early Linear Ceramics Culture at Brunn am Gebirge, Wolfholz site

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ABSTRACT – *The early Neolithic sites I to V from Brunn Wolfholz, south of Vienna, were excavated between 1989 and 2005. Till now about 75 longhouses, with the standardized size of 20x7 m have been recognized. The whole settlement has a length from North to South of 850 m and from East to West of 500 m. The oldest part is site IIa in the south; it contains rough ceramics with plastic ornaments, which seem to be in a Starčevo tradition. The Early Linear Ceramics starts only in site III. The youngest phase of the settlement is in the North in site I, which apparently leads already to the Notenkopf Ceramics.*

IZVLEČEK – *V letih 1989 do 2005 so v Brunn Wolfholzu, južno od Dunaja, potekala izkopavanja na zgodnjeneolitskih najdiščih I do V. Do sedaj so na najdiščih odkrili okoli 75 hiš s standardnimi merami 20x7 m. Celotno najdišče meri od severa proti jugu 850 m in od vzhoda proti zahodu 500 m. Najstarejši del je najdišče IIa na jugu; tam so našli grobo okrašeno keramiko, ki verjetno sodi v kulturo Starčevo. Zgodnja LTK se pojavlja šele na najdišču III. Najmlajša faza poselitve je razvidna na severu, na najdišču I in očitno predstavlja prehod k fazi 'notenknopf' keramike.*

KEY WORDS – *Starčevo; Linear ceramics; settlement; longhouses; stone implements*

Between 1989 and 2005 at Brunn am Gebirge, Lower Austria, on the southern edge of Vienna (see map in Figure 1), parts of a large early Neolithic settlement were surveyed and excavated. Two aerial photos give an overview of the excavations in 1992 and 1999 (see Figs. 2 and 3). Some internet publications and articles with preliminary reports have been published (*Stadler 1997; Lenneis, Stadler and Windl 1996.97–116; Sauter et al. 2002.54–60; Lenneis 2001.105–106, Fig. 8*). Currently a book concerning the ceramics from Brunn Wolfholz is in preparation (*Stadler in press*).

The terrain is flat and has a slight rise to the northeast. The remains of longhouses found belong to at least five different, separated groups, which were called sites I–V. Seventy-five longhouses are known, most of them by excavation, some only after their destruction by trenches and a large number by geophysical survey. As the whole area has not been surveyed, a total of some 100 houses are expected. The excavated area is about 100 000 m^2. (See excavation map in Figure 5)

The houses are usually oriented south-north, with deviations to the west and east at different sites. Their dimensions are 20 m long and 7–8 m wide. Details of some houses are visible in Figures 2 and 3. Different constructions are visible, mainly in the better preserved part of site III. Whether these differences are functional or chronological is still under investigation. Over the excavated area we have reconstructed 8 longhouses in Figure 4.

Currently we see the absolute time frame between 5540–5060 BC on the 1 σ-level for the whole settlement because of 60 AMS radiocarbon dates measured at Zurich at the ETH and at the Vienna VERA-lab.

The oldest part of the settlement may be site IIa, followed by IIb, III, IV, I and V. We are aware that this time range (especially on the older side) may be too old, because most of our samples were charcoals from oak wood, thus the old wood effect could play some role.

Site	Number of samples	1 σ range BC	2 σ range BC
IIa	12	5540-5210	5750-5050
IIb	14	5480-5280	5650-5050
III	24	5450-5200	5700-4950
IV	5	5390-5300	5480-5200
I	4	5310-5060	5370-4940
V	1	5305-5255	5320-5200
Total	**60**	**5480-5060**	**5700-5000**

In the oldest parts, Linear Ceramic is missing; the rough ceramic was fired at lower temperatures and has none, or at least only plastic ornamentation. Shards of this ceramics can be seen in Figures 7 and 8. This type of ceramic is very similar to that from excavations in Southern Hungary attributed to the Late Starčevo Culture, for example at Gellénháza-Városrét (*Simon 2001*).

From site III the rise upwards to the younger parts of the settlement Linear Ceramics increases, which is paralleled by the increasing use of fine ceramics beside the coarse varieties. On the other hand, the number of idols found decreases. Such ceramic are presented in Figures 9 and 10.

Currently, for the book mentioned above, we installed the "Montelius" image database for the ceramics and set up a typology for it with help of Michaela Lochner (*in press*) and Eva Lenneis (*in press*). All ceramic features are mapped on the excavation map, and by means of statistics it is decided which maps are non-random. One of these maps is seen in Figure 11. All these non-random maps are evaluated together by our method of "Analysis of the N Next Neighbours". This analysis tries to find a combination map for all other mappings. The result is presented in Figure 12. To better understand which relations exist between pits containing the same features we can show the result with a network plan in Figure 13. All relations can be seen as lines between the pits containing the same features; the line width corresponds with the number of different relations.

The ceramics from Brunn and its different sites were analysed petrographically and chemically by Roman Sauer (in press), who has shown that all the ceramics were produced with local clay.

For the stone implements also a development is visible in the same direction, from the earliest site II, to the most recent, site I. Of special interest is that we found many stone implements, more than 10 000, most in the oldest site II. Some of the trapezes found there are shown in Figure 14. The large quantity of lithic material is very much in contrast to other Austrian sites.

At the beginning, the principle raw material came from Bakony-Szentgál, near Lake Balaton in Hungary. Local "Hornstein" was very seldom used. These percentages change continuously from early to late. At the end of the development in site I, we have only a small number of local lithic material at all. The lithic material from Brunn has been analysed in two preliminary publications (*Gronenborn 1997.60–61; Mateiciucova 2002.169–188*).

Animal bones are not preserved in large numbers at site II. This may not depend on bad bone preservation on this site, because human skeletons were found in four graves at site II (*Gerold and Teschler-Nicola, in press*). But we can also see a development in the usage of animals over the course of time. In site III it seems that capra-ovis bones dominate, and in the most recent site I bovis was preferred. The animal bones investigations were done by Erich Pucher (*1998; in press*).

So we see that there was a big change in the course of time at the Brunn Wolfholz sites. The most interesting question now is: did the settlers come from southern Hungary or is there a local change from a Mesolithic population to the first farmers under influences from the south?

As we have almost no knowledge about Mesolithic sites in Lower Austria, we tend currently to the first solution – that settlers immigrated from Southern Hungary and formed at Brunn am Gebirge a base for the development of the Linear Ceramics culture.

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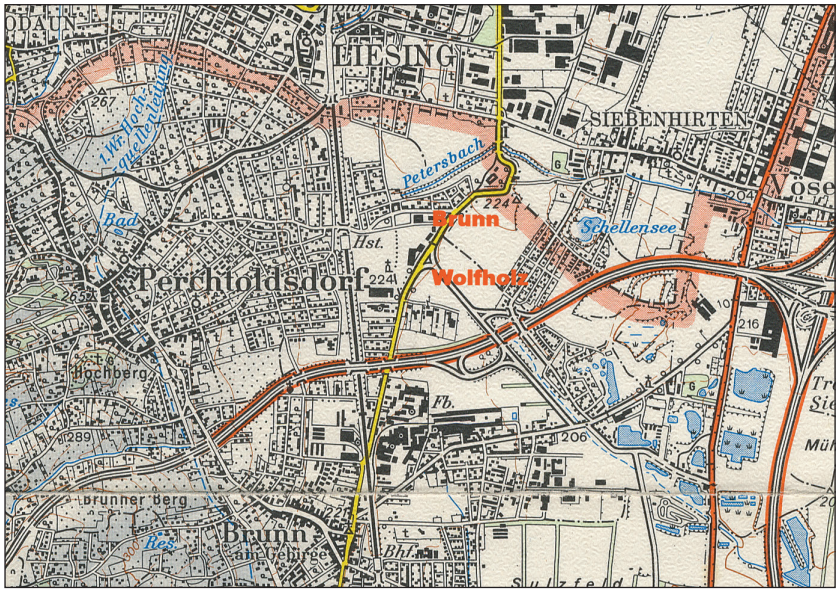

Fig. 1. Localization of Brunn Wolfholz on the city map of Vienna.

Fig. 2. Brunn-Wolfholz Excavation 1992, aerial photo of the ground plan of 5 longhouses.

Fig. 3. Brunn-Wolfholz Excavation 1999, aerial photo of the ground plan of 5 longhouses.

Fig. 4. Reconstruction of eight long-houses above their foundations on the air-photo of the excavation 1992 on site II from Brunn Wolfholz.

Fig. 5. Map of the excavation of the Oldest Linear Ceramics settlement from Brunn am Gebirge/Wolfholz. Till now five sites (I-V) have been identified. The houses are symbolized by the rectangle put over the pits belonging to one house.

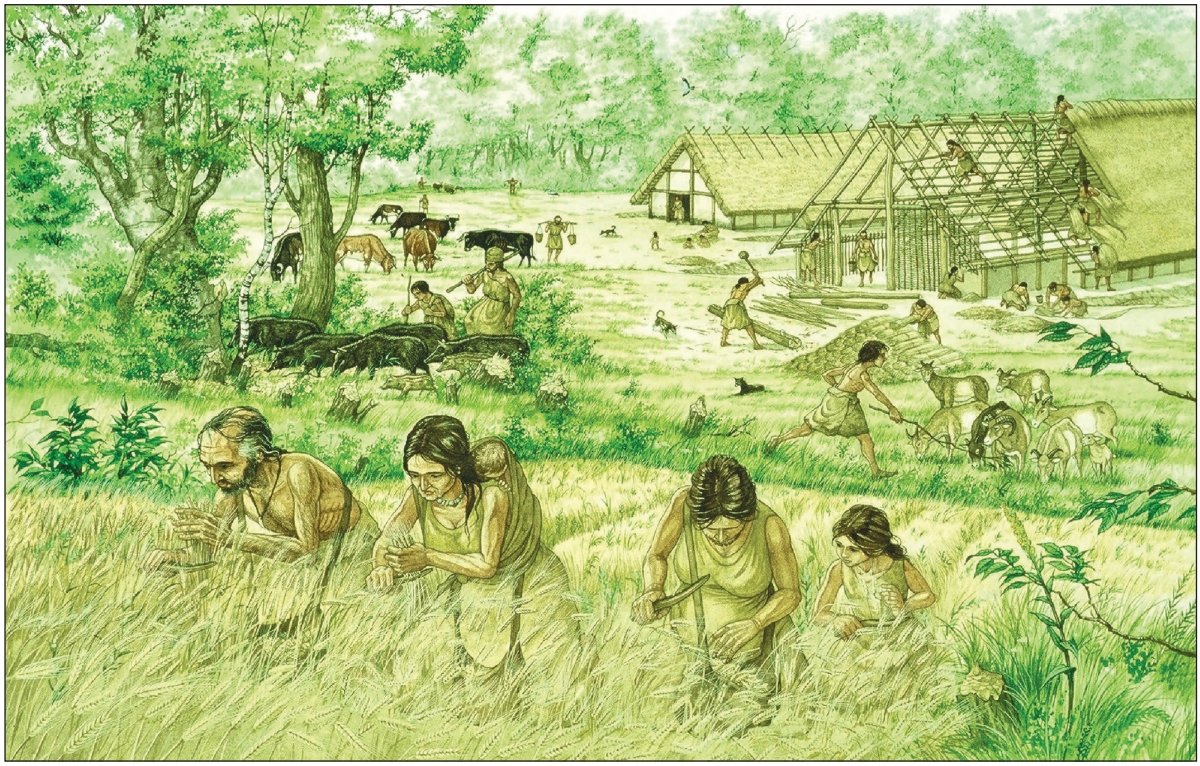

Fig. 6. Reconstruction of every day's life at site of Brunn Wolfholz. Dominic Groebner © Prähistorische Abteilung, Naturhistorisches Museum Wien.

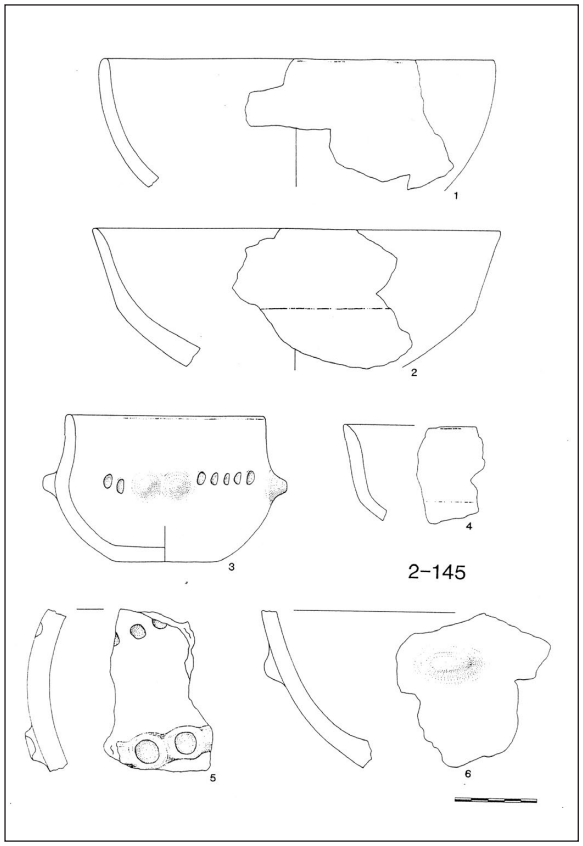

Fig. 7. Ceramics from the oldest site II of the Oldest Linear Ceramics settlement from Brunn am Gebirge/Wolfholz.

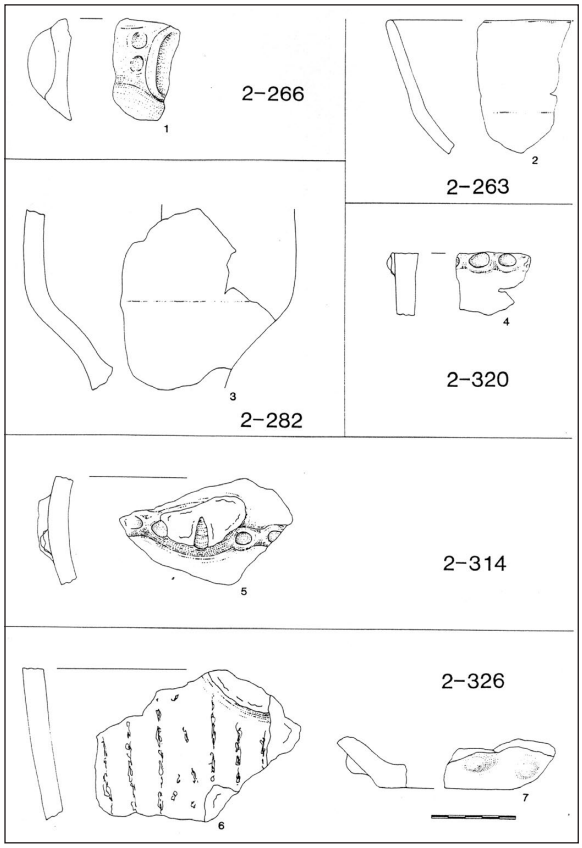

Fig. 8. Ceramics from the oldest site II of the Oldest Linear Ceramics settlement from Brunn am Gebirge/Wolfholz. Wolfholz.

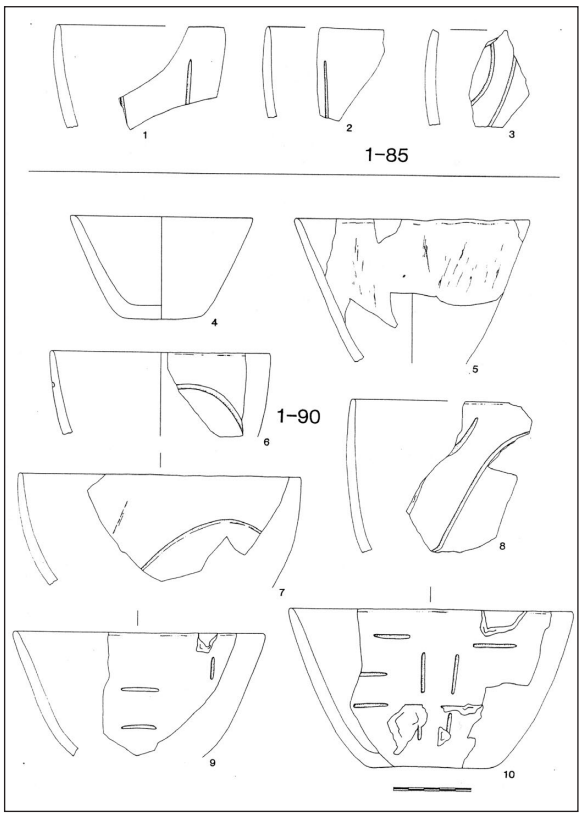

Fig. 9. Ceramics from the youngest site I of the Oldest Linear Ceramics settlement from Brunn am Gebirge/ Wolfholz.

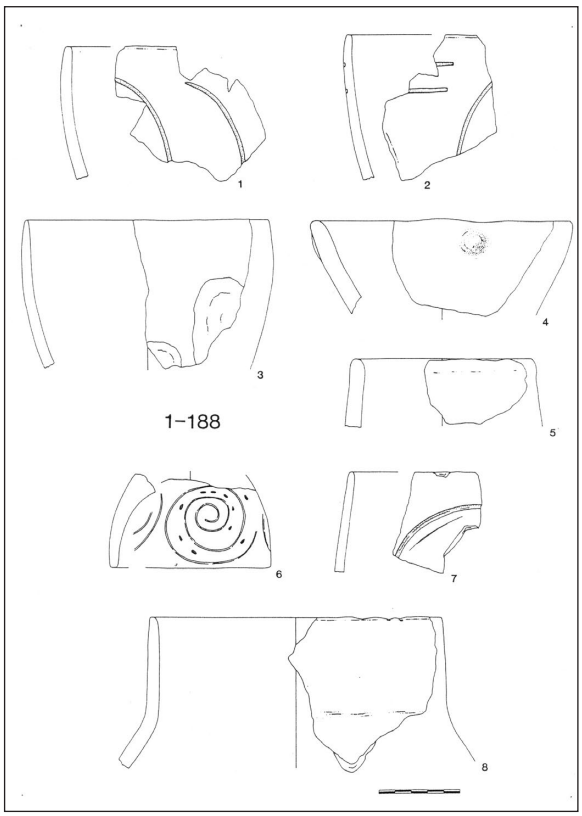

Fig. 10. Ceramics from the youngest site I of the Oldest Linear Ceramics settlement from Brunn am Gebirge/Wolfholz.

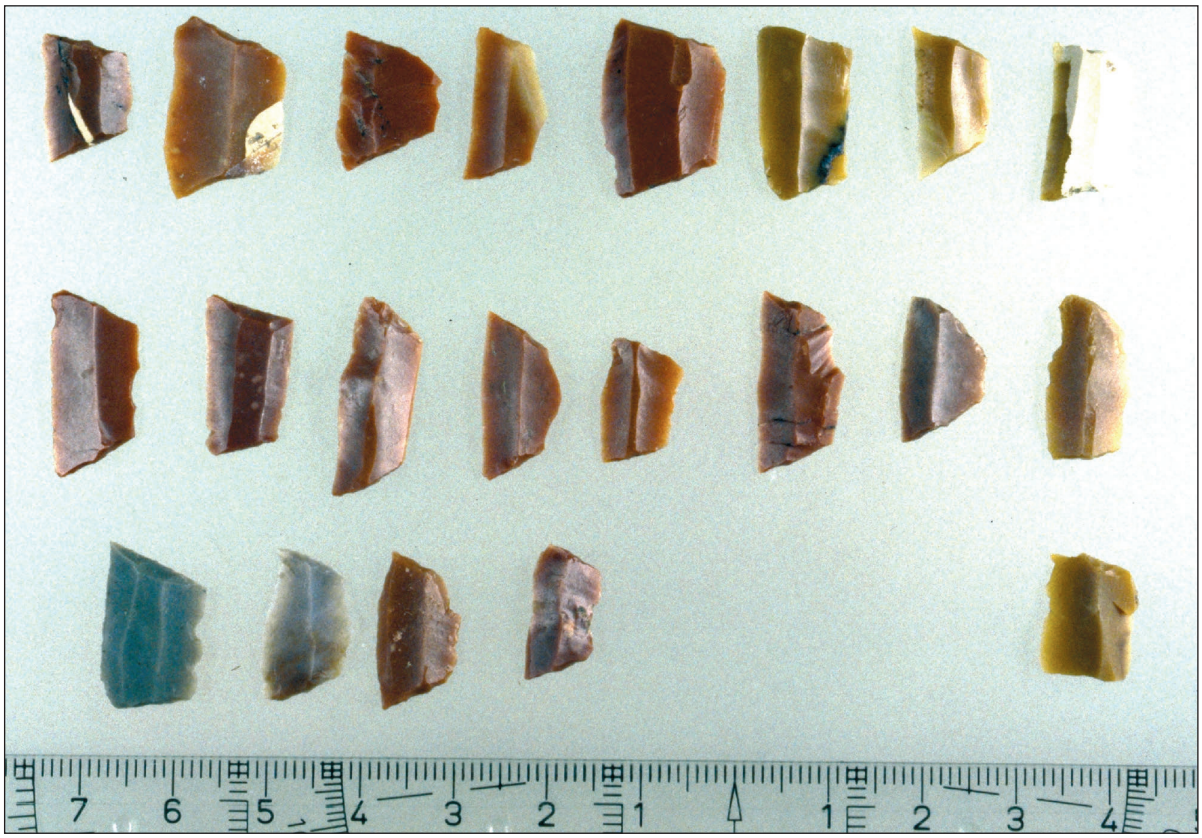

Fig. 14. Lithic material from site II in form of trapezes.

Fig. 11. Mapping of ceramic feature „Fingertupfenleiste00010“ on the site map. Wolfholz.

Fig. 12. „Analysis of the N Next Neighbours“ with ceramics features, Site of Brunn Wolfholz.

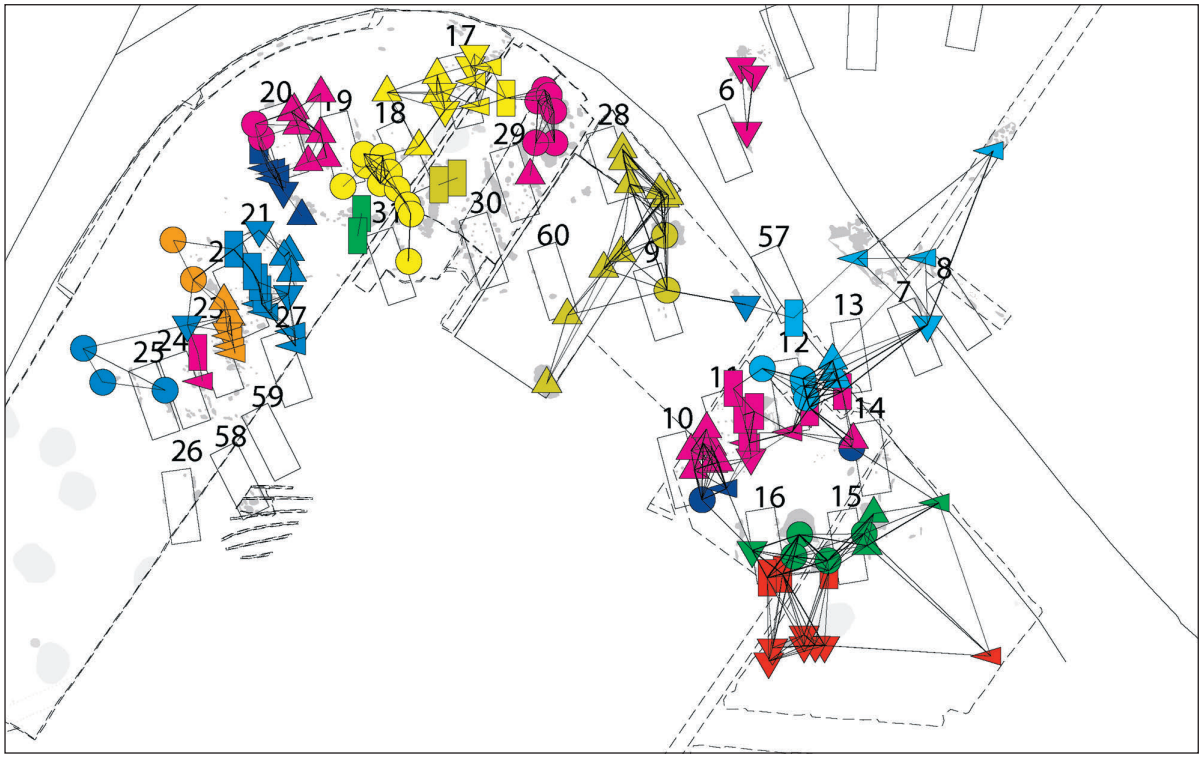

Fig. 13. Network sketch of „Analysis of the N Next Neighbours“ with ceramics features, clipping of site II.

back to contents