FUNERAL RITES OF THE CATACOMB COMMUNITY: 2800–1900 BC

RITUAL, THANATOLOGY AND GEOGRAPHICAL ORIGINS

Katarzyna Ślusarska

BALTIC-PONTIC STUDIES

VOLUME 13 • 2006

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INSTITUTE OF PREHISTORY
Poznań 2006
ISBN 83-86094-12-5
ISSN 1231-0344

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Cover Design: Eugeniusz Skorwider

Printed in Poland

Computer typeset by PSO Sp. z o.o. w Poznaniu

Druk i oprawa: Zakłady Poligraficzne SERIGRAF w Suchym Lesie

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Editor's Foreword

The work by Katarzyna Ślusarska, focusing on the funeral rites and thanatology of the circle of the Catacomb culture, is an important link in a long-range programme of research into the circulation of people and patterns between Circumpontic and Circumbaltic cultures in the 3rd millennium BC., specifically into the ties joining Catacomb culture communities with those of the Corded Ware culture in the Baltic drainage.

The work is closely tied to earlier works published in the *Baltic-Pontic Studies* volumes 2, 7, 11 and 12.

The research programme was carried out by the Institute of Prehistory, Adam Mickiewicz University, in cooperation with the Institute of Archaeology, National Academy of Sciences of Ukraine, in particular with the Department of the Eneolithic and Bronze Age headed by Prof. Vitaliy V. Otroshchenko.

Editorial comment

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

Foreword from the Author

The present work elaborates on and complements the extensive study of the Bronze Age of the borderland between the drainages of the Black and Baltic seas (the West and East of Europe) conducted by the Department of Polish Prehistory, Institute of Prehistory, Adam Mickiewicz University (AMU). The work broadens the study project to include research into funeral rites and sums up a stage in my investigations devoted to changes in the funerary systems of societies settling the Northern Pontic Area in the Bronze Age. In the 3rd and 2nd millennia BC, this area was settled by groups related to the so-called Catacomb culture ("catacomb cultural and historical community") known primarily from grave contexts. The specific character of available source data and the fragmentariness of comments concerning them, focusing mainly on unusual traits, made it necessary to redefine the cultural phenomenon in question.

It was my aim to present the results of interdisciplinary efforts to reconstruct the funeral ritual as part of the "circumpontic circulation of cultural patterns" and identify it, putting it in a wider perspective, on the level of the ritual cycle and symbols of the belief system. Particularly valuable was also the inclusion of the broad cultural background of the Baltic drainage in the discussion.

This monograph would not be possible without support from a number of well-disposed people and institutions that helped me pursue my interests and deepen my knowledge. Of key importance for my studies were academic traineeships in the Institute of Archaeology, Ukrainian Academy of Sciences in Kiev, Institut für Ur- und Frühgeschichte, Freie Universität zu Berlin and a bursary under the *Socrates* programme at Institut für Ur- und Frühgeschichte, Christian-Albrecht-Universität zu Kiel.

I would like to express my deep gratitude for their goodwill, help and support to my Masters and Teachers: Prof. Aleksandra Cofta-Broniewska and Prof. Aleksander Kośko.

I would also like to thank Prof. Marzena Szmyt, Prof. Janusz Czebreszuk, Prof. Lech Czerniak, Prof. Viktor Klochko, Prof. Andrzej Kowalski, Dr. Elke Kaiser and Dr. Sergei Pustovalov for their valuable comments and consultations.

My expressions of gratitude go also to the staff and doctoral students of the Department of Polish Prehistory, AMU Institute of Prehistory, as well as to my family and friends.

INTRODUCTION

1. SUBJECT, PURPOSE AND SCOPE

In any archaeologist's research practice, data from grave contexts are one of the basic sources of information on the life of man in the past. They tell us about prehistoric man's knowledge and skills and, with the help of other disciplines, let us know more on both an individual (appearance, sex, state of health, diet) or a group of people (questions of demography, population changes). In this seemingly paradoxical fact that a grave, in common understanding associated with the sphere of death, carries information on life, there is no contradiction. To quote a quite forcible remark by M. Parker Pearson: "...the dead do not bury themselves but are treated and disposed of by the living" [1999: 3]. Funeral practices and the course of ceremonies are decided upon by the living. In prehistoric studies a lot of attention is devoted to the ritual aspects of burials, not only with the aim of determining their range and constituent acts, but also attempting to understand and explain their historical and social contexts. Studies of funeral rites were originally undertaken by cultural anthropology with respect to the *sacrum/profanum* opposition and characteristics of early religious forms (e.g. the work of A. Radcliff-Brown, C. Lévy-Strauss, M. Eliade, E. Leach). Anthropological studies can access how members of a group interpreted the sense of acts they undertook, whereas archaeologists can observe only an incomplete message reduced to the material remains of rituals deprived of the meaning they were originally given. A discussion is going on among scholars how to define the sphere of *sacrum/profanum* and what methodology should be used to study it. An important role in the discussion is played by funeral rites and a possibility to reconstruct the organization of archaic societies* (stratification, age and sex differentiation, etc.) as well as, some time later, the "world view" of these societies.

The present monograph is concerned with one of the crucial aspects of human life, namely, funeral rites, being part of a general world view and hence the sphere of beliefs and convictions regarding the fate of an individual. The beliefs related to the death of a member of family, clan or tribe are among the most conservative areas of human consciousness. Death is both a parallel and, paradoxically, an antithesis of life; it ends life and at the same time it does not [cf. Bloch 1988: 11-29; Renfrew 1994: 47-55]. However, it always upsets the balance and natural order. The state of equilibrium must be restored through actions taken by the group. The set of

* The term "archaic societies" is used here without any value judgement in the meaning of "syncretic cultures of the magic type" in which the distinction into the sphere of practice and culture has not been made yet [cf. Pałubicka 1985:51-76; 1991:9-20; Kowalski 1999].

ordering principles explaining attitudes, beliefs, rituals, as well as regulating the scope of competence, influences, knowledge and acts of individual social actors, is comprised in the concept of "funeral theory". Almost certainly, there has never been a culture that could do without such a system [cf. Pawlik 2002: 38]. The purpose of my study is, in the first place, an attempt to reconstruct the funeral theory of societies living on eastern European steppes in the middle period of the Bronze Age. In the period in question, the steppes were settled by groups related to the so-called Catacomb culture (CC). The name was given, in conformity with the tradition of naming archaeological cultures prevailing at the late 19th and early 20th centuries, to burials in specific grave forms – catacombs [Gorodtsov 1905; 1907]. The basic criteria for assigning a grave to this taxon are architecture, arrangement of the body and internal grave organization. Burials identified with the catacomb community were usually sunk underneath a barrow. They contained the remains of a single dead person although there are also known cases of cenotaphs – graves without a body – and collective graves. The corpse was laid in the supine position (Ingul tradition) or on its left side in the contracted position (East-Catacomb – Donets tradition). Grave goods included a ceramic vessel made for the purpose of placing it in the grave, with tools and weapons being rare. There are also known unusually complex graves, in terms of effort taken to build them, in which clay masks put on the deceased's face, elements of wagons, or drawings made with mineral dyes are found. The range of the culture stretches from the drainages of the Danube, Prut and Dniester rivers in the west to the Volga drainage in the east. A western branch, in the most recent works also called the Ingul Catacomb culture (ICC), is almost exclusively connected with the steppe environment while east of the Dnieper the range of CC settlement extends further north into the zone of southern forest-steppe. This branch was called Donets Catacomb culture or East-Catacomb culture (ECC). The compact area of the unit in question also includes the northern Crimea and the drainage of the Manych River and these parts of Kalmykia that lie in the drainage of the lower Volga (see Fig. 1 – only the coasts of the Black and Azov seas). The period mentioned in the title, spanning the 3rd millennium BC and the beginnings of the second, calls for a short comment. In a narrow sense, the lower limit – ca. 2800 BC* – is marked by the rise of CC traits. The upper limit, for the present monograph, is set by the dates of 2000-1800 BC [Klochko, Kośko, Szmyt 2003: 396-414]. In the Northern Pontic Area, in this period, the CC cultural system decomposes and syncretic groups emerge. The letter bear certain characteristics of both Catacomb entity and Srubnaya entity (Mnogovalikovoy/Babino culture). The principal task was to record and analyse from various angles sources relating to CC ceremonies and rituals (mainly funerals) for the purpose of identifying constituent elements of funeral rites. Next, it was attempted to construct a model of the symbolic system, define its tentative geographical origins and correlate the "catacomb" system of symbols with the symbolic systems of Indo-European societies known from written sources and adopted as a system of reference.

* All dates will be given in the calibrated version (i.e. BC) using Oxcal [Ramsey 1995] and CalPal [Weninger 1986] software. Any departures from this rule will be announced.

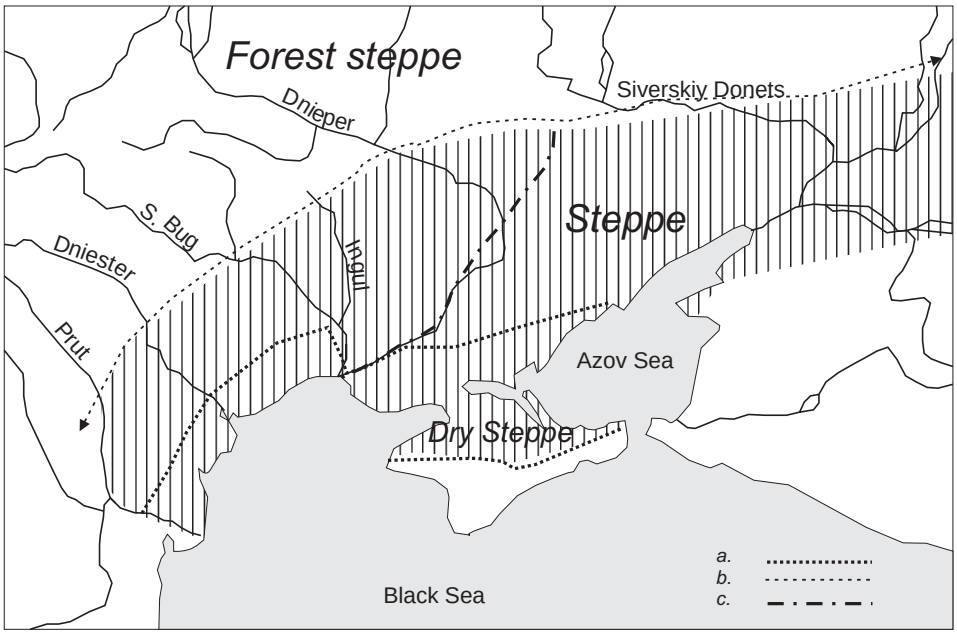


Fig. 1. Catacomb entity area (only the coasts of Black and Azov seas). a - Steppe and dry steppe frontier; b - Forest-steppe and steppe frontier; c - Ingul Catacomb and East-Catacomb cultures frontier

2. HISTORY OF RESEARCH

The aims outlined above call for, due to the complexity of issues discussed, a mapping of major research areas, having impact on the course of narration. In the first place, this applies to the definition of Catacomb entity developed by some authors (a). I give up relating the relevant discussions in the introduction as they shall be presented in Chapter I. Below, only a general picture of the issues has been given. Another plane of discussion concerns the "presence" of groups settling Black Sea steppes in the Indo-European studies (b). Since these questions are discussed in Chapter I, too, here only an overview of the opinions that had an impact on developing the research project is given. The third area from which inspiration was drawn and which influenced the work methodology is that part of prehistoric studies which is devoted to the investigation and interpretation of funeral rites (c).

(a) The Catacomb entity is known chiefly from grave contexts. Graves, usually sunk into the barrows of older eras, were placed on high river terraces or lacustrine plateaus up to 20 km away from a river or lake, in principle without penetrating so-called "open steppe". Little is known about settlements, which is explained by various authors as being a result of the semi-nomadic way of life. No comprehensive study of settlements is available; most of them were only cursorily investigated. On

the Molochna river, a discovery was made of the remains of a temple-like structure that was used when the Catacomb entity thrived*.

What also continues to be debated is the reconstruction of economy types. Following a traditional approach, based on the assumption that Catacomb entity societies led a mobile way of life, it was accepted that their economy relied on animal breeding supplemented occasionally with cereal cultivation. [cf. *Arkheologia Ukrainskoy*... 1985: 403-420]. Relying on new data (including results of palynological analyses as well as those of settlement structures, tool sets or grain impressions on pottery), it can be assumed that agriculture occupied a significant position in the economy. Land was cultivated in areas where settlement was permanent, i.e. in the valleys of great rivers. Animal breeding was not fully nomadic as it seems; it was rather a pastoral economy with a closed cycle of pastures. What was bred was chiefly cattle and small hoofed animals (sheep/goat); the horse was known as well, however, its significance for the societies in question continues to be debated. Animal breeding, apart from cereal cultivation, was supplemented by hunting and fishing. Excellent development was enjoyed by bronze metallurgy based on the arsenic technology, in terms of forms and techniques showing affinities to Northern Caucasus bronze industry; flint and stone industries thrived as well [cf. Kubyshev, Nechitailo 1991: 6-21; *Remeslo*... 1994].

Already early on in the exploration of the CC, one may distinguish several significant, related lines of discussion among which one should mention the study of the geographical origins of the whole picture of the culture as well as its individual elements, and its territorial variability, periodization and chronology.

(b) The rise of a new very complex cultural phenomenon in the said period, whose origins have not been traced yet, is one of the leading objectives of research into the cultural development of east European steppes. The problem gathers weight in the context of international discussions of the transformations both cultural and socio-ideological as well as ethnic (the question of Indo-European influence) taking place in Europe at the dawn of the Bronze Age. The Northern Pontic Area attracted much interest of Indo-European scholars in past century, as a possible cradle of Indo-European peoples or at least their Indo-Iranian branch. In the "steppe theory" developed by Maria Gimbutas and later elaborated on by her disciples, the Catacomb entity discussed here plays a significant role as the final, fourth phase of the migration of Indo-European peoples into central and western Europe [Gimbutas 1977; 1985; 1994]. As the amount of data snowballs owing to intensive field work and the publication of a number of sites investigated in the past half-century, it becomes necessary to re-verify the thesis whether it is possible to identify the Catacomb culture's "funeral theory" with any conclusions arrived at by the Indo-European studies. A thesis assuming the existence of a common symbolic system in the Circum-Pontic area already in the Bronze Age, i.e. at the dawn of statehood of Indo-European societies (Hittite states and those of Mycenae Greece), underlies, in my opinion, any hypotheses that claim Black Sea steppes as the cradle of the Indo-Europeans [cf.

* The preliminary results of investigations of Prof. Viktor I. Klochko, carried out at "Margleva Gryada" close to Stepanivka, Region of Perevalsk, District of Luhansk (Ukraine) justify a presumption that this feature served a similar purpose in the period when a Catacomb community thrived in the drainages of the Belaya and Olkhovka rivers.

Gimbutas 1974: 273-307]. So far, attempts to attribute ethnic terms have been based on the correlation of the Indo-European proto-lexicon (names of cereals and animals, terms referring to the use of a wagon, horse or to manufacturing techniques, etc.) with the space and time distribution of corresponding phenomena.
(c) The theoretical consideration of funeral rites and their significance for making conclusions on the complexity of past societies is inextricably tied to paradigms developed within archaeology that determined research questions and methods. A major contribution to the development of reflection on the mortuary practice of past societies was made by works consistent with New Archaeology and processual archaeology stressing the usefulness of this field of human activity for social reconstructions. Of fundamental importance for these studies was the assumption that a relationship held between the quantitative and qualitative characteristics of the structure of graves, their location and goods found in them, on one part, and the intra-group organization of society in terms of rank and status, on the other part. In processual archaeology the major stress was laid on the interpretation potential of the differences in funeral behaviour for the study of inter-group differentiation. [cf. Binford 1971: 208-243; Brown 1981: 25-38; O'Shea 1981: 39-53; 1984; Chapman 1987: 198-213; Hanks 2000: 19-30 – see there for further literature].

At present, the investigations of funeral rites concentrate on the significance of mortuary practices for the living members of a group. This has brought about a new approach to sources from the funerary sphere. The "discovery" of the active individual set up a platform for studying how funeral ceremonies reflect beliefs on life and death and social relationships in the face of vacuum caused by the departure of a member of the group. An important novelty in these studies is the emphasis laid on the ambiguity of grave goods. For the living, objects placed in a grave may be a gift, a symbolic discharge of a debt to the deceased or an offering, while for the deceased they may facilitate or ensure afterlife, as defined in relevant beliefs, or a re-birth [cf. Parker Pearson 1993; 1999; Dark 1995; Hanks 2000: 19-30].

3. DESCRIPTION OF SOURCES

Consistently with the purpose of this monograph, the basic category of sources is made up of data concerning grave contexts. Six test groups have been selected for analysis. This approach was inspired by the method used by S. Pustovalov [1992b], who selected within the Catacomb entity twelve test areas. This allowed him to test the proportion of eastern and western characteristics in the tradition and practice of individual regions, and trace the direction of relationships within a community and, albeit indirectly, their nature. While respecting S. Pustovalov's method, the present author has introduced the following conditions: the data must be representative

and verifiable. To suit subsequent analyses, the selection included sites that had been excavated under compact research projects involving large barrow groups (e.g. Ingul Expedition in the Ingul River drainage). Data originating with single barrows, subjected to rescue investigations, have been ignored. This is justified by offering an opportunity to observe any repeatability of certain cultural situations, giving an idea of chrono- and chorological changeability and making it possible to trace certain patterns. A departure from this rule is an inclusion of data concerning single barrows in the drainages of the Siverskiy Donets and Ingul rivers in the analysis. This is justified by the fact that such barrows were located close to barrow groups and that exploration of both categories (groups and single barrows) was included in one research project.

The basic corpus of sources comes from site publications and reports on field work. The selection of data for analysis was based on the following two criteria: the presence of catacomb graves and traits typical of the CC within the graves, specifically, the presence of a catacomb together with a set of Catacomb entity characteristics (position of body, inventory).

The corpus of data contains 699 graves from 206 barrows within six test groups selected: Budzhak (B), Ingul (I), Verkhnetarasovka (Vysshetarasovka) (VT), Molochna (M), Orel-Samara (OS), and Donetsk-Luhansk (DL). The number of features within each regional group is given in Table 1.

Table 1

Grave distribution among individual test areas

Test Group	Number of Graves
Molochna	94
Ingul	158
Budzhak	61
Orel-Samara	130
Verkhnetarasovka	49
Donetsk-Luhansk	207
Sum	699

The test areas selected by the present author are not identical with those chosen by S.Z. Pustovalov. They have been redefined taking into account the availability of source data and their representativeness.

A. Budzhak – the appellation comes from the name of steppe between the Danube and Dniester rivers; it has no relation to the "Budzhak group/culture" as interpreted by I. Manzura, E. Savva and I. Bogataya [Manzura, Savva, Bogataya 1995: 1-52]. This group includes data obtained by investigating CC graves on the lower Dniester – on Lake Sasik in today's Ukraine and in the Stefan Vode region in Moldova [Subbotin, Dzigovskiy, Ostroverkhov 1995; Yarovoy 1990; Agulnikov 1999: 118-131].

B. Ingul – this group includes materials excavated by the Ingul Expedition headed by O.G. Shaposhnikova in the Ingul drainage [Shaposhnikova, Bochkarev NA IA NANU 1972/3; Shaposhnikowa, Bochkarev, Fomienko, Grebennikov, Rychkov, Rebedailo, Kliushintsev NA IA NANU 1973/8; Shaposhnikova, Bochkarev, NA IA

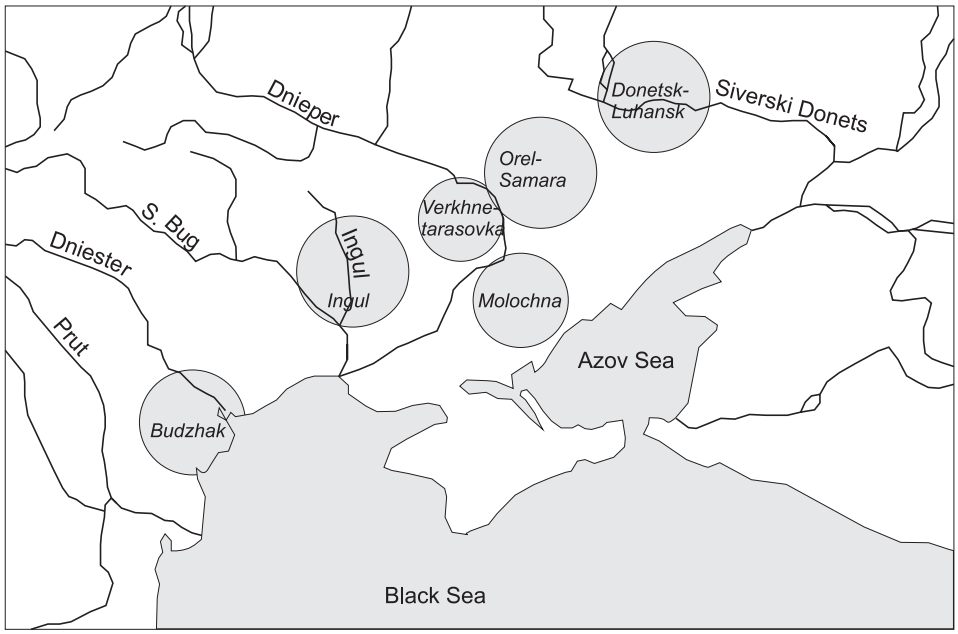


Fig. 2. Location of individual test areas

NANU 1970/8; Shaposhnikowa, Bochkarev NA IA NANU 1971/28; Shaposhnikova, Rebedailo 1977: 66-78; Sharafutdinova 1977: 79-98; Shaposhnikova, Fomenko, Balushkin 1977: 99-144; Shaposhnikova, Bochkarev, Korpusowa 1980: 17-71].

C. Verkhnetarasovka (Vysshetarasovka) – this group includes, apart from a part of materials from the eponymous site (unfortunately it was published only in part), data from sites located in the drainages of the right-bank tributaries of the Dnieper, namely the Tomakovka and Grushevka [Kovaleva, Shalabudov, Teslenko 1998: 4-18; Evdokimov 1977: 5-55; Andrusov 1986: 67-77; Kovaleva, Shalabudov, Teslenko 1999: 4-35].

D. Molochna – this group is made up of materials obtained in excavations carried out in the Molochna river valley in the 1950s headed by K.L. Klein and in later investigations by S.Z. Pustovalov [Vyazmitina, Illinskaya, Pokrovskaya, Terenozhkin, Kovpanenko 1960: 22-135; Furmanska 1960:136-140; Klein 1960: 141-163; Smirnov 1960: 184-189; Otroshchenko, Pustovalov 1991: 59-84].

E. Orel-Samara – this group consists of data obtained by I.F. Kovaleva in the area between the Orel and Samara rivers [Marina, Morkovina, Feshchenko 1984: 3-24; Kovaleva, Andrusov, Mukhopad, Shalabudov 1985: 3-26; Kovaleva, Andrusov, Shalabudov, Shakhrov 1987: 5-27; Kovaleva, Volkovoy, Kostenko, Shalabudov 1978; Kovaleva, Marina, Cherniakovskaya, Nikitin 1979: 5-25; Kovaleva, Volkovoy, Marina, Likhachev, Poptsov 1977: 8-113; Marina, Romashko, Feshchenko 1986: 5-36; Marina, Romashko 1999: 35-69; Marina, Kostenko, Nikitin 1981: 4-18; Kovaleva, Romashko, Cherniavskaya, Khristan 1981: 19-44].

F. Donetsk-Luhansk – this group covers materials originating in the area between the Siverskiy Donets River and its tributaries: the Luganka, Luganchik, Lozovaya, and Orlovaya rivers [Cherednichenko, Bratchenko NA IA NANU 1971/31; Bratchenko NA IA NANU 1972/33; Pisarliy NA IA NANU 1973/9; Gladkiy, Pisarliy, Krotova NA IA NANU 1974/13; Pisarliy, Dubovskaya, Samoilenko NA IA NANU 1976/10; Bratchenko, Gershkovich, Kulbaka NA IA NANU 1978/1; Kravets, Posrednikov, Litvinienko 1990; Bratchenko 1991a: 52-62, Bratchenko 1991b: 89-103; Denisova, Kravets 1993: 52-71, Kliuchev 1993: 126-134; Krasilnikov, Telnova 1993: 91-125; Gershkovich 1996: 133-167; Kosikov 1996: 63-75; Posrednikov, Privalov, Zarayskaya 1996: 109-152; Sanzharov, Britiuk 1996: 58-132; Kravets, Tatarinov 1997: 77-115; Kulbaka, Kachur 1998; Bratchenko 2001].

The location of individual test areas is given in Fig. 2.

4. METHODOLOGY

What is most important for the present investigations is the closely related study of social organization and ideology that can be called the **study of the identity of prehistoric societies**. The main focus is on burial traditions. The unification of the cultural picture relating to ritual behaviour, in particular so fundamental one as the attitude of the living to the dead, may be considered in my opinion as the evidence of changes taking place in the consciousness.

The present monograph uses the concept of "Catacomb entity" instead of commonly used terms such as "Catacomb culture/cultures". The latter terms have been kept only in the part devoted to the history of research into the phenomenon. This change is justified by the character of available data primarily originating with, as it has already been stressed, funeral contexts. This disproportion between the degree of exploration of the two categories of sources, namely cemetery and settlement ones, makes me adopt an assumption that phenomena related to the unit in question are a sign of unification of the steppe cultural environment with respect to funeral rites. The term "Catacomb entity" refers not to a set of repeatable "leading forms" recorded in a certain place at a certain time, but rather to a set of beliefs encoded in such forms. Archaeologically recorded traits, such as grave forms or sets of grave goods, are, in this approach, only a "set of artefacts" taxonomically speaking and not a cultural complex constituting a quality that actually existed in the past. In this sense, on the taxonomic level, a complex meets the general criteria to qualify as "cultural package" [cf. Burgess 1976; Czebreszuk 2001: 44-47].

The scope and subject of the monograph so defined draw on the academic output of the sphere overlapping archaeology, ethnolinguistics (Indo-European studies) and semiotics. Taking the symbolic system (funeral theory) to be the basic

category and foundation for further discussions, it is assumed that a complex of beliefs allowing a man to organize and tame the world around him/her and communicate with it may be useful for the study of identity of societies. Elements of symbolic beliefs govern numerous types of human behaviour from ritual acts, in which the presence of symbolic factors is absolutely obvious for us, through settlement layout rules to rules controlling everyday human behaviour. Obviously, not all types of behaviour can be observed by an archaeologist. To say that men communicate through symbols is a truism here or that communication can be successful if and only if both sides share the same system of symbols. From this point of view, language as such is one of the segments of a symbolic system. The concepts of common language, tradition and culture (hence a symbolic system) are among the basic determinants of an ethnos. It must be made absolutely clear here that in accordance with these categories the concept of ethnos refers to the sphere of human consciousness and not biology. Confusing the two brought about "gloomy pages" in the history of ethnic studies; the confusion still lingers not only in academe but also in everyday human experience. A broader discussion of the question whether it is possible to explain prehistoric reality from the ethnic point of view relying on the symbolic system that any language is can be found in Chapter I.

It is further assumed that the worldview-ritual sphere, as manifested through graves, may be also helpful in the study of society's organization and the symbolic system alive in it. In all archaic societies there are cosmogonic, anthropogonic and other beliefs that make it possible to explain and organize the world around man. Hence, the attitude towards the dead depends on such convictions and beliefs. Death definitively ends the biological life of an individual, but does not break his or her ties with the world of the living; it is part of a long process of transformations. The funeral ritual is an element of ceremonial life and an integral component of beliefs on life and death; at the same time, it is a response to the social imbalance caused each time by the departure of a community member [cf. Bloch 1988: 11-29]. Hence, different measures are taken, following from religious beliefs and commandments, aimed at organizing further co-existence – preparing for afterlife or protecting the community against the deceased's coming back and taking revenge, etc. Necropolises are viewed as equivalents of places where the dead lived prior to death – symbolic places – villages or towns of the dead; while graves could have served as ceremonial homes of the dead, etc. [cf. Thomas 1991]. These are also borderland places where the laws of this world are suspended, where the dead and gods dwell [cf. Renfrew 1994: 47-55]. These are places for the dead (homes), but also for the "living", showing a wide range of social factors such as position of individual and tribe in a group. A burial or a right to it could have depended on the deceased's social status or the kind of death he or she died. It must be stressed in this context that in each case we deal only with graves of people who were buried in accordance with the prevailing tradition. A "full ritual" was reserved for those who died a "good" death [Pawlik 2002: 36]. The treatment of people who did not enjoy the right to a proper burial cannot be observed. Either there is no grave at all or it differs so much

from regular graves that we are not able, as no other sources than archaeological ones are available, make a connection between such a grave and the tradition of a given group known to us. It can be assumed that in such cases the reasons preventing us from assessing the situation may be varied. Medieval records mention that persons who had been excommunicated were buried on the spot where they died or that they were refused a grave. A similar treatment was given to the hanged whose remains were left under the gallows; frequently the bodies of executed persons were burned together with the files of their cases. However, these extreme forms of treatment applied to people who suffered a punishment for breaking the rules of their social groups. The punishment was exclusion from the community also after death [Ariès 1989: 54-55]. On the other hand, the funeral theory makes people follow specific forms of conduct. Any irregularities in the course of the ceremony lead to imaginational disorders related to the possibility of revenge on the part of the deceased appearing as a demon. It is worth mentioning here that a number of historical "anti-vampire" measures (such as placing the body face down, cutting the head off), treated as a kind of "protection" for the living, fit into a specific funeral theory characteristic of a given period and society. The system of commands, prohibitions and taboos determining the course of a funeral ceremony and the subsequent "cohabitation" of the dead and the living is one of the conservative aspects of human culture. A set of beliefs may be one way of identification with a specific cultural community. Rituals related to death and funeral are treated as one of the rites of passage. In traditional societies, biological death (in the contemporary sense) is not a definitive end, the opposite of life; it is rather a different state of life, a stage of another existence. In a funeral ceremony several stages can be distinguished corresponding to its individual moments. The first stage (*séparation*) covers the activities from death to burial. They include the choice and preparation of the burial place and the preparation of the body. In this stage, the ties joining the deceased with his/her family, group, society and the hitherto enjoyed existence are broken one by one. Activities related to interment take place in the second stage of the rites – the passage itself (*état de marge*). They take place in a specific place and time, but also in a sense "beyond space and time". This "exclusion" from time and space concerns not only the deceased but also the participants of the ceremony. The last stage of funeral rites is the re-incorporation of the deceased into the community but in the form of an *alter ego* – an ancestor. The incorporation (*aggrégation*) does not concern only the deceased but also the mourners who are excluded from normal experience for the time of the ceremony. The stages of a funeral ceremony are spread over time and not all stages are equally accessible to archaeological observation [cf. Van Gennep 1977; recently also Pawlik 2002: 20-49; Witczak, Kowalski 2002: 59-74]. The organizing principle was the arrangement of phenomena observed in the source material into four levels of analysis concerning the creation of a ritual place: grave construction, treatment of body, traces of rituals, and grave goods [cf. Kośko 1989: 23-58; Kośko, Klochko 1991: 23-38].

5. BOOK STRUCTURE

The book is divided into three parts. The first (Chapter I) presents the history of research into the funeral rites of the Catacomb community in both social and ethnolinguistic aspects (I.1.). A reference to ethnic issues makes it necessary to recount the discussion of the problem of the Indo-European impact from the point of view of linguistics and the attempts to attribute specific linguistic models to prehistoric entities (I.3).

The second part (Chapters II and III) presents the results of a multi-faceted analysis of source data concerning the religious-ritual sphere. It is introduced in Chapter II by the account of the cultural situation in the Northern Pontic Area in the period preceding the rise of phenomena related to the Catacomb community and an outline of essential chronology. Chapter III gives the results of data analysis aiming at the reconstruction of the basic elements of the ceremony and a model reconstruction of the funeral theory. The third part (Chapters IV-V) sums up the discussion and attempts to build a model of the whole symbolic system against the background of changes in the funeral rituals of societies settling the area between the Baltic and Pontic seas in the 3rd and early 2nd millennia BC. The text is supplemented by two annexes. The first (Annex I) gives a list of sites from which source data come in alphabetical order within test groups. Names of localities are quoted in two versions: using the spelling of the source text and transliterated into English. Annex II is a shortened version of the catalogue in a tabular form.

In conclusion, I would like to give a few comments concerning the language version of names of localities and nouns from the Russian, Ukrainian and Moldavian languages. They are transliterated in accordance with the official national versions.

LIST OF ABBREVIATIONS

CC – Catacomb culture
CWC – Corded Ware culture
YC – Yamnaya culture
MC – Mnogovalikova culture
TC – Trypolie [Tripolye] culture
SC – Srubnaya culture
M – Molochna River test group
I – Ingul River test group
B – Budzhak steppe test group, between the Lower Danube and Prut rivers
OS – Orel-Samara test group
VT – Verkhnetarasovka test group, on the right bank of the Lower Dnieper
DL – Donetsk-Luhansk test group

I. HISTORY OF RESEARCH: CATACOMB ENTITY AS STUDIED BY PREHISTORIANS

The purpose of this monograph is a comprehensive analysis of data coming from the Catacomb entity's funeral contexts. Outlining the major areas of inquiry covered so far brings us into the middle of a broad and multifaceted discussion going on in the borderland of several fields of study. For obvious reasons, the work done by prehistorians and ethnolinguists seems to be the most important.

This chapter is divided into three parts. Giving a record how the approach to the interpretation of funeral sources evolved, in terms of questions asked, the first part makes it necessary to comment on broader issues raised in individual stages of the evolution. Hence, it is a record of a branched-out discussion on the very phenomenon of the, in the light of theories developed within archaeology, and on the place and role of Bronze Age groups in the Northern Pontic Area, in a broader temporal and spatial perspective. The second part deals with the specific historical presence of Northern Pontic groups in the attempts to reconstruct the historical process, broadly understood, undertaken by the Indo-European studies. In these attempts, archaeological data are a reference plane for linguistic observations. As the data are treated in a very general manner, it is hardly possible to find any ethnolinguistic studies devoted specifically to the Catacomb entity. It forms part of a larger sequence of changes taking place in the Northern Pontic Area in the Bronze Age.

The third part of the chapter, being also in a sense its summary, is an attempt to join both research perspectives: prehistoric and ethno-linguistic.

I.1. HISTORY OF RESEARCH: CATACOMB ENTITY

The history of research into all the phenomena making up the picture of the Catacomb entity was briefly presented in the Introduction, however, it seems necessary to relate here the evolution of views and the scope of reflection on the nature of the entity. Following the proviso made, the basic data come from funeral contexts. However, due to the degree of exploration of the Catacomb entity, it is this kind of data that is of crucial importance for drawing any conclusions on the entirety of the entity. In this sense, the discussion of what the Catacomb entity was boils down to the analysis of grave contexts, where the better portion

of data comes from. This is a result of, in the first place, conservators' priorities determining plans for archaeological investigations in the steppe zone in the last 50 years. A vast majority of data come from rescue investigations carried out because of the intensifying of land cultivation and breaking new grounds to grow crops. Much more restricted in scope were investigations of settlement sites. In publications on the subject, 245 settlement sites are cited, both short-lived and permanent, in which Catacomb entity materials were found [Pustovalov 1994: 103-104]. It must be stressed, however, that in most cases the exploration of these sites is not complete and, what's more, the exploration of homogeneous systems is not sufficient, either. Most of the sites are completely deprived of the archaeological layer and traces of any permanent features. Admittedly, we know of permanent settlements used for a long time, called *zimniki*. These are features that were inhabited for a long time, showing traces of many cultures, such as Matveevka I, Mikhailivka, Liventsivka I, Serdiukovo, Perun and Baida islands in the region of Dnieper falls. The degree of their exploration is not sufficient to fully reconstruct the settlement structure nor rediscover the purposes they were used for. Few structural remains were discovered; they were interpreted to be semi-dugouts, household pits or fences/fortifications. Settlement sites of this type are located close to the sources of water (in river valleys, on islands). The other settlement type, the so-called *letovki* – campsites used in seasonal pastoral activities, is explored even less well. On all these sites, Catacomb entity materials are interspersed with artefacts of other taxa, chiefly the YC and MC. This state of affairs makes it more difficult to draw any conclusions on many aspects of the prehistoric reality including settlement and economic strategies as well as demography. The main source of artefacts for study, as if 'out of necessity', became data from grave contexts. Relying on this sphere of life, accessible in part to archaeological study, hypotheses on almost all aspects of the past reality were formulated. For this reason, a review of ways the funeral data were hitherto interpreted is closely tied to the comprehensive study of the Catacomb entity as a phenomenon and shall be presented as such below.

In the publications devoted to the Catacomb entity one can distinguish several major lines of study. Below, a short review of the history of research is presented according to the major approaches to the taxon in question. The review follows the chronology in which particular research perspectives appeared.

Because of the Indo-European issues discussed in the second part of the chapter, it seems necessary to enlarge the time and space perspectives of the discussion in comparison to the delineated area and time span of the Catacomb entity. The review of perspectives taken so far in the prehistoric research is closed with the discussion of the formation of a 'circumpontic metallurgical province', a concept giving me a lot of inspiration and providing with new interpretation possibilities [cf. Chernykh, Avilova, Orlovskaya 2000; discussed in greater detail in I.1.4]. The concept formulated within the bounds of prehistory corresponds in a sense to the discussions of the language community unifying the vast expanses of Europe.

I.1.1. HISTORY OF RESEARCH – CLASSIFICATION

In the literature on cultural changes on the Black Sea in the Bronze Age, the issues related to the Catacomb entity take pride of place. As the early stage of exploration one can take the unsystematic investigations, amateur in nature, that had been carried out from the middle of the 19th century, among other places, on the Siverskiy Donets. The object of the explorations was to obtain a collection of artefacts without paying much attention to the context of finds. As a result, a series of graves with crouched burials powdered with ochre was discovered. In the early 20th century, a distinction was made, relying on grave architecture, into the following Bronze Age cultural units: Yamnaya (corresponding to the Early Bronze Age), Catacomb (middle period) and Srubnaya cultures (late period). In early last century, owing to the studies by V.O. Gorodtsov, the second of the named taxa (Catacomb or Donets culture) was defined as an independent and close classification unit occupying the central position in the Bronze Age periodization of the Northern Pontic Area [Gorodtsov 1905; 1907; 1916; 1927]. Later, the name 'Catacomb culture' was given also to graves with burials in a catacomb and specific gave goods recorded in the south of Eastern Europe. It appeared at the same time, however, that such a taxon, covering the area from the drainage of the Don to that of the Dnieper, was not a monolith. This observation led to intensive investigations of its local variations and distinguishing several varieties and local groups [cf. Rau 1928; Artamonov 1939; Iessen 1950; Krivtsova-Grakova 1955; Popova 1955]. The lands west of the Dnieper were included in the area of the taxon only later after the discoveries made by O.G. Shaposhnikova in the late 1960s and early 1970s. A local variety of the Catacomb culture known from this area acquired the status of a separate unit: Ingul culture [Shaposhnikova, Bochkarev, Sharafutdinova 1977]. In the most recent discussions, as the western limit of catacomb type assemblages is taken the drainage of the Prut River and the Danube delta in the steppe part of the Western Pontic Area [cf. Toščev 1998]. Graves formally corresponding to catacomb ones but recorded beyond this conventional limit do not form a compact block of traits.

Intensive field work carried out since the middle of the 20th century has brought new data initiating the study of regional varieties of the Catacomb culture. As separate groups, the following units were distinguished: Donets, Kharkov-Woronezh, Dnieper-Azov, Manych, Ingul and Poltavka. To these, Ciscaucasia Catacomb cultures were supposedly related. These territorial groups were distinguished relying on the analysis of ceramic assemblages, taking into account their morphology and ornaments, as well as funeral rites [cf. *Arkheologia Ukrainskoy*... , 403]. The next stage in the history of research into the taxon in question involved the splitting of the uniform Catacomb culture into several local units having the status of culture, which was reflected in the nomenclature used.

Important for the history of source data accumulation, this stage of study, however, is not very helpful for the present investigations. The set of research questions was restricted by the assumption about the uniformity of an archaeological culture, identifiable by its manifestations and an ethnos actually existing in the past. A cultural change was explained by migration, a conflict between indigenous people (in this case Yamnaya culture) and newcomers (Catacomb culture), or by evolution within the same ethnos without, however, dwelling on the mechanisms that precipitated the process of change. Any attempts to comprehensively approach ritual behaviour observed through archaeological materials were not undertaken.

The term 'Catacomb cultural-historical community', comprising lesser regional varieties (groups distinguished earlier acquired the status of separate cultures), is an elaboration on the same line of thought. It also contains an inspiring idea – that in a certain time interval there was a pool of common, supra-regional or 'supra-cultural' traits stemming from a common source.

A further modification of the approach to the question of broad distribution of the general traits of the Catacomb entity with simultaneous occurrence of local ones was brought by the studies of its socio-ethnic differentiation carried out by S. Pustovalov. He distinguished two blocks and gave them the status of two separate cultural provinces: East-Catacomb (areas east of the Dnieper) and Ingul (comprising cultural phenomena on the right-bank, i.e. north-western-western part of Black Sea steppes) [Pustovalov 1992; 1994]. The two provinces were perceived by S. Pustovalov as having developed following different cultural models observed in different subsistence strategies and social organization. Nevertheless, the distinguishing of the two blocks relied on a strong conviction about a direct and simple relationship holding between what we call an 'archaeological culture' and ethnicity understood in a modern way.

I.1.2. HISTORY OF RESEARCH – ORIGINS

The concept of 'archaeological culture' is traditionally taken to include an assumption of its development in stages. Any culture goes through its initial period, a period of prosperity and a decline, which at the same time carries the seeds of a new quality. It is these 'borderline' stages of development that attract particular attention of scholars. The discussion of geographical origins of the whole Catacomb system, and its individual local varieties, accompanied the research perspective discussed above almost from the beginning. Already in the first decades of last century, the archaeologists studying this unit split into two opposing groups favouring either autochthonous or allochthonous development of the culture.

A. Autochthonous theory. This theory was based on the conviction about the evolutionary development of Yamnaya culture society influenced by patterns coming from the Ciscaucasia [Krivtsova–Grakova 1938; Popova 1955; later also Danilenko 1974; Evdokimov 1979]. For the autochthonous origins of the Catacomb entity supposedly spoke the fact that objects characteristic of YC burials (e.g. wooden vessels, bone ornaments or peculiar pottery forms) were gradually superseded by other items in grave contexts. This forced archaeologists to search for transition forms. In the transition period there supposedly were several 'hybrid' variants reflecting the process of the emerging of a new quality [Vasilchenko 1977; Evdokimov 1979; Marina 1982]. As a support for the theory of evolutionary transformation came the discoveries of burials in the Orel-Samara region displaying mixed Yamnaya-Catacomb traits (a pit with Catacomb grave goods – mainly pottery). It seems, however, that these burials are related rather to the YC, while possible similarities can be alternatively explained as a result of contacts between the two, partially synchronous, cultural systems. I shall return to this question below.

The discussed theory lacked a more profound thought on the causes of so fundamental a change in the funeral rites; it was explained away as an impact of rather indefinite Middle Eastern influences.

B. Allochthonous theory. In this group are included both attempts to indicate foreign, extra-Pontic origins of the whole Catacomb system and discussions devoted to the origins of its particular 'component parts'. In the arguments of the proponents of the autochthonous theory, no attention whatsoever is given to the origins of one of the basic hallmarks of the Catacomb culture, namely, the catacomb. This question offers, however, a major argument in favour of the theory of the culture's allochthonous origins. The presence of such traits as the catacomb form of grave, the custom of placing masks over the deceased's face, the outlines of feet made with ochre at the entrance to the grave chamber justified tying the culture to the areas occupied by early civilizations of the Mediterranean, Middle East, Carpathians and the Danube drainage in the Early Bronze Age [Artamonov 1939; Klein 1961; 1966; 1970; Markovin 1976; Kyiashko 1979; Nikolaeva, Safronov 1981]. In the majority of these theories the cultural change is driven by migrations of groups of people from Anatolia, the Balkans, central, western, or even northern Europe. Such migrants supposedly displaced/assimilated YC societies settling the Northern Pontic Area. A pioneer of the 'southern-impact' line of argument was V.O. Gorodtsov who put forward a thesis claiming the identity of catacomb graves with ones discovered in the Mediterranean. He explained encountered similarities by the migrations of people from the south without, however, tracing a precise path of such migrations [Gorodtsov 1910; 1916]. The presence of Mediterranean traits in the Catacomb culture, such as grave forms, pottery ornamentation compositions (reminding of painting), the custom of skull deforming, or the presence of censers in graves, was claimed by L.S. Klein [Klein 1966; 1967] as well as other scholars investigating this taxon.

This discussion covers also the allochthonous origins of Northern Pontic metallurgy. The basis for such an opinion can be found in works by A.A. Iessen on copper metallurgy in the Caucasus. He maintained that areas on the Azov and Black seas were supplied with copper from the Kuban metallurgical region [Iessen 1935: 164-167]. These observations introduced a new perspective into the discussion of the geographical origins of the whole Catacomb entity and its individual parts: a mediated cultural contact. A mediator in these contacts was supposedly Caucasia through which Middle Eastern patterns reached the Pontic Area. Following this suggestion, it was even assumed that metal, cattle, crops and salt were traded on a permanent basis between Black Sea steppes and Asia Minor in the late 3rd and early 2nd millennia BC [Krupnov 1958: 72]. The trade could have been fuelled to a significant degree by North Crimean salt deposits. The fact of their mining in the medieval times is well documented. The 'Chumatskiy' Trail ('Caravan Trail') was one of the more important ones, next to the trail from 'From Vikings to Greeks', of which it could be a part. In the literature on the subject, hypotheses may be encountered that assume that trails along which Crimean (Sivash) salt was traded were used over long periods of time. They could have developed already in prehistoric times. After analysing mace-head distribution, A. Kośko suggested that there might have been an exchange trail from leading the Crimea to central and northern Europe. A significant role in servicing this trade may have been played by the groups of the Catacomb entity under the influence of the 'Middle Eastern stimulus' [Kośko 2002: 31-81]. This hypothesis is supported by a proposal made by W. Tyborowski and referring to a sea route joining the metallurgical workshops of northern Anatolia and northern shores, Troy and the Danube estuary. W. Tyborowski points out to the presence of objects of Anatolian origin in the cultural environment of the North-Western Pontic Area and the fact that the technology of producing arsenical bronzes (relying on copper deposits with a natural content of arsenic characteristic of Anatolia) was known there as well [cf. Tyborowski 2002: 82-98].

A tradition of seeking analogies for the phenomena observed in the Catacomb entity, focusing in particular on inspirations coming from the early civilizations of the Mediterranean and Mesopotamia, is especially marked in the work of S. Pustovalov. In his model, the close links between eastern European steppes and the south, manifested in the adopting and imitating the following patterns: mastabas → catacombs, mummification → masks, ziggurat → 'Molochna temple', hieroglyphic and alphabetical systems of writing → elements of vessel, axe and catacomb bottom ornaments, not only testify to the strength of the Middle Eastern stimulus but also to the development, under its impact, of a proto-state structure [Pustovalov 1993; 1994; 1998]. This work, despite some simplification, opens up a new area of study of the Catacomb entity. Together with the study of the social structure, an ideological perspective has been included in the picture.

The discussion of grave contexts were initially treated as auxiliary to the study of geographical origins and chronology of individual grave goods. The last thirty years of study of the Catacomb entity has added new research questions concerning the social structure, organization and ideology. Numerous discoveries of graves with unusual characteristics such as rich and diverse goods (including 'prestige' objects), masks, foot outlines etc. provoked a question about their social dimension. As a result of study a hypothesis was born providing for a hierarchical structure of the Catacomb society patterned after the tripartite division of social roles according to G. Dumézil [1968]. Graves lacking any goods or having only the simplest set of them were linked to the lowest group of food producers – breeders-herders. Assemblages containing weapons (including kits for producing arrows) and those comprising 'priestly' sets (grinders, pads, ochre lumps, awls) or still others with especially rich goods, containing, for instance, two-wheeled carts/chariots were called, respectively, warrior-graves and priest-graves. However, the tripartite division does not fully reflect the organization of Catacomb society. Hence, S. Pustovalov suggested a division into six classes taking into account twelve elements of grave description and the amount of work necessary to prepare the burial. Classes 1-3 correspond in his hypothesis to the burials of aristocracy of the first, second and third ranks; classes 4-5 are called 'ordinary' (this group may comprise food producers) with or without any goods. The final class is made up of graves whose preparation did not call for a great amount of work or the use of special means. In Pustovalov's terminology they are termed 'deficient' [cf. Pustovalov 1991: 24-41].

The discussed trend in the study of grave contexts may be called 'social'. A fundamental question here is what type of information on the status of the buried person when he or she was alive is supplied by the grave (e.g. there are many works on the burials of arrow manufacturers, priests, warriors etc.). It allows us to draw conclusions on the complexity of the social structure or subsistence strategies, or reconstruct industries. Here, one must cite numerous works on geographical origins and functions of individual categories of artefacts or traces of behaviour. Such works build two tiers of interpretation. On the one hand they analyse spatial relationships of the Catacomb entity, on the other, through the context of analogy, they scrutinize its meaning [cf. Klein 1961; 1980: 60-69; Pustovalov 1991; 1993; 1999b; Kovaleva 1983; Gey 1999]. This procedure calls for great research caution. From the angle of my investigations, a meaningful question is what is the status and fate of man after he or she dies (in the sense of existence in the other world); also, how 'the other world' is organized according to traditional views. This line of inquiry encompasses work devoted to the function and significance of individual burial elements: preparation of a burial chamber, treatment of the body and, finally,

accompanying grave goods. A considerable contribution to the development of this type of research was the work of Marija Gimbutas, who included eastern European phenomena related to the beginnings of the Bronze Age in a broader study of the origins of Indo-European peoples (more on the subject below). This introduced a ritual-symbolic perspective to the study of the Catacomb entity by finding analogies to individual phenomena in early Indo-European and Indo-Iranian texts as well as in iconography [cf. Kulbaka, Kachur 1998; 2000].

The study of the problem in question, from the point of view of social organization, covers also opinions on the organization and size of the Catacomb phenomenon. It is there that the term 'archaeological culture' is replaced by the term 'ethno-social organism', even more strongly tied to the concept of ethnic community. The reconstruction of the social system that developed on eastern European steppes in the period in question, relies on the assumption that the 'Catacomb ethno-social organism' represents a level of development corresponding to the transition stage from a primitive society to the state. According to S. Pustovalov's proposal, the organism supposedly was made up of three hierarchical tiers. The highest tier in this hierarchy was to be occupied by Ingul culture (IC) groups that controlled the other two tiers: the East-Catacomb and YC groups. '...within the territory of Ukraine, the existence of two large ethnical groups can be seen, which were closely connected with each other. (...) The third component of this system was the population of the Yamnaya culture' [Pustovalov 1994: 87-134]. The Ingul society owed its dominant position, in Pustovalov's opinion, to the control and mining of diabase deposits (on the Ingulets River) and ochre (in the vicinity of the town of Krivyi Roh), and the redistribution of these goods. The other groups were tied to the Ingul system by relationships of almost vassal character (*sic!*). Finally, the last argument in support of this theory is the presence of the two most important shrines, the temples at Molochna and Kamiennaya Mogila, in the territory controlled by the western group. Pustovalov is eager to assign to the temples the role of community-wide ceremonial centres. In this vision of the development of Northern Pontic societies, a novelty is a hierarchical catacomb system having the nature of a social strata exercising control/power over East-Catacomb and Yamnaya societies similarly to the cast system of India or the lord/vassal system of both eastern Mediterranean civilizations and medieval Europe. Also, the civilization breakthrough witnessed during the rise and growth of the Catacomb entity, manifested by the emergence of a stratified society in which elite cults and rites were practised, is interpreted as an effect of inspirations coming from the south, specifically from the Middle East. One of the factors making the breakthrough possible could have been the joining of the Northern Pontic Area to the system of long-distance trade routes [Pustovalov 1992; 1993: 24-31; 1999b; Kośko 2002].

I.1.4. THE NEIGHBOURS OF CATACOMB ENTITY SOCIETIES – CIRCUMPONTIC CULTURAL PROVINCE

The views presented above on Catacomb entity's multifarious relations with the neighbouring areas justify a claim that they were much broader and deeper. The tracing of the routes along which patterns and goods, including prestige objects, travelled in the Northern Pontic Area proves that societies living there were not isolated. In fact, in many instances, serving as middlemen in the transmission, they contributed to the unification of culture over vast areas of Europe. It can be ventured that in the Early and Middle Bronze Age, a certain community emerged kept together by the transmission of some ideas. These questions were studied by E. Chernykh who focused on the origins and the earliest technologies of processing metals – copper and bronze. He observed that relying on the raw-material composition and the way it was processed, one can distinguish areas sharing the same traditions, which he called metallurgical provinces. The term, having both temporal and spatial dimensions, is defined as "a system of related producing focuses, more or less closely interconnected (...). Provinces (...) constituted huge systems covering up to several million kilometres, the period of their existence ranged from few hundred up to two or even more thousand years" [Chernykh, Avilova, Orlovskaya 2000: 32]. These authors assume that there existed a vast metallurgical province in the Palaeometal Age* and divide the development of the province into two stages. The Balkan-Carpathian metallurgical province, unifying its eponymous area and the steppes of south-eastern Europe, corresponds to the period when Eneolithic groups thrived. In the next stage, in the Early and Middle Bronze Age (generally the 4th and 3rd millennia BC), the unification of metal production technologies can be observed over a much larger area (Fig. 3).

The northern part of this area corresponds to the loess areas of central Europe, the forest-steppe zone and eastern European steppe. The southern portion of the province comprises Anatolia, the Caucasus, Iran, the Levant and the Aegean. The division roughly corresponds also to the subsistence strategies employed in these areas: agricultural in the south and pastoral in the north [Chernyhk, Avilova, Orlovskaya 2000].

The theory outlined above forms a seminal framework for further study. A possibility that long-term relationships held in the named areas forming part of the Circumpontic Metallurgical Province was mentioned already earlier. However, only the analysis of metallurgical data provided evidence for claiming that it had a permanent character in social, cultural and also, I presume, ritual terms. In terms of the dynamics of the historical process in the 3rd millennium BC, the northern segment of this block marks the rise and development of groups related to the Catacomb community in the areas located north of the Black and Caspian seas.

* The Palaeometal Age is a period comprising the Eneolithic/Chalcolithic and the Bronze Age.

The southern or Anatolian segment may be identified with the areas where the Hittite statehood developed later.

Anatolia was not a cultural monolith in the Bronze Age. However, at the turn of the 4th millennium BC and in the 3rd, the peninsula witnessed some global changes. They are reflected in three waves of destruction whereby some centres ceased to exist and production collapsed. However, at the same time new local organisms emerged having the character of city-states, new styles of metal goods appeared and a new burial tradition developed (complex grave structures, including barrows, which owing to rich inventories of grave goods are called 'princely'). These changes marking the three chronological phases of the Early Bronze Age in Anatolia* are identified with the waves of migration of new populations from the northwest and northeast. This resulted in the rise of a mosaic of hybrid states combining in different degrees southern European (specifically Danube-Balkan–Thracian or perhaps steppe ones), Transcaucasian and Anatolian traits [Yakar 1985]. Authors writing on the subject see the peoples arriving in Anatolia as a factor turning the peninsula Indo-European and related to the emergence of Hittite-Luwian dialects. It is worth stressing here that an opinion has taken root with researchers that the Indo-European element in Anatolia is clearly allochthonous [cf. Yakar 1985; Danka 1986: 277-339; Mellaart 1999: 438-473]. This observation brings us to the interdisciplinary discussion of the origins of the proto-language and the dynamics of the Indo-Europeanization process. The main aspects of this discussion shall be related in the later part of this Chapter. Regardless of which version of locating the proto-cradle of Indo-Europeans is accepted – 'steppe' or 'Middle Eastern' – it can be assumed that Indo-European dialects could be used on the Black Sea in the 3rd millennium BC. Both theories of the Indo-Europeanization of the areas of interest to me here give new vistas for further discussions.

The state of research presented above into the relationships holding between areas on the Black Sea and those controlled by early civilizations points also to a relatively permanent and long-standing character of relationships joining the north and south. Therefore, in my opinion, it can be assumed that these areas belonged to a single cultural province. It remains to be shown how far it can be identified in ethnolinguistic terms.

I.2. HISTORY OF RESEARCH – INDO-EUROPEAN PERSPECTIVE

The study of the Catacomb entity, specifically its social and ideological aspects, introduces a new 'historical' plane of discussion calling for a reference to those fields of the humanities that lie beyond archaeology. One of such fields is Indo-European

* These are: EB I (proto-urban phase) — 3800-2800 BC, EB II (early urban phase) — 2800-2400 BC and EB III (the rise of local dynasties) — 2400-2000/1900 BC [Tyborowski 2002: 82, see there for further literature]

Studies. The purpose of my work is to analyse comprehensively the funeral rites of the Catacomb community in order to determine a possible body of beliefs controlling behaviour and practices, whose partial record is accessible to archaeological study. I work on the assumption that the use of information on the symbols and myths of the Indo-Europeans may contribute to the broadening of the interpretation plane. For this reason, I believe it is justified to include in the discussion of relationships holding between Black Sea shores and the eastern Mediterranean what is known on the origins and spreading of the Indo-Europeans. However, a full presentation of the history of Indo-European Studies, or even only their 'geographical origins aspect', goes beyond the scope of this monograph. What's most important from the point of view of the present author, is the appearance of two hypotheses in the discussions of the geographical origins of the Indo-Europeans: a steppe one and a 'Middle Eastern' one (in the latter Anatolian and Armenian hypotheses are included). The literature on the subject, regardless of the adopted version of the geographical origins of a given language family, is in agreement that in the period in question Black Sea steppes were settled by populations speaking an Indo-European language (or its dialects). Some scholars believe that it may have been languages belonging to the Indo-Iranian group [Witczak 2003: 138]. Consequently, it is justified to give here an outline of the 'presence' of the Northern Pontic Area in the Indo-European Studies.

I.2.1. 'INDO-EUROPEAN HOMELAND' IN LINGUISTIC RESEARCH – METHODS AND THEORIES

What seems to be the most important for the questions discussed here is the linguistic discussion of the worldview held by the 'first carriers' of the Proto-Indo--European language. In the Indo-European Studies, the question of worldview is closely related to the theories of geographical origins and internal differentiation of the Indo-European family of languages. Following the example of the methods of natural history, A. Pictet [1877] proposed to develop 'palaeolinguistic' studies that later on produced lists of common names of trees, herbs, animals, human occupations, and elements of the environment. The corpus of such basic words became to be known as proto-lexicon. Relying on such lists, it was found that the economy of the Proto-Indo-Europeans was based on pastoralism, which made it possible to identify potential areas of departure. Areas were searched for where, according to historical or archaeological data, the phenomena that had their equivalents in the proto-lexicon occurred or existed. However, already within the Indo-European Studies, this method turned out to be inadequate. First of all in many instances, the analysis ignored the time perspective or disregarded the obvious fact that meanings of words changed or moved about in the lexical space or in time. Despite these shortcomings, the method is still used in reconstructions carried out today.

The description of the Proto-Indo-Europeans' world alone, or even their potential homeland, relying on the proto-lexicon, does not exhaust the scope of interest of historical linguistics. What's also important is the question of causes and dynamics of language changes. In the late 19th century, a wave theory gained ground explaining the differentiation of language groups by a varying distance from a centre using the metaphor of wave propagation [Schmidt 1872; cf. Lehmann 1967; 1973; 1992]. A significant observation was made whereby changes could possibly occur without any population movements.

The question of differentiation of language groups with time led to the introduction of the glotto-chronological method. The analysis of a list of basic terms (originally 200 later narrowed to 100) led to a conclusion that the degree of word survival was, respectively, 81 or 88 per cent for each one thousand years. A divergence scheme was developed for pairs of languages making it possible to calculate points when individual stages of language change took place [cf. Swadesh 1972]. However, it must be observed that in this approach we deal with an ideal construct assuming that there are no other factors of language change. Language as such is not an ideal construct, hence it is hardly possible to assume that it develops strictly and exclusively in accordance with rules. Its development can be followed by observing language change in the period accessible to us (hence, rather short one).

The above review of methods and theories does not exhaust the subject of genetic studies. It has been restricted to those which have had the biggest impact on both linguistic and interdisciplinary approaches.

I.2.2. ATTEMPTS AT CORRELATION: LINGUISTIC AND ARCHAEOLOGICAL DATA

Relying on available linguistic material, as early as at the turn of the 19th century, two opposing theories on the origin of Indo-European people emerged: a steppe one and a northern European one*. As the father of the former is considered Otto Schrader, who in 1890 put forward an assertion that it was the steppes of southern Russia that may have been the homeland of the Indo-Europeans. The foundation of this purely linguistic theory was an observation that nomadic herders had lived in these areas since the times of the Scythians [Schrader 1890]. This theory, originally relying on the analysis of the proto-lexicon considered to be a linguistic worldview, was adopted by prehistorians finding support in archaeological sources [Childe 1926; 1950; 1957]. The legitimacy of this theory was endorsed by many scholars primarily from the school of M. Gimbutas and the circle of the *Journal of Indo-European Studies* throughout the 20th century [Gimbutas 1963; 1966; 1970; 1977; 1980; 1985; Mallory 1973; 1976; 1977; 1989; Anthony 1986; 1992]. The

* For a detailed discussion of the hypotheses of geographical origin see [Renfrew 1987; 2001]

beginning of the spreading of Indo-European languages was associated with the beginning of the age of metals. A leading role in the expansion supposedly played groups of populations migrating from the steppes of eastern Europe. Apart from new technologies, the groups carried with them a new social structure founded on the domination of warriors and a new cult – the solar cult. Hence, the languages were spread by sword. Developed by M. Gimbutas, the vision of a collision of the matrilineal egalitarian world of peace-loving farmers of 'Old Europe' (by assumption non-Indo-European) and a new order imposed by belligerent Indo-European herders organized in a cast system exerted a great impact on how those times are perceived.

An opposing theory to the steppe one, namely the theory of the Middle Eastern origin, was developed by both linguistics and prehistory. The discovery and reading of cuneiform tablets containing specimens of the Hittite language in the early 20th century was followed by a suggestion made by A.H. Sayce in 1927 that the formation of the Indo-European language family took place in Asia Minor. This observation was based solely on linguistic data and did not find a way to the discussions of geographical origins held in the first half of last century [cf. Mallory 1973: 21-26]. Only in the 1950s, did G. Childe revive the theory of the Middle-Eastern location of the Indo-Europeans' homeland. He counterposed his hypothesis to the North-European one that was popular at the time. In his view, the Indo-Europeanization of Europe occurred in the Late Bronze Age [1950]. The most comprehensive arguments for the Middle-Eastern origin of Indo-European languages and peoples were supplied by V.V. Ivanov and T.V. Gamkrelidze [1984a; 1984b]. Their point of departure was a comparative analysis of isomorphs whereby it was found that the Indo-European and Kartvelian languages were closely related. Using an extensive list of lexical items, they located the homeland of the Indo-Europeans in Upper Mesopotamia. Relying on archaeological data, they suggested that the Indo-Europeans' proto-homeland might have developed in the environment of the Halaf culture in the 5th millennium BC. It was thence that Proto-Indo-Europeans were to move to eastern Anatolia, the southern Caucasus and the Iranian Plateau. It must be noted that in Gamkrelidze and Ivanov's hypothesis a significant role was played also by the steppes north of the Black Sea – as the secondary cradle of the languages of Europe.

Next to the attempt to locate a possible homeland of the Indo-European family, another question became valid, namely, that about the mechanisms and factors of language spread. This, in turn, spawned a number of hypotheses as to the dating of the beginnings of the expansion. Some of them associated Indo-Europeanization with the beginnings of copper and bronze metallurgy [Gimbutas 1963; 1966; 1970; 1977; 1980; 1985; Mallory 1973; 1976; 1977; 1989; Anthony 1986; 1992; Gamkrelidze, Ivanov 1984a; 1984b], new subsistence strategies such as agriculture [Kočka 1958; Renfrew 1987] or herding [Gimbutas 1963; 1966; 1970; 1977; 1980; 1985; Mallory 1973; 1976; 1977; 1989; Anthony 1986; 1992; Goodenough 1970: 235-266].

The questions relating to geographical origins were best discussed by C. Renfrew [1987; 2001]. Presenting and criticising the steppe, Northern-European and

V.V. Gamkrelidze and T.V. Ivanov's Middle-Eastern hypotheses, he suggested that an equals sign be put between the spread of the Indo-European languages and the dissemination of agriculture from the Middle-Eastern centre. He put forth a hypothesis of a 10-stage cultural and linguistic transformation supposedly taking place in the earliest period of the spreading of agriculture in Europe. In his hypothesis, the Proto-Indo-Europeanization of the steppe corresponds to the moment when Eastern-European settled agriculture changed into a pastoral-nomadic economy. As speaking already an Indo-European language, Renfrew recognized groups identified with the YC and CC [2001: 255].

Regardless which hypothesis about the homeland of Indo-European peoples and the chronology of the breaking-up of this original language family is adopted, the Northern Pontic Area in the period of interest to us here may be considered in terms of language used as settled by groups of the Indo-Europeans.

I.3. INDO-EUROPEAN WORLDVIEW

The Indo-European studies have occupied a prominent position in linguistic and cultural research for over two hundred years. As the work on the reconstruction of a possible proto-language progressed, there arose a need to study the model vision of the world that the proto-language could have described. The same observations that contributed to the emergence of Indo-European linguistics underlay the development of the studies of Indo-European mythology as a partially independent field of study. Upon accepting the theory claiming the existence of a common proto-language in the past, there appeared a question who its speakers were and how the world of their imagination and beliefs was organized. Initially, the studies of comparative mythology, subject to the methodology developed for linguistics, remained the domain of linguists. The fundamental errors that had a detrimental impact on the informative value of 19th-century works followed from an *a priori* 'stretching' of particular myths to cover all Indo-European mythology, detachment from the historical and social context in which such myths developed and drawing conclusions as to the similarity of competences of individual mythical beings relying on the semblance of their names and appellations. The impasse in the study of Indo-European mythology was broken by Georges Dumézil who studied the three-part structure of a function ('Indo-European triad') that was to describe the Indo-European society and be reflected in the division of roles within the pantheon [Dumézil 1952; 1958; 1968; 1971]. Relying on the assumption about the unity of the systems of Indo-European religions and mythologies, G. Dumézil developed and pursued a three-tier research programme covering:

- Studies of comparative three-function theology (series of works devoted to the personifications of magic-juridical, military and production functions);
- Analyses of literature and myths from the angle of the presence of the three--function division of roles;
- Monographs of the mythologies of Indo-European peoples – a historical outline of religion discussing the problem of the rise and decline of their common elements.

The Indo-European mythology is reconstructed from historical records dating back to different periods, areas and societies. Hence, the reservations about its use in prehistoric interpretations are similar to those quoted above in relation to the linguistic reconstructions of Indo-Europeans' worldview and reflect an on-going dispute among scholars which of the two disciplines is entitled to study these matters. The criticism of Dumézil's method by a broad range of Indo-European scholars, including archaeologists, focuses on several of its aspects. Besides a lack of a temporal perspective, the critics point to the 'inadequacies' of the inherently hierarchical system of three-function division for the study of simple societies. This reservation cannot be ignored in any discussion, but, in my opinion, it is not sufficient to justify the giving up of the interpretative potential offered by Indo-European mythologies. Indeed, what is available for analysis is written records of myths or epics that for an unknown time existed as oral transmissions. Over this time, a tale, being the collective memory of a group, evolved – underwent a kind of translation into the language and conditions known to and understood by the audience. Unchanged remained only the core of the tale. It must be remembered, however, that 'Dumézil's triad' refers to the competences of supernatural powers and not to the world of humans. Dumézil himself stressed that one should not expect the triadic ideology to reflect a tripartite division of a society on every occasion. For it reflects in fact another temporal plane or the 'beginnings' when the order of things was established.

Next to the work of Georges Dumézil and the continuators of his school of studies of 'new comparative mythology', of great importance for the development of this discipline was the study of beliefs and rituals of tribal societies by scholars representing a broad spectrum of anthropological disciplines: psychology, sociology, ethnology and religious studies [cf. Freud 1967; 1982; 1993; Radcliff-Brown 1965; Lévy-Strauss 1969; 1973; 1998; Leroi–Gourhan 1966; Durkheim 1991; Eliade 1959; 1966; Van Gennep 1977]. These works analysed questions of mythology primarily from the plane of discussion focusing on the systems of beliefs and notions of particular peoples and their languages. The objectives of archaeologists coincide here in a sense with questions posed within cultural studies. The discussion of rituals as such, and in particular funeral ones, and the notion of death and related beliefs do not have a long tradition in archaeology. Due to the nature of sources available for observation, studies of this kind are pursued on the fringes of other fields such as physical and cultural anthropology, sociology, religious studies etc. As a new area of inquiry, the studies arose in response to the growing interest of scholars in the way how humans organized their environment and what values they put on its elements.

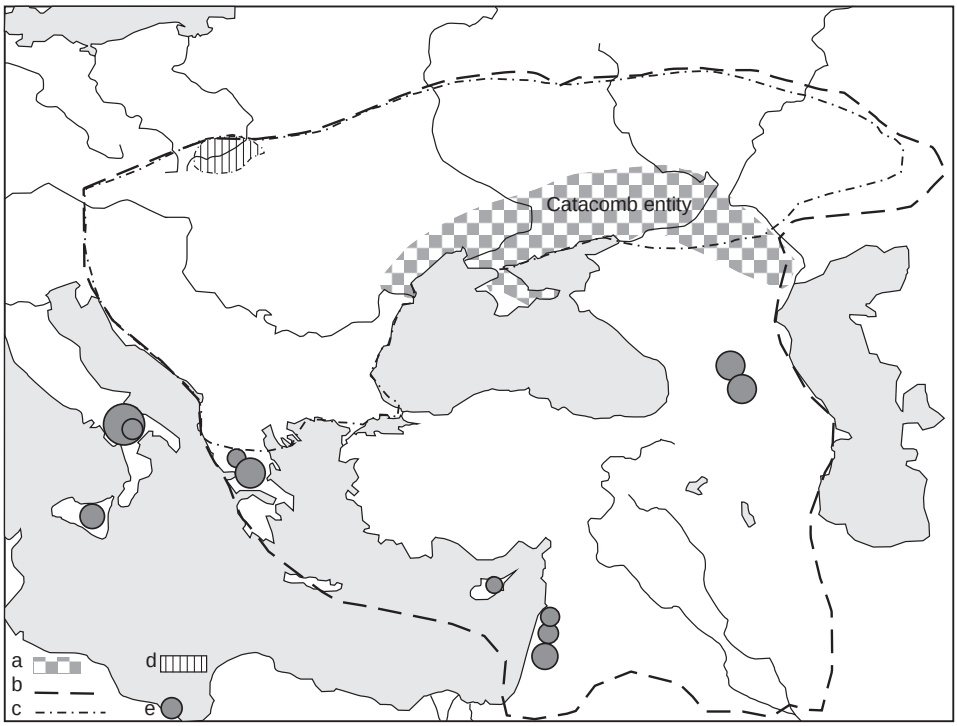


Fig. 3. Circumpontic metallurgical province in the 3rd millennium BC [according to Chernykh, Avilova, Orlovskaya 2000]. a - Catacomb entity; b - Circumpontic metallurgical province in the 3rd millennium BC; c - Circumpontic metallurgical province in Eneolithic (Balkan-Carpathian metallurgical province); d - Kraków-Sandomierz group of CWC; e - incidence of catacomb grave construction

What is available for archaeological observation is, in the words of A.P. Kowalski, relics of past events, fragmentary and deprived of a context in a sense (I do not mean here the context of a find but rather a multifaceted context of 'happening'). Today's prehistory is no longer satisfied with giving only their typological description. It asks questions about the sense of such behaviour. This especially applies to funeral rites, vested with some kind of *sacrum* in which '...archaeologists see mirrors of symbolic thoughts of archaic man" [Kowalski 1999:172]. It is not possible to relate here all methodological approaches to the symbol and rise of symbolic thought (this discussion is related in full in the work by A.P. Kowalski already quoted). The discussion of the funeral rites of a cultural community I have undertaken respects A.P. Kowalski's assumption that 'a symbol does not yield itself to interpretation, but commands one to interpret it" together with the consequences of this assumption [Kowalski 1988: 114].

Funeral rites, in prehistorical approaches treated as an element of reality which is called 'symbolic culture'*, open up a space for exploring the meaning of recorded

* The term symbolic culture is used here as an element of a certain archaeological language of description. Its use does not mean that I take back my earlier assumption about the syncretic nature of an archaic culture.

behaviour. A myth could have been an element organizing this kind of behaviour and the whole reality as well. The meaning of a myth could have been twofold: a specific mental structure and a transmission of worldview. It contained a vision of afterlife and the condition of man 'here and there'.

The death of a member of a group puts it in an extreme situation by disturbing the established order. It is hard to tell whether archaic societies knew the notion of death as a natural element of life. The departure of a group member did not occur without an external cause – it was occasioned by hostile powers (e.g. sorcery) and as such called for a specific response on the part of the group. Referring to a myth as a symbolic universe allowed people to overcome the crisis by repeating precedent measures as defined in the myth. Such a rite became a 'myth in action', a re-recreation of the world in agreement with the cosmogonic vision [Kowalski 1988: 115]. These assumptions expand the scope of interpretation of the past reality.

This monograph is not intended as a study in religion. Hence, it shall not give a full review of contemporary research approaches within the religious studies and Indo-European mythology. For a review of mythological symbols and tropes used in this monograph, the reader may wish to consult *Słownik mitologii ludów indoeuropejskich* [A Dictionary of Mythology of Indo-European Peoples] by A.M. Kempiński [1993] and the vast bibliography of the subject compiled by its author.

II. CULTURAL SITUATION IN THE NORTHERN PONTIC AREA IN THE BRONZE AGE

The purpose of this Chapter is to outline a general cultural situation prevailing in the Northern Pontic Area in the periods when Catacomb entity phenomena were about to emerge and when they flourished. A particular emphasis has been laid on the presentation of the funeral traditions of cultural entities discussed and the occurrence of traits shared with the Catacomb entity. Consequently, the primary task has been to give the cultural background against which the Catacomb entity developed in the areas covered by this monograph, which shall be the subject matter of the first part of this Chapter. The second part shall give the chronological range of the Catacomb entity and attempt to synchronize the taxon with the cultural environment of the areas lying farther away from the Black Sea.

II.1. THE CULTURAL SITUATION IN THE NORTHERN PONTIC AREA: LATE ENEOLITHIC – MIDDLE BRONZE AGE (3600-1500 BC)*

Expanding the chronological brackets in this part of discussion seems justified to me, in the first place, by the genetic relationship holding between certain traits of the Catacomb entity's funeral rites or inventories and a local substratum or the synchronic cultural systems of neighbouring areas. Moreover, the Eneolithic is believed to have been an initial stage in the process of the rise and operation of the Circum-Pontic system of cultural information circulation.

II.1.1. LATE ENEOLITHIC GROUPS ON BLACK SEA STEPPES

This section shall discuss two groups of cultural phenomena related to different definitions of the Eneolithic: the western Eneolithic represented by the groups of the late TC (chiefly Usatovo) (II.1.1.1) and the eastern one known as the 'steppe' Eneolithic.

* Periodization and chronology consistent with those adopted in *BPS* vol. 12 [Klochko, Kośko, Szmyt 2003: 411-414].

A comprehensive description of this culture can be found in the literature on the subject [cf. *Davna istoriya*... 1997; Videiko 2003], hence it shall not be repeated here, but instead only a selection of aspects of the TC shall be given. The period relevant for the discussion at hand covers basically only the development of TC groups, i.e. period CII.

The late period of TC development witnesses, in the first place, ever greater differentiation of socio-economic strategies visible in the rise of numerous local groups differing in certain traits [Chernysh 1982: 232-240]. These processes are the most strongly marked in the Usatovo group (located in the steppe portion of the North-Western Pontic Area, in the drainages of the lower Danube and Dniester rivers). The group mirrors the process of amalgamation of TC and steppe Eneolithic patterns.

The absolute chronology of late TC systems is still being studied in depth. The greatest number of dates comes from the region of the Usatovo group. Relying on the current state of our knowledge, in spite of certain controversies as to the methodology of interpreting ^{14}C measurements, it can be accepted that phase CII in the development of the TC continues as late as the beginnings of the 3rd millennium BC. Phenomena related to the Usatovo group may have survived on the steppes even until later into the 3rd millennium BC [Videiko 1999: 34-71]. The question of dating the decline of these systems acquires more importance in the context of the origin of pottery ornamentation found in the western branch of the Catacomb entity and, in a broader perspective, the genetic relationships of this whole branch. For this monograph, the most important trait of TC groups in the period in question is the rise of the custom of burying the dead in separate cemeteries lying outside settlements. Funeral rites differ greatly in individual local groups. In the forest-steppe zone, in the drainages of the middle and upper Prut and Dniester rivers flat cemeteries dominate, whereas in the Usatowo group burials under barrows prevail; on many occasions these are principal burials over which a barrow was built. The most marked change is registered in the contexts of the Sofievka group where the custom of cremating bodies and placing the ashes in an urn or an organic container developed [Masson, Chernysh 1982: 241-252]. From the point of view of the territorial range covered by this monograph, of special importance is the Usatovo group. The funeral rites of this group have been explored relatively well. Next to flat cemeteries, where bodies were buried in simple graves, from the area settled by the group we know of clusters of barrows or single mounds containing from one to several burials. Attention is drawn to the complex architecture of grave layouts and the complexity of features accompanying the graves. On many occasions, grave pits under a barrow were covered by a stone

ceiling and marked with a stele bearing a zoo- or anthropomorphic design. They were surrounded by a structure reminding one of a cromlech open to the north and south. Relying on available data, it can be assumed that erecting a cromlech was preceded by a long series of activities connected with the burial. Their traces are visible in a number of pits and hearths close to the grave or within the circumference of the later stone structure. The third stage of building a burial place might have consisted in the building of an earthen mound over the grave and cromlech [Masson, Chernysh 1982: 249]. Single burials dominate. The body was laid on its left side, regardless of its sex, in a crouched position, with the hands raised to its face and the head pointing NE. The inside of the pit shows traces of preparations for the burial among which are a layer of white lining underneath the body and traces of ochre. Inventories accompanying the dead are quite varied as well. The basic type of objects seems to be vessels – containers holding food given to the deceased. They were usually placed close to the head. In the graves of children one can also find anthropomorphic figurines and rattles while in those of men – tools or less often elements of weapons (e.g. daggers). Ornaments, including silver temple rings or different kinds of beads, are found too, but, in my opinion, they are not part of inventories but rather elements of dress worn by the deceased [Masson, Chernysh 1982: 241-252]. The brief description of the funeral tradition given above reveals a fundamental change that occurred in the late period of the TC development. The change involved primarily the need to separate the world of the living from that of the dead. This, in turn, brought about separate necropolises. Some elements making up this tradition can be observed in later periods as well.

II.1.1.2. STEPPE ENEOLITHIC GROUPS

The term used in the heading refers to late groups forming part of the steppe Eneolithic. It covers a number of complexes highly diversified in terms of their cultural descriptions and primarily known from grave sites. The complexes are further divided into smaller taxonomic units on the basis of varied pottery characteristics [Rassamakin 1994: 29-70]. It seems, however, that in spite of minor differences in their cultural descriptions, they reflect a horizon of changes taking place in the Late Eneolithic and the Early Bronze Age. However, it is not the object of this monograph to describe in detail steppe Eneolithic groups; such descriptions can be found in relevant publications [cf. Danilenko 1974; Rassamakin 1999: 59-182; 2004].

Within the concept of steppe Eneolithic several local varieties are distinguished, which are given the status of separate groups or cultures in the literature. Among such varieties are the cultural traditions of Nizhnaya Mikhailivka (between

the Danube and Don rivers in the steppe zone), Sredni Stog (forest-steppe areas mainly in the interfluve between the Dnieper and the Don) and, the most important from the point of view of this monograph, Zhivotilovka-Volchansk reflecting the period of transition from the Eneolithic to the Early Bronze Age. Until recently, the dating of these traditions has relied solely on typochronological analyses. It must be stressed that radiocarbon measurements are still few; relying on the set of ^{14}C dates available now, the chronological range of the traditions related to the late steppe Eneolithic can be dated to the latter half/turn of the 4th millennium BC. The most striking characteristic of the traditions is the variety of burial forms. The funeral rites of the groups belonging to the northern branch of these traditions are not uniform. They include burials in simple, oval-like pits deprived of any surface structures like mounds or barrows (this situation is observed in 'older' branches) or covered with a barrow. The positions of bodies in graves are quite varied as well. The supine position with the legs flexed and the palms of hands resting on hips or with legs and hands stretched prevails (some scholars call this group of burials a separate horizon of the so-called extended burials – cf. Kovaleva 1984). The dominant orientation is the head pointing east, although this is not an absolute rule. The question of the use of ochre in the funeral rites and the differentiation of grave goods categories is somewhat problematic. In the older branches of these traditions (so-called Skelanska and Kvitanska cultures according to Y.Y. Rassamakin 1994), the use of ochre in burials is frequent and grave-goods categories are more diversified. However, in the case of other branches of this complex of phenomena (i.e. Stogovska and Dereivka according to Y.Y. Rassamakin 1994), the funeral rites call for more research. In the southern branch of the steppe Eneolithic, the organization of burial places seems to form a relatively uniform complex. The dead were buried in oval pits, lying on their sides in a crouched position with one hand flexed and the other stretched, and the head pointing E. Over the graves, there were built earthen mounds. In these burials, ochre does not cover the whole bottom but rather it is spread in zones. The most frequent category of grave goods is flat-bottom vessels with a clearly marked neck. From the point of view of funerary traditions, it is especially interesting to trace the situation that prevailed in the Northern Pontic Area in the late 4th millennium BC. A cultural balance obtaining between groups related to the Balkan and steppe versions of the Eneolithic gave rise to a new syncretic group of phenomena known in the literature as Zhivotilovka-Volchansk. The new quality, encompassing elements of the late stage of the TC and the Novosvobodnaya phase of the Maikop culture, was supposedly formed by a two-stage migration: west→east and east→west [Rassamakin 1996: 112-132]. A precise chronology and dynamics of these phenomena are not completely clear at present and call for further detailed studies. In the area where the traits of the Zhivotilovka-Volchansk group occur, funeral rites are quite uniform. They are characterized by burials in rectangular pits, frequently having two chambers formed by a narrowing in their lower portion. The corpse was placed in a contracted position on its side with hands

raised to its face, which is interpreted as a characteristic borrowed from the tradition of the Usatovo group. There are many other traits having affinities with the same development trend in Zhivotilovka-Volchansk pottery assemblages. Within this group, there are burials in graves built like catacombs. The literature on the subject assigns to these features the earliest chronological position among constructions of this type in south-eastern Europe [cf. Rassamakin 1999]. This view is based solely on typochronological findings and needs to be verified by ^{14}C measurements.

II.1.2. THE EARLY BRONZE AGE – YAMNAYA CULTURE GROUPS*

The beginning of the Bronze Age in steppe and northern forest-steppe zones is marked by the rise of phenomena associated with the Yamnaya culture. The area where they occur is basically the same as area occupied by the Catacomb culture. The questions of the chronological bracket of the YC development and the co-existence of the two groups are heatedly discussed by Ukrainian scholars, with any agreement being rather far away [cf. Nikolova 1999a: 80-102; Telegin, Pustovalov, Kovaliukh 2003: 132-184]. Some points raised in this discussion have already been dealt with in Chapter I. For the purpose of this monograph, I adopt a chronology consistent with the latest proposal by D.Y. Telegin, S.Z. Pustovalov, N.N. Kovaliukh [2003: 132-184]. The chronology is based on a comprehensive analysis of a set of 210 measurements. According to it, the YC developed in the Northern Pontic Area in the period from 3300/3200 to 2100/2000 BC. This sheds a new light on the question of dynamics of cultural changes in the area. In this approach, in the second half of the 3rd millennium BC, there simultaneously developed groups of the Late Eneolithic and Early Bronze (YC) types. On the other hand, this indicates a partial synchronicity of the YC and the Catacomb systems treated as a reflection of the processes characteristic of the Middle Bronze Age.

The funeral rites of the YC have been an object of many studies focusing on both typochronological findings and social or ideological reconstructions [cf. Pustovalov 2000: 156-165; Ivanova 2001]. The rites play a significant role in the investigations of the spreading of the Indo-Europeans. According to M. Gimbutas, the spreading of these phenomena made the continent Indo-European (the 3rd wave of *kurgan* people) [Gimbutas 1963; 1966; 1970; 1977; 1980; 1985; 1994].

Only general characteristics of the YC funeral rites shall be presented here. Within the whole area settled by the YC, certain local traits developed observable also in the funeral rites, but they are not radical departures from the mainstream traditions when the whole picture is taken into account.

* In conformity with the proposal contained in *BPS* vol. 12. I include the YC among the phenomena related to the beginnings of the Bronze Age [Klochko, Kośko, Szmyt 2003: 396-414]. The significance of this proposal lies not in the strict division of time but rather in the categorization of phenomena.

The YC funeral rites were a barrow or *kurgan* tradition. Over a central grave an earthen mound was built. On many occasions, already existing barrows, built over Eneolithic graves, were used for a burial. On such an occasion a secondary mound was built or only some earth was added to an existing structure. The number of graves dug in the mounds of older barrows, as well as those associated with the YC, may be interpreted along the lines of a subsisting tradition of designating a special place for holding rituals.

The dead were buried in simple rectangular pits, less often in oval ones, or in bipartite pits – pits with a protrusion. The graves were often covered with wooden or stone slabs. The dead bodies were laid in the supine position with their knees slightly bent. The rise of the custom of placing graves along the barrow edge (in a circular manner), maintaining the orientation corresponding to the circular arrangement of graves and laying the dead in the crouched position on their side with the palms of hands next to their knees, is interpreted as a borrowing from the environment of the Catacomb entity [Telegin, Pustovalov, Kovaliukh 2003: 132-184]. The use of ochre is very frequent and the grave pits are prepared for burial in various manners. The most common category of grave goods seems to be pottery; bone or animal tooth ornaments, including hammerhead pins, are slightly less common. The inventories include also a number of flint and stone tools (mainly grindstones and hammerstones). Metal objects are as a rule restricted in pit graves only to ornaments (copper bracelets, spiral pendants, temple rings, and ferrules; only rarely are they made of gold or silver). Metal elements of weapons are less frequently recorded (however, sets of a copper knife and awl do appear). The inventories of weapons made of non-metallic materials include stone axes, and flint spear- and arrowheads.

Certain traits of the YC funeral rites have acquired a special significance in the academic discourse. One of them is a 'wheeled cart' burial. This is a grave in the architecture of which elements of a four-wheeled cart have been incorporated. Usually, these are two pairs of disk wooden wheels placed in the pit corners on the level from which the grave was sunk or on the protrusion. Such graves are widely discussed in the context of the origins and chronology of wheeled transport, and the use of draught animals, in particular the horse.

A significant characteristic of the rites is the presence of anthropomorphic representations on the surface of stone slabs covering graves. The representations show a simplified male figure wearing a belt behind which an axe is stuck. Next to simplified drawings of axes also other weapons (bows, spears?) were represented on the slabs as well as human feet. These images are often interpreted as the representations of the Indo-European god of thunder – the central character of the myth about a cosmogonic struggle in which the thunderwielding god defeats a chthonian deity – a serpent and releases vital forces hidden by it (identified with cattle or water) [cf. Danilenko 1974; Polidovich, Tsmidanov 1995: 52-63; Ivanova 2001: 76].

This observation acquires a special significance in the light of my further discussion. The primary reason is the association of the thunderwielding deity with

the funeral context (including the presence of barrows) and a number of other traits (cattle, images of feet, a bow with arrows etc.) that yield to interpretation along the lines of the Indo-European primeval myth. Similar traits can be also observed in the grave contexts of the Catacomb entity.

II.2. CHRONOLOGY OF CATACOMB ENTITY PHENOMENA

Both globally and on the level of individual local cultures/groups, chronology building is far from being satisfactory. According to the traditional version of cultural changes in the steppe and forest-steppe zones of the Northern Pontic Area in the Bronze Age, the Catacomb entity settlement superseded the YC remains and preceded the rise of the Mnogovalikovoy Pottery culture. Hence, the settlement supposedly fits in the bracket of 23/20rd-17th century bc (uncalibrated) [Bratchenko 1976]. The scheme of three-stage internal development provides for the dating of the early stage to 2200-2000 bc (in the calibrated version it corresponds to 2400-2200 BC), when the YC traits are still visible (position of the body, bone inventories, round-bottom vessels). In the middle stage – 2000-1800 bc (2200-2000 BC) – Catacomb entity local varieties developed. The next century, however, was to witness burial and inventory traits becoming less varied and the appearance of the roller pattern in pottery ornamentation, which supposedly confirms the genetic relationship between the Catacomb entity and the Mnogovalikovaya culture (according to the Russian terminology – Mnogovalikovoy Pottery culture/Babino) [*Arkheologiya Ukrainskoy*... 417-418]. With more radiocarbon measurements available concerning the contexts of the unit in question, it was possible to introduce significant corrections to the above dating scheme, specifically to move its beginnings deeper into the 3rd millennium BC.

II.2.1. ATTEMPT AT RELATIVE PERIODIZATION

The issue of relative chronology of Catacomb grave assemblages, approached from the perspective of both genetic and regional studies, is one of the most widely discussed problems. Some basic data for analysing relative chronology, apart from stratigraphic relationships within the barrows containing catacomb burials, are obtained by analysing the grave structure and the position of the body. The typochronology of grave assemblages is given an auxiliary role.

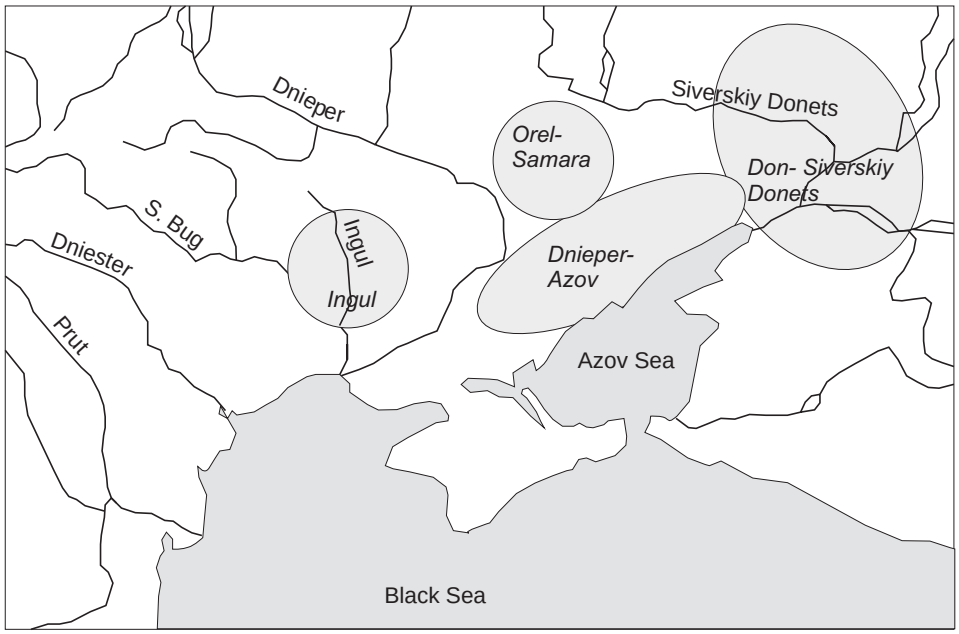


Fig. 4. Location of main regional groups

II.2.1.1. PERIODIZATION AT THE LEVEL OF LOCAL GROUPS

The periodization schemes developed so far concern the situation at the level of regional groups (cf. Fig. 4). Before I endeavour to define/redefine individual development stages of the phenomenon in question, it is worthwhile to review the periodizations that have been hitherto developed for the local level.

a. The Periodization of Catacomb Phenomena in the Dnieper-Northern Donets Region

The most systematic attempt to develop a periodization for the catacomb phenomena concerns the assemblages of the catacomb community's eastern stretches. The hallmark of early catacomb graves was their T-shaped structure consisting of a shaft with marked corners connected to an oval or rectangular chamber through a corridor having steps or an inclined gangway. The body usually lay on its right side in the crouched position. It was common to use ochre and block the entrance to the burial chamber with stone slabs or, less frequently, organic coverings [Bratchenko 1976: 32, Fig. 11]. A late group of catacomb assemblages was to be represented, in the said author's opinion, by two groups: Bakhmut (right bank of the lower Don) and Manych (left bank of the lower Don and the drainage of the Manych River). The former is characterized by catacombs resembling the letter H having circu-

lar/oval or rectangular shafts parallelly adjoining to the chamber of a similar size*. The way of placing the dead did not significantly change. In some cases the hands of the buried person were raised to the face. This is consistent with the way of placing bodies in graves prevalent in the Late Bronze Age.

What also changed was the proportions and ornaments of vessels. Of assemblages known as Bakhmut, vessels with marked tectonics, high proportions, a broadened neck and decorated with horizontal relief patterns are characteristic. In Manych complexes, the form of grave and the position of the body are similar to those discussed earlier. Pottery assemblages include so-called turnip-like (*repovidnye*) vessels; there is also a clear tendency to decorate rollers on the vessel surface with several lines and to make vessel lips thicker.

In this approach suggested by S. Bratchenko, Donets assemblages were the earliest in the Don-Donets region and belonged to the classical phase. Hence, 'Catacomb culture' (Catacomb entity) emerged in the area in question in the developed form. This scheme was later supplemented by an 'early-Catacomb' phase by the same author. The hallmarks of the Catacomb entity in its early stage of development, besides the T-shaped structure and the corridor with steps, were chambers with pronounced corners and the custom of laying the dead in the 3/4 position (i.e. on their side, with the trunk turned to lie on its back and with legs slightly flexed) [Bratchenko 2001]. In my opinion, it must be accepted that the customs of laying the corpse on its right side or on its back with legs flexed co-existed.

b. The Periodization of Catacomb Phenomena on the North-Eastern Coast of the Sea of Azov

In the scheme suggested by S.N. Sanzharov, the earliest complexes in the area were those identified with the so-called Dnieper-Azov Catacomb entity. They were characterized by the following set of traits: a T-shaped catacomb, a rectangular shaft, and rectangular or oval burial chambers. The dead were placed in a slightly flexed position on their back or on the right side, similarly to the situation in the early catacombs of the Siverskiy Donets and Don drainages. Round-bottom vessels with little ornament of the YC type and bone jewellery (including hammerhead pins) found in those graves support, in the cited author's opinion, the hypothesis about the early chronology of those complexes. The late phase of the Catacomb phenomena on the north-eastern coast of the Sea of Azov is represented by complexes corresponding to Ingul, Donets and Bakhmut groups [Sanzharov 2001].

c. The Periodization of Catacomb Phenomena in the Region between the Orel and Samara Rivers

In the case of area between the Orel and Samara rivers, the most comprehensive periodization scheme is given in a work by Kovaleva [1983]. A scheme of units, distinguished relying on the data concerning architecture, body position and grave goods, was correlated with barrow stratigraphy. Three ritual groups suggested by

* In the Russian and Ukrainian terminology the terms **т-видна** and **н-видна** are used [cf. Bratchenko 1976].

the said author correspond to the three development horizons of Catacomb groups in the region. The earliest group is made up of burials belonging to so-called ritual group I (both shaft and chamber have pronounced corners, the body is laid on its back with the legs flexed; grave goods include round-bottom vessels following the style of the YC and other vessels with funnel-shaped lips following the tradition of the Neolithic Dnieper-Donets groups). The most numerous is group II, occupying a middle position in the barrow stratigraphy as well. This group comprises layouts with a circular/oval shaft and chamber, and either extended supine burials or ones with the corpse laying on its right side. Group III, a late one and relatively sparse, is made up of graves in which the position of the body lying on its right side with the hands either next to the face or knees is dominant, while grave goods consist mainly of pottery following the patterns of late Donets, Bakhmut and Manych.

d. The Periodization of Catacomb Phenomena in the Drainage of the Ingul River

The Catacomb entity phenomena in the drainages of the Ingul and Southern Bug rivers follow the development patterns of the regions discussed above. The following periodization scheme is based on findings made by O.G. Shaposhnikova, V.N. Fomenko [2002].

Relying on observations of barrow stratigraphy and typochronology, two groups of burials were distinguished. The first and earlier group is characterized by the co-occurrence of crouched and extended burials (with the former dominating) in catacombs having a shaft with pronounced corners and accompanied by pottery following the Late Yamnaya style and other vessels with flat bottoms and decorated with complex motifs reminding one of the ornaments of Usatovo pottery. Already at this stage, traits typical of the IC are clearly visible: catacomb shape, vessel morphology and ornamentation.

The second – late or classical – development stage of catacomb phenomena in the area is connected with the flourishing of the IC. The funeral rites are unified. The dominant form of the catacomb is a structure consisting of a circular shaft and an oval chamber, where the corpse was laid in the extended supine position. Also in the sphere of ritual behaviour and grave-goods assemblages a number of innovations appear, which give these phenomena the status of a separate entity (masks, feet and signs painted with ochre on chamber bottoms, decorated Ingul axes) [Shaposhnikova, Sharafutdinova, Fomenko, Dovzhenko 1980: 8-17; Shaposhnikova, Fomenko 2002: 135-138; Kaiser 2003].

This review does not cover the North-Western Pontic Area. Authors writing on the subject take the Prut drainage and the Danube estuary as the western limit of the catacomb phenomena [cf. Toščev 1998]. Beyond this conventional border, catacomb type graves are recorded as well, but they do not form a compact set of traits. Most of such graves, in terms of structure and corpse position (extended), remind one of the IC; although there are also cases known from northern Moldova where catacombs have rectangular shafts and bodies are placed in the crouched position [Kaiser 2003: 48].

Conclusions:

The discussions of the internal periodization of Catacomb entity phenomena focus, in the first place, on the changes in the architecture of grave layout and the position of the body. The inventory criterion, taking into account the presence of forms not belonging to the assortment of the discussed unit, is treated as an auxiliary one. From the point of view of my research, the adoption of such an order of importance of traits is justified by my attempt to reconstruct funeral rites and the rate of their changes. Consequently, I have qualified individual graves by comparing the periodizations of several burial elements. The analysis was carried out in accordance with the following order of importance:

- Qualification of the 1st order – presence of a catacomb → architectural group,
- Qualification of the 2nd order – position of body → ritual group,
- Qualification of the 3rd order – pottery,
- Qualification of the 4th order – other inventory elements.

Horizon I. According to the views expressed in the literature on the subject, the earliest level of phenomena associated with the Catacomb entity is defined by burials in graves of complex architecture. Among the distinctive traits of the catacombs subsumed under this horizon are, in the first place, a large chamber with pronounced corners and, secondarily, a shaft of this same shape. Relatively frequently, however this is not an absolute rule, both parts were joined by a dromos with an inclined gangway or a flight of steps. This architectural group is rather small representing 12 per cent of graves I have analysed; however, its share in individual test groups is considerably varied. Such graves are most frequent in the Dnieper (Verkhnetarasovka group – about 45%, Orel-Samara – 10%) and Northern Donets drainages (Donetsk-Luhansk – about 19%).

Horizon II. At the next stage, the grave structure is visibly simpler. In the interfluvial area between the Dnieper and Prut rivers and the steppe belt east of the Dnieper (area of the so-called Dnieper-Azov Catacomb entity), this is noticeable in the greater incidence of catacombs consisting of a circular shaft and an oval chamber (excavated without taking care to keep it rectangular). In the remaining areas, the simplification of structure is limited to the grave chamber which loses its rectangular shape. At this stage, dromoi and steps in shafts are less frequent.

Horizon III. The late stage is rather hard to identify relying solely on grave architecture. The most conspicuous change is the reduced size of the whole layout. The division of the grave into two parts gradually disappears, which makes the shaft seem to 'hover' over the chamber or cut through part of it. The most frequent form is the H-shaped catacomb, in which the longer axes of the shaft and chamber are of similar size.

The above scheme of three horizons has an advantage of organizing the observed tendencies. Inventory criteria, consistently with the assumption made earlier, are treated as auxiliary ones only. Conferring on them a secondary status here, especially with respect to pottery inventories, calls for a few words of explanation.

Table 2

The share of individual horizons in test groups

Group	Phase I	Phase II	Phase III	Unknown
Molochna	37	42	4	13
Ingul	16	128	1	13
Budzhak	1	50	2	8
Orel-Samara	32	81	4	12
Verkhnetarasovka	23	22	2	2
Donetsk-Luhansk	19	120	52	15
Sum	128	443	65	63

The procedure followed is not tantamount to negating the significance of pottery as an identifier of traditions held by particular groups. On the contrary, in my opinion the presence of 'non-catacomb' pottery in graves having the structure of a catacomb may be a significant clue about the substrate onto which a new funeral custom was superimposed.

Putting side by side architectural and ritual groups in particular test groups allowed me to notice certain differences in the shares of several states distinguished. What draws attention is the relatively low share of horizons I and II in western groups, whereas in the case of groups situated in the Dnieper drainage, the share of forms associated with horizon I is high while in the Donetsk-Luhansk group the percentage of horizon III graves is high (Tab. 2).

II.2.1.2. TIME HORIZONS AND BARROW STRATIGRAPHY

The establishing of time sequences of catacomb graves seems to be particularly productive in the case of mounds where several phases of barrow building can be traced. This requires to select features where there are a greater number of catacomb graves representing different architectural and ritual groups. Next, it is necessary to explore stratigraphy well and be able to verify it using drawings. However, there are few ideal situations in which all the mentioned conditions are met including the occurrence of all three horizons within one mound.

A good example which shows the time sequence of individual horizons (in this case II and III) is barrow 6 in the Krasnaya Zarya group situated in the Donetsk-Luhansk (DL) test area [Sanzharov, Britiuk 1996: 58-132].

Built over a Late Yamnaya grave (9), it held eight burials in catacombs. The next building stage is related to grave 4, also of the late YC, over which a secondary mound was built. At its foot, a catacomb grave was sunk bearing the traits of horizon I (6) to which a third mound belongs. Its edge was the plane where

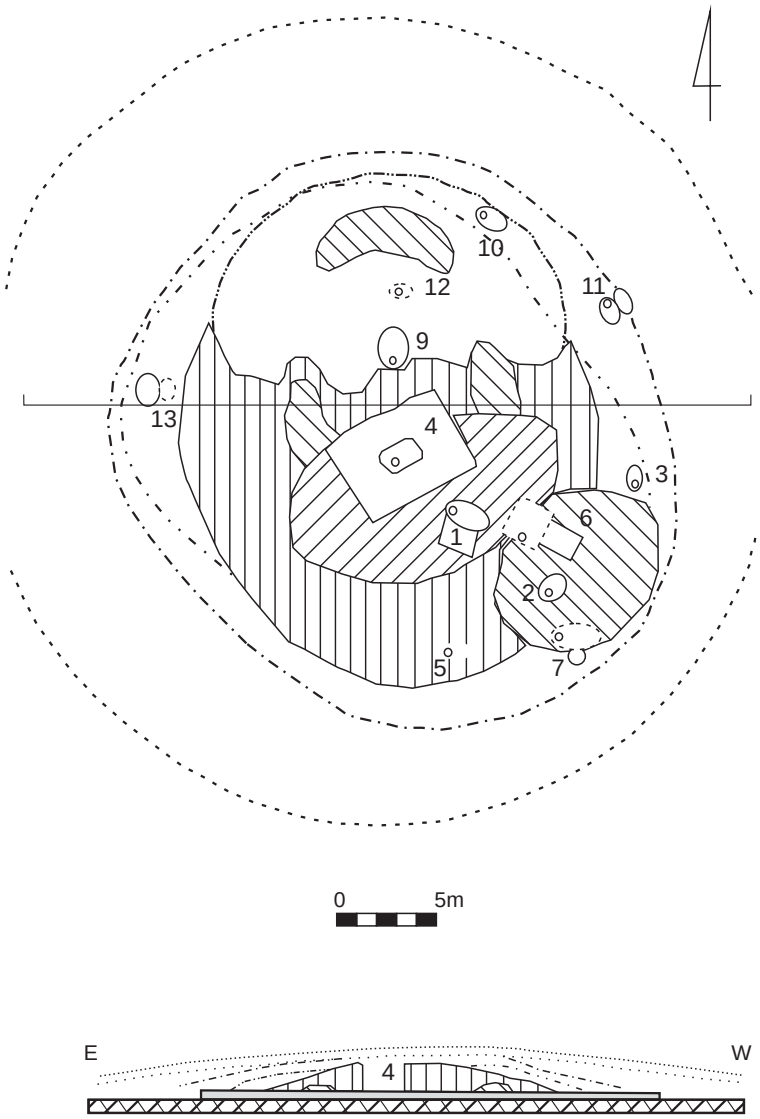


Fig. 5. Krasnaya Zarya, Luhansk District. Plan and section of tumulus 6

later catacomb graves were sunk (1,2,3,7,8,10,11) (Fig. 5). They do not form a uniform group but what they have in common is the presence of late characteristics relating to both grave architecture and inventory [Sanzharov, Britiuk 1996: 101-120].

The cases of direct stratigraphic contact – disturbance of one catacomb grave by another of the same kind – are not frequent. This is explained by the presence of aboveground structures marking the place of a grave in the mound. In the analysed

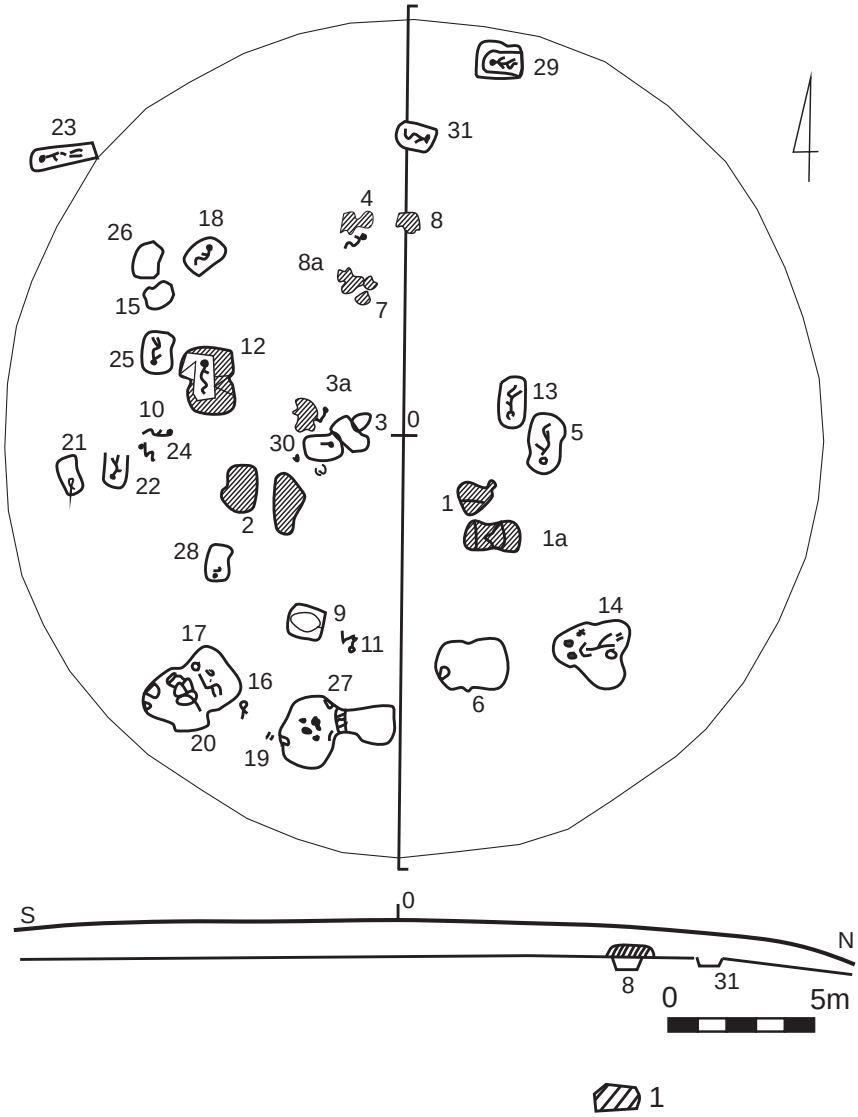


Fig. 6. Sokolovka, Mykolaiv District. Plan and section of tumulus 2. 1 - Stone constructions

group, the cases of disturbing catacomb graves by structures of the same taxon amount to only 1 per cent. In barrow Sokolovka 2, this is the case in graves 17 and 20 [Shaposhnikova, Bochkarev, Korpusova 1980: 17-71]. Grave 17, corresponding to horizon II of the western type (as far as structure and position of the body are concerned, it is consistent with the Ingul tradition), had damaged grave 20 so much that it was impossible to reconstruct either the form of shaft or the position of the body. The outline of the burial chamber suggests that it may have originally been

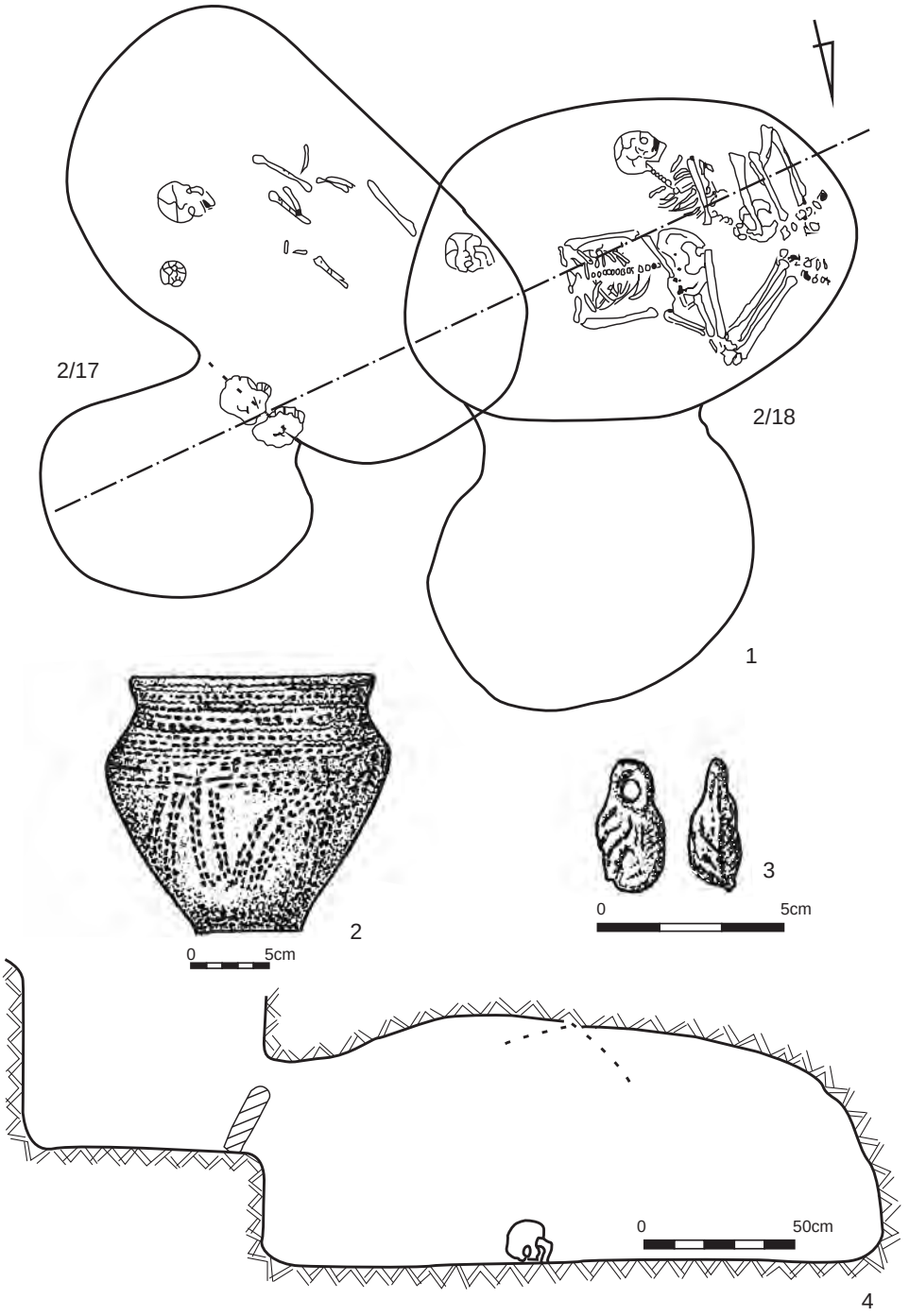


Fig. 7. Novorozanovka, Mykolaiv District. 1 - Grave 2/17 and 2/18; 2 - Vessel from grave 2/17; 3 - Pendant from grave 2/17; 4 - Section of grave

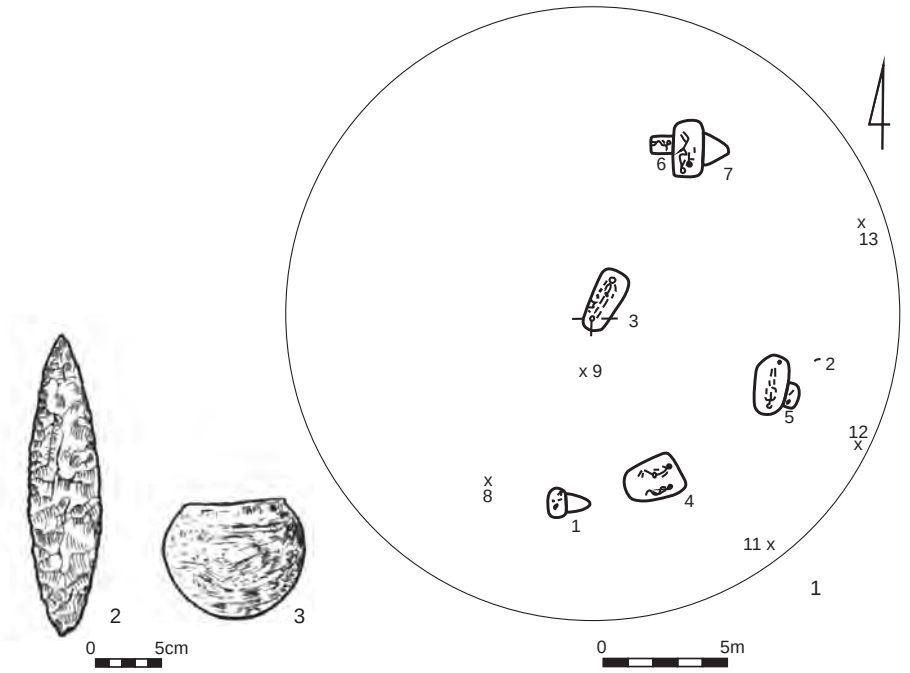


Fig. 8. Zamozhne, Zaporizhzhia District. 1 - Plan of tumulus 4; 2-3 - Inventory of grave 4/6

rectangular. The accompanying vessel corresponds in terms of style to Ingul vessels (Fig. 6). In the case of graves 17 and 18 from the barrow at Novorozanovka, there is little difference between the graves in terms of architecture – both correspond to the Ingul tradition [Shaposhnikova, Rebedailo 1977: 66-78]. Grave 17, specifically its eastern portion, was damaged when grave 18 was excavated. Support for the hypothesis that the latter has a later chronology comes from a sharp-profiled cup with high proportions and a broad neck (Fig. 7). Barrow Akkermen I 18 was built over burial 2 of unexplored structure and remains of a deceased person lying in the extended, supine position. Grave 3 holding the remains of two children, with one lying in the Ingul position, contained also a piece of a vessel decorated with a relief strip [Vyazmitina, Illinskaia, Pokrovskaia, Terenozhkin, Kovpanenko 1960: 22-135]. In barrow Zamozhne 4, grave 7 cut through grave 6. In both cases, burial chambers were rectangular (horizon I) while the corpses lay flexed on their right side [Smirnov 1960: 164-189]. In addition, in grave 6, a small round-bottom vessel was found (Fig. 8). The other six cases of catacomb graves cutting through one another in the analysed group do not supply any new data on time relationships holding between structures representing the distinguished horizons.

However, taking into account the cases of direct stratigraphic contact between two catacomb graves, reported in the literature on the subject [cf. Kaiser 2003: 59-60], I assume that the chronological-ritual horizons I have distinguished are

legitimate. I also assume that the horizons do not have a status of independent development stages. To their partial contemporariness may testify inventory elements dated differently. In my opinion, also genetically alien artefacts (e.g. round-bottom pottery of the Yamnaya type) may be considered as evidence of the partial contemporariness of YC and Catacomb entity phenomena. The question of the relationship of the discussed phenomenon to other taxa of the Northern Pontic Area shall be discussed below.

II.2.2. AN ATTEMPT AT ABSOLUTE CHRONOLOGY OF CATACOMB PHENOMENA

Considering the long tradition of research into the Catacomb entity, the question of its absolute chronological position has been raised in the academic discourse relatively recently and has continued to be much debated ever since. The last twenty-five years have witnessed a substantial increase in the number of ^{14}C measurements for catacomb phenomena. Some credit for the increase goes to the international research project, the findings of which are published in the *Pontic-Baltic Studies* by the Institute of Prehistory, Adam Mickiewicz University in Poznań and the Institute of Archaeology, Ukrainian Academy of Sciences in Kiev. However, despite the increase in the number of measurements available, the question of absolute dating of catacomb phenomena can hardly be considered as satisfactorily well explored. The reasons are many. In the case of catacomb phenomena, the inquiry into their chronological position focuses in principle on three issues, namely, general chronological brackets, development stages and the 'periods of cohabitation' of the Catacomb entity with such cultures as Yamnaya, Mnogovalikovoy Pottery and Srubnaya. [Kaiser 1999: 129-150; 2001: 81-102; 2003: 65-77; Nikolova 1999a: 80-102; 1999b: 103-128; Bratchenko 2003: 185-209; Telegin, Pustovalov, Kovaliukh 2003: 132-185]. One of the fundamental issues is the credibility of 'old' measurements. With some measurements it is hard to criticise or interpret the results due to the state the documentation of dated contexts is in. This is true, for instance, in the case of the so-called 'old series' referring to the Svatovo barrows. It turns out, upon a second analysis of these samples, that the dating of CC graves in this area needs to be made younger [cf. Bratchenko 2003: 185-208]. Moreover, significant difficulties in the study of the chronological position of catacomb complexes are a result of the fact that only single measurements are available and not whole series. The most promising would be series of samples taken from short-lived materials, i.e. bones, layers of carbon deposits on vessels, grains, reeds, grass, single tree rings [IA – cf. Czebreszuk, Szmyt 2001: 177].

As it has already been mentioned, the available ^{14}C measurements were explored best within the framework of the international research project funded with*. The objective of the query was to determine the development rate of the societies settling the Northern Pontic Area in the Bronze Age. As a result, 210 measurements were obtained for the YC and 74 for the phenomena related to the Catacomb entity. Among the latter, the largest and most comprehensive series is made up of data resulting from investigations at the region of Ordzhonikidze, Dnepropetrovsk district, and the hamlets of Golovkovka and Protopotovka, Kirovogrod district (14 measurements for catacomb phenomena) [cf. Kaiser 2001: 81-102; 2003: 65-77]. The table shown below refers directly to the table published by the authors of the cited work. For this reason I have given up presenting the data in full; instead, I have organized the measurements following the qualifications given by the said authors (EC – East Catacomb Province, IC – Ingul Catacomb Province) and the 'seniority' of calibrated measurements obtained [Telegin, Pustovalov, Kovaliukh 2003: Tab. 2] (Tab. 3, Fig. 9)**.

A. Criticism of sources

A certain restriction on inference seems to follow not only from the paucity of data, but also from their unique character. The measurements are burdened with a relatively high statistical error which is further multiplied during calibration. Another problem that we face when interpreting the data is the flattening of the calibration curve in the period 2880-2480 BC [Kaiser 2003: 68]. This period, according to the *BPS* vol. 12, corresponded to the period when the traits of both late YC and earlier forms of catacomb phenomena developed in the Northern Pontic Area. They supposedly co-existed there for ca. 1000 years, i.e. until late groups of the catacomb type emerged [Telegin, Pustovalov, Kovaliukh 2003: 184-184; Klochko, Kośko, Szmyt 2003: Fig. 1].

B. The Rate of Development of Catacomb Phenomena on the Local Scale

The questions of dating the inception of the phenomena related to the Catacomb entity and the length of its co-existence with the YC or, finally, the decline of the latter are the object of much debate in which opinions of scholars representing opposing views on prehistory clash. The first and traditional one is based on the gradual succession of cultures caused by some fundamental changes (e.g. migration of a fully developed taxon) or internal evolution set off by external factors [Krivtsova-Grakova 1938; Popova 1955; Nikolaeva, Safronov 1981; Nikolova 1999a: 103-128]. The second one holds that patterns mesh and merge, which is interpreted in social terms (e.g. the rise and life of stratified societies) [cf. Pustovalov 1994: 87-134; 1998b: 63-64; 2000b: 95-105; Telegin, Pustovalova, Kovaliukh 2003: 132-184].

* KBN grant no. 5H01H02121.

** In the table, calibration was carried out using Calpal 2002 software.

Table 3

Catalogue of ^{14}C measurements (following Telegin, Pustovalov, Kovaliukh 2003: 132-185)

Item	CC Group	Sample	BP	±	BC 1 sigma	±	Item	CC Group	Sample	BP	±	BC 1 sigma	±
1	EC	Ki - 1564	3600	75	1960	120	38	IC	Ki - 6567	3680	50	2060	80
2	EC	Ki - 906	3710	60	2100	90	39	IC	Ki - 6560	3680	45	2060	70
3	EC	Ki - 6566	3720	50	2120	100	40	IC	Ki - 6565	3690	45	2070	70
4	EC	Ki - 6562	3750	50	2160	90	41	IC	Ki - 9410	3640	60	2100	90
5	EC	Ki - 6566a	3760	50	2170	90	42	IC	Ki - 6561	3710	40	2100	70
6	EC	Ki - 1558	3800	90	2240	140	43	IC	Ki - 9398	4360	60	2120	100
7	EC	Ki - 6568	3810	50	2260	90	44	IC	Ki - 6556	3720	55	2120	80
8	EC	Ki - 892	3820	35	2270	60	45	IC	Ki - 6569	3730	45	2130	110
9	EC	Ki - 6555	3825	45	2290	100	46	IC	Ki - 6559	3740	45	2140	80
10	EC	Ki - 1567	3900	50	2370	70	47	IC	Ki - 6553	3745	50	2150	90
11	EC	Ki - 616	3910	70	2380	100	48	IC	Ki - 6610as	3750	45	2150	80
12	EC	Ki - 583a	3930	60	2410	90	49	IC	Ki - 6610	3765	45	2180	80
13	EC	Ki - 9415	3950	60	2440	100	50	IC	Ki - 6608a	3770	50	2190	90
14	EC	Ki - 618a	3950	70	2440	110	51	IC	Ki - 6563	3775	50	2200	80
15	EC	Ki - 7098	4015	60	2450	110	52	IC	Ki - 9403	3780	60	2210	120
16	EC	Ki - 2093a	3960	70	2450	110	53	IC	Ki - 9522	3780	70	2210	100
17	EC	Ki - 1229	3990	80	2500	130	54	IC	Ki - 9400	3710	60	2210	120
18	EC	Ki - 1200	4020	90	2580	150	55	IC	Ki - 6609a	3800	50	2240	100
19	EC	Ki - 1706a	4030	90	2600	150	56	IC	Ki - 6554	3805	45	2250	80
20	EC	Ki - 9412	3720	70	2630	120	57	IC	Ki - 9411	3805	70	2260	110
21	EC	Ki - 7096	4055	60	2650	140	58	IC	Ki - 6558	3835	40	2300	100
22	EC	Ki - 1561a	4070	80	2660	140	59	IC	Ki - 6736	3845	40	2310	100
23	EC	Ki - 521a	4080	70	2670	140	60	IC	Ki - 9397	3780	70	2320	100
24	EC	Ki - 1562	4100	80	2680	140	61	IC	Ki - 6609	3870	40	2350	100
25	EC	Ki - 2600	4100	80	2680	140	62	IC	Ki - 9405	3910	60	2380	110
26	EC	Ki - 9389	4145	70	2720	100	63	IC	Ki - 9407	3860	70	2380	80
27	EC	Ki - 9544	4060	70	2720	110	64	IC	Ki - 6735	3905	55	2380	80
28	EC	Ki - 1584	4200	80	2760	110	65	IC	Ki - 9408	3910	80	2390	100
29	EC	Ki - 9409	4120	60	2770	110	66	IC	Ki - 9416	3920	60	2440	100
30	EC	Ki - 1560	4200	65	2770	100	67	IC	Ki - 9393	3920	70	2480	110
31	EC	Ki - 7095	4200	60	2790	100	68	IC	Ki - 9543	3950	60	2570	110
32	EC	Ki - 9401	4280	70	2870	80	69	IC	Ki - 9546	4420	60	2710	110
33	EC	Ki - 9394	4230	70	2870	80	70	IC	Ki - 1564	4200	80	2760	110
34	IC	Ki - 6564a	3560	55	1890	90	71	IC	Ki - 9390	4020	70	3010	80
35	IC	Ki - 3368	3960	70	1970	110	72	IC	Ki - 9417	3980	70	3020	90
36	IC	Ki - 6564a	3620	55	2000	90	73	IC	Ki - 9418	4370	60	3120	100
37	IC	Ki - 9391	3605	70	2020	90							

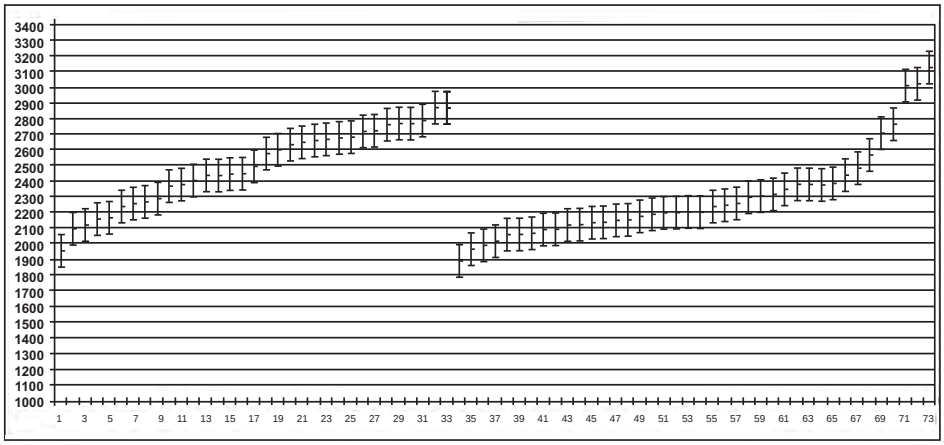


Fig. 9. Duration of individual cultural provinces (see Tab. 3)

Going back to the question of dating the beginnings of catacomb phenomena and that of their internal subdivision, data coming from large barrow groups seem to be more informative. This is so because such groups have a certain tradition of functioning in the context of *sacrum* related to the area set aside for mortuary practices. This kind of data is supplied by barrows from the region of Ordzhonikidze studied by E. Kaiser [Kaiser 2003].

Groups of barrows in the region of Ordzhonikidze. Graves related to the phenomenon in question were built in 2450-1950 BC. In this approach, they can be identified as the earliest group of burials corresponding to horizon I defined by me (Chernaya Mogila 3, Kruglaya Mogila 11/12) and co-occurring with graves of the Ingul-type structure (horizon II of the western variety). This observation also seems to support my assumption about a partial overlapping of the horizons [cf. Kaiser 2003: Fig 22].

Groups of barrows near Vinogradne and Zamozhne. Another group of barrows which has yielded a relatively large number of dates is situated in the drainage of the Molochna River, in the vicinity of the village of Vinogradne (cf. Tab. 4, Fig. 10, Tab. 3). The range, indicated by the dates, covers the period of more than 1000 years. Varying between 3100 and 2700, the earliest dates (Ki – 9401, 9394, 7095, 9389) fall on three elements of the curve: flat sections in the periods 3100-2950 BC and 2800-2480 BC and a drop from 2920 to 2800 BC. However, periods of the highest probability fall on a younger period corresponding with the second observed flat section of the curve. Another group of dates (Ki – 9544, 7096, 9390, 9417, 9543, 5408, 9393) also falls on a flat section of the curve corresponding to the period of 2800-2480 BC. The last group of dates (Ki – 9410, 9400, 9412, 9407, 9397 BC), falls on either a short period, lasting about 30 years, when the curve is oblique (2480-2450 BC) or another one when it drops slightly (1900-1450 BC), which means that dating is not very accurate.

Table 4

Barrow Group in the region of Vinogradne. List of ^{14}C measurements (see Tab. 3)

Site Vinogradne/Grave	Sample	Material
15/5	Ki – 7095	Wood
15/5	Ki – 7096	Wood
2/20	Ki – 9389	Bone
2/6	Ki – 9394	Bone
2/6	Ki – 9544	Bone
23/5	Ki – 9393	Bone
23/5	Ki – 9407	Bone
24/19	Ki – 9401	Bone
3/30	Ki – 9417	Bone
3/36	Ki – 9390	Bone
3/39	Ki – 9412	Bone
33/3	Ki – 9400	Bone
33/4	Ki – 9408	Bone
34/9	Ki – 9410	Bone
8/1	Ki – 9543	Bone
8/1	Ki – 9397	Bone

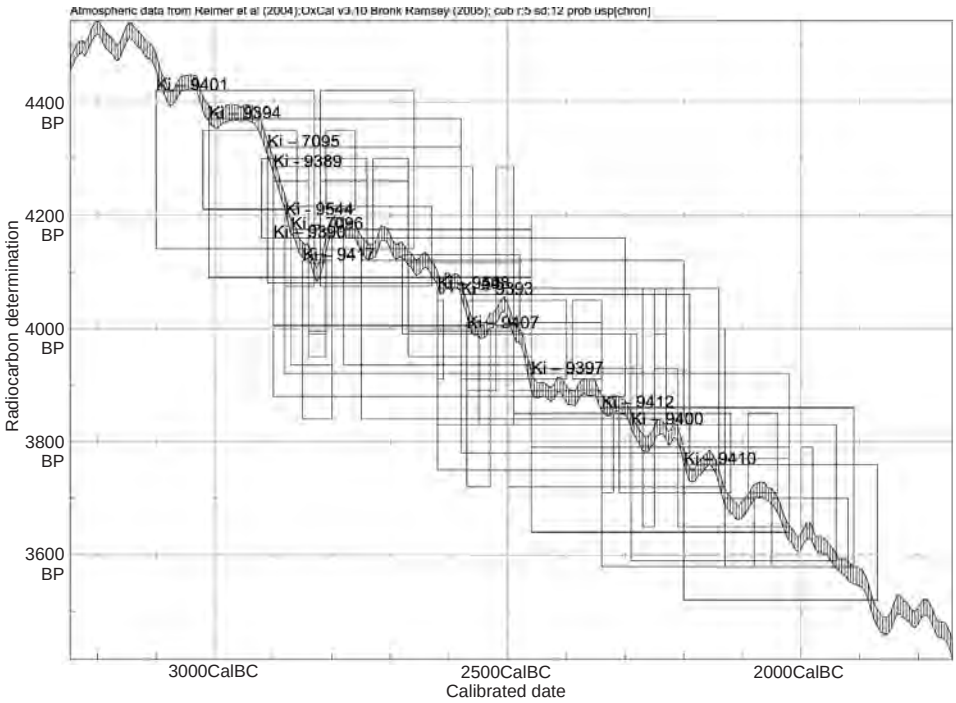


Fig. 10. Group of barrows near Vinogradne

Another group of measurements comes from the Molochna drainage as well, specifically, from barrows located near the village of Zamozhne (cf. Tab. 5, Fig. 11). Analysing the distribution of the five available measurements from the group of

Table 5

Barrow Group in the region of Zamozhne. List of ^{14}C measurements (see Tab. 3)

Site Zamozhne/Grave	Sample	Material
5/2	Ki – 9418	Bone
6/2	Ki – 9416	Bone
8/1	Ki - 9403	Bone
8/1	Ki – 9522	Bone
15/4	Ki – 9391	Bone

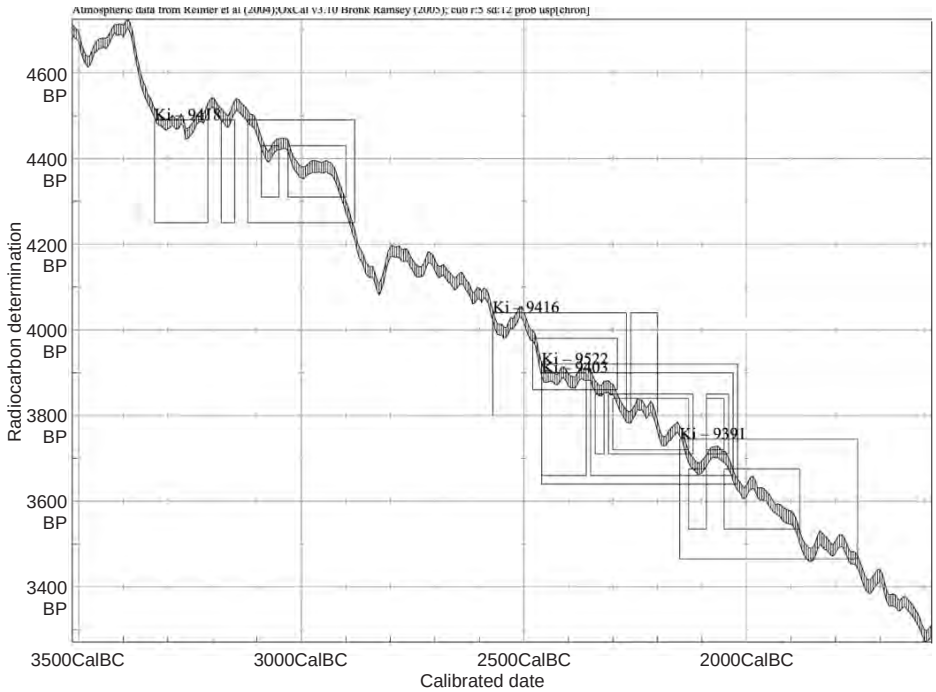


Fig. 11. Group of barrows near Zamozhne

barrows at Zamozhne, one can distinguish three groups of clusters within the curve. The earliest date refers to a sample from grave 5/2. The date falls on two flat sections of the curve (3320-3230 BC and 3100-2900 BC). Comparing the date with a general description of the grave and its inventory, one notices that in terms of architecture (horizon II – west) and grave goods (knife + awl, Ingul type axe, pot-like vessel with an ornament resembling IC pottery), the grave meets the standards of developed forms of catacomb phenomena in the area, with the position of the corpse being typical of the YC tradition. Hence, I believe that the dating of the grave to the end of the 3rd millennium BC does not contradict the source knowledge. Another group of measurements comes from graves 6/2 (Ki – 9416) and 8/1 (Ki – 9403, 9522) and falls on the period of 2450-2100 BC. The group is supplemented by a measurement

Table 6

Barrow Group in the region of Svatove. List of ^{14}C measurements (call numbers of new measurements are given in bold; see Tab. 3)

Site Svatove/Grave	Sample	Material
1/1	**Ki – 9932**	Wood
1/1	**Ki – 9933**	Wood
12/1	**Ki – 9856**	Wood
12/2	Ki – 1558	Wood
12/2	**Ki – 9857**	Wood
12/4	Ki – 1559	Wood
12/4	**Ki – 9858**	Wood
12/5	**Ki – 9859**	Wood
12/9	Ki – 1560	Wood
12/9	**Ki – 9860**	Wood
13/2	Ki – 1561	Wood
13/2	**Ki – 9861**	Wood
16/1	Ki – 1562	Wood
16/1	**Ki – 9862**	Wood
18/1	Ki – 1229	Wood
18/1	**Ki – 9863**	Wood
18/3	Ki – 1584	Wood
18/3	**Ki – 9864**	Wood
18/4	Ki – 1564	Wood
18/4	**Ki – 9865**	Wood
19/1	Ki – 1565	Wood
19/1	**Ki – 9866**	Wood
2/1	**Ki – 9931**	Wood
2/2	Ki – 620	Wood
20/1	Ki – 1566	Wood
20/1	**Ki – 9867**	Wood
20/3	Ki – 1567	Wood
20/3	**Ki – 9868**	Wood
3/2	Ki – 621	Wood
4/5	Ki – 892	Wood
5/1	Ki – 906	Wood
7/5	Ki – 1568	Wood

from grave 15/4 corresponding to the turn of the 3rd millennium BC. The graves form a compact ritual group.

A group of barrows in the region of Svatove (Tab. 6, Fig. 12). There were two series of radiocarbon measurements. The earlier group of dates comprises 16 samples while the later one only 12. The later series of dates resulted from a research project to study the chronology of cultural phenomena along the biocultural frontier of the East and West of Europe, the results of which were published in *BPS* vol. 12. The division of this complex into phases, as shown in the work by S.N. Bratchenko, corresponds to the scheme of horizons suggested my me. In his approach, the earliest dated graves in the Svatove barrow group correspond to horizon II of catacomb phenomena (middle Catacomb culture – classical Donets; graves 19/1, 13/2, 16/1, 20/1, 12/5, 12/4, 20/3, 12/9, 12/20). The second group is supposedly made up of graves

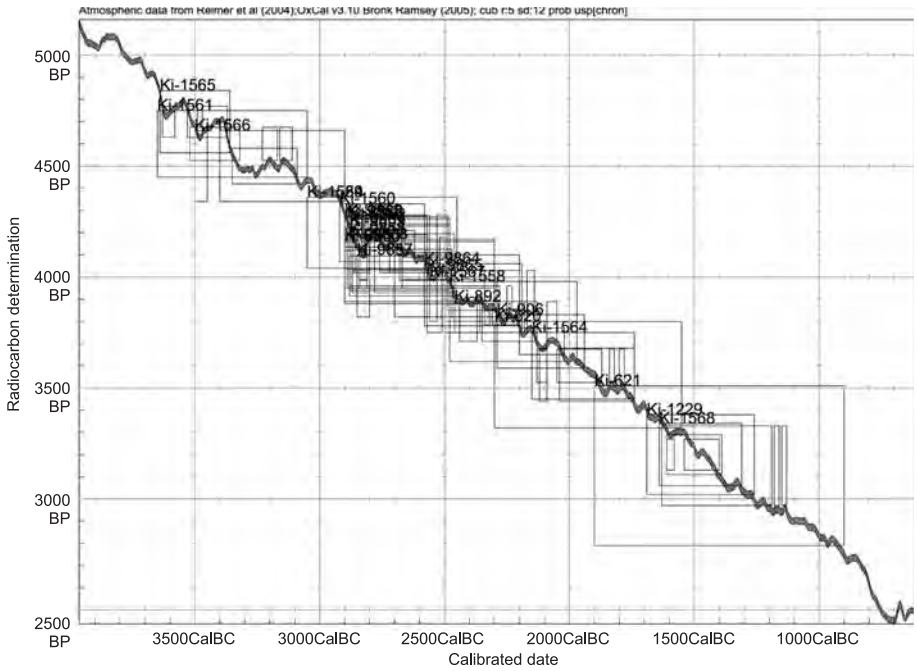
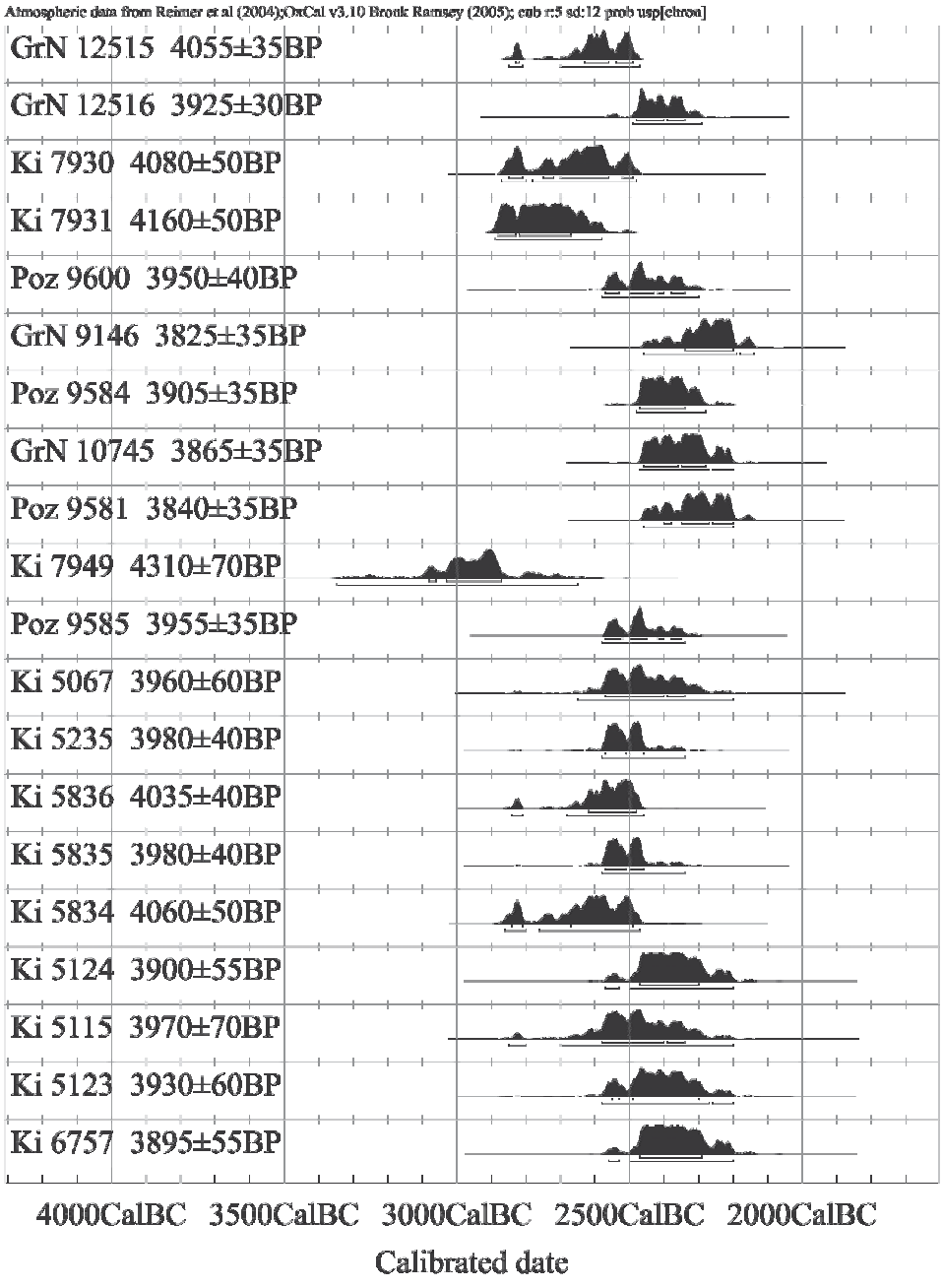


Fig. 12. Group of barrows near Svatove

18/1, 3 and 4 representing horizon III – late catacomb phenomena [Bratchenko 2003: 185-209]. In the same group should be included grave 8/1. The youngest graves in this barrow group are not dated later than 2250 BC. The later series of measurements offers also a possibility to verify earlier measurements of some contexts.

Keeping in mind the fact that all the measurements were made using samples of wood, one should be particularly careful while evaluating the dates. In this case one must allow for the 'old wood effect' making a sample come out older than it really is. This is especially true for the first series of measurements from graves 13/2 (Ki – 1561), 19/1 (Ki – 1565) and 20/1 (Ki – 1566) that pointed to the period of 3500-3200 BC. Later measurements concerning the same contexts indicated a flat section of the calibration curve between 2950 and 2450 BC. It is to the end of this period that one should date the building of grave 18/1 on the strength of its architecture, position of the body and grave goods corresponding to horizon III or late catacomb groups.


Atmospheric data from Reimer et al (2004);OxCal v3.10 Bronk Ramsey (2005); cub r:5 sd:12 prob usp[chron]
GrN 12515 4055±35BP
GrN 12516 3925±30BP
Ki 7930 4080±50BP
Ki 7931 4160±50BP
Poz 9600 3950±40BP
GrN 9146 3825±35BP
Poz 9584 3905±35BP
GrN 10745 3865±35BP
Poz 9581 3840±35BP
Ki 7949 4310±70BP
Poz 9585 3955±35BP
Ki 5067 3960±60BP
Ki 5235 3980±40BP
Ki 5836 4035±40BP
Ki 5835 3980±40BP
Ki 5834 4060±50BP
Ki 5124 3900±55BP
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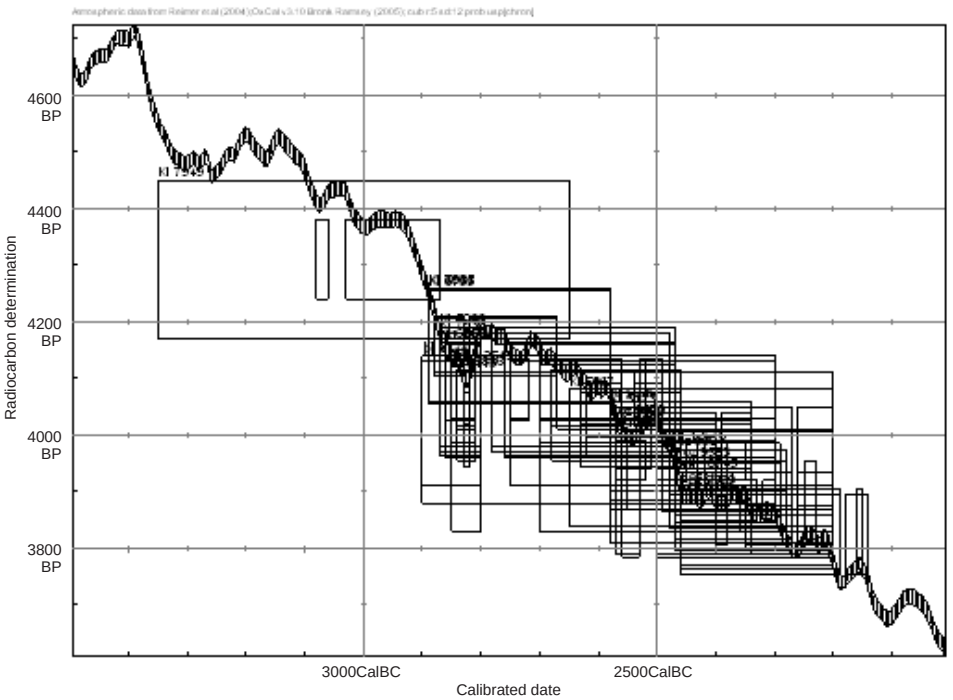


Fig. 13 Lists of ^{14}C dates for Małopolska CWC graves with catacomb construction [according to Włodarczak 2006: Tab. 35]

II.3. THE CHRONOLOGY OF PHENOMENA RELATED TO THE CATACOMB ENTITY

In conformity with the findings made so far, I assume that phenomena related to the Catacomb entity appeared in the Northern Pontic Area ca. 2800 BC and vanished ca. 2100/1900 BC. Both their rise and demise may have taken place the earliest in the drainages of the Northern Donets and Don rivers, where the rate of their changes was the fastest as well.

Further detailed studies are necessary in the case of the early dating of horizon I of the phenomena in question, which is characterized by rectangular burial chambers and the position of the body typical of the YC groups. So far, we do not have any ^{14}C dates for such arrangements. This task, however, falls outside the chronological brackets of the present monograph.

II.4. SYNCHRONIZATION WITH THE CHRONOLOGIES OF SELECTED CULTURAL ENVIRONMENTS OUTSIDE THE PONTIC AREA

The establishing of a chronological relationship to the cultural phenomena taking place in areas adjacent to the north-western portion of the Pontic Area is necessary because of genetic relationships between elements of grave architecture, the existence of which is suggested in the writings on the subject. What is meant here in the first place is the appearance of features having a catacomb structure in the CWC environment in Małopolska (the Polish literature on the subject uses the term 'niche graves'). Thanks to a new series of ^{14}C measurements for Małopolska graves, the chronological brackets of this type of grave architecture may be set to the II and III phases of CWC development according to P. Włodarczak, i.e. the period of 2700-2300/2200 BC (cf. Tab. 7, Fig. 12) [cf. Kempisty, Włodarczak 2000; Włodarczak 2006]. The chronological brackets for the Małopolska CWC given above correspond in general to the dating of CC groups in the Northern Pontic Area. The synchronicity of both systems sheds new light on the origins of the catacomb grave. I shall return to this question below (see Chapter IV).

III. ON THE BEYOND – THE SCOPE OF COMPARATIVE ANALYSIS

Below, the foundations of the analysis of funeral rite forms shall be presented. The analysis covers characteristics observable on all the levels of the formation of a ritual place, namely its location in the settlement-cultural space, place within a barrow (sacred space), grave structure, actions taken with respect to a dead person's body, ritual actions within the grave as well as inventory and distribution of grave goods.

III.1. TOPOGRAPHY

An attempt to reconstruct a ritual system and a general 'funeral theory' requires to consider all the planes of building a funeral space and determine how it functioned in a given cultural context. The first consideration is the choice of a burial place and the space of the sacred within the bounds of space available to human activity. This task is difficult in the case of the Catacomb culture as its settlement structure has so far been poorly explored making the establishing of relationship between burial places and the settlement network highly problematic. This is so because today's state of field detection and methodological thought is not adequate to conclude unequivocally whether we deal in this case with the model 'settlement + cemetery' or 'local settlement system + central burial place'. Hence it is not possible to find out what rules governed the choice of place for this kind of the sacred. This is a general observation; it must be noted that in the case of the taxon in question one can hardly speak of compact 'cemeteries': it is hard to decide whether this term is to be used in reference to a group of barrows containing CC graves or to each individual barrow.

In contrast, the principles of location in the geographical space seem easier to grasp. The settlement does not penetrate the so-called 'open steppe'. Catacomb graves were usually sunk into the barrows of older epochs that had been placed along high river terraces or on lacustrine plateaus up to 20 km from rivers or lakes. Similar locations are shared by barrows built over catacomb graves. Frequently, they were built among or close to already existing barrow groups. The tradition of sinking graves into barrow mounds appeared as early as the Late Eneolithic and the Early Bronze Age.

In my opinion, it can be assumed that areas of special terrain, in this case barrow groups, were treated by human societies as having a sacred dimension, as a space set aside for the dead. This is also testified to by the sinking of graves at the foot of natural terrain elevations or, as it happened in Moldova, into a tell of the Gumelniţa culture [cf. Dergachev 1983: 128-151].

III.2. SYSTEMATIC REVIEW OF GRAVE STRUCTURES

A. Location in barrow

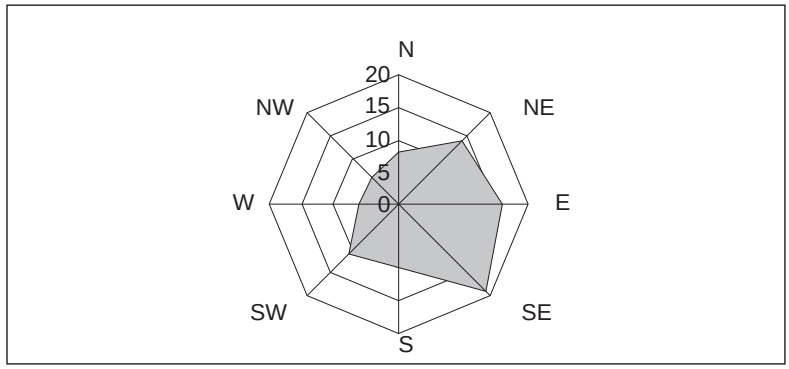
Graves were usually sunk into barrow mounds at their foot. They form a circle or an arch. The radius of the circle depends on barrow size. A single barrow was often used as a burial place for a long time, which is evidenced by several circles/semicircles of catacomb graves in a mound. This is a reflection of successive phases of raising a barrow. To account for regional changes in the funeral rites, grave location in the barrow mound and orientation with respect to the centre are considered as well.

A vast majority of graves were sunk into the eastern and south-eastern slopes of a barrow. In the Ingul and Orel-Samara groups, the eastern location dominates while in Budzhak and Verkhnetarasovka ones, it is the south-eastern location that prevails. An entirely different situation is found in the Molochna group where the prevailing custom is to place graves in the north-eastern and northern slopes of a barrow. However, this picture may be misleading as a high percentage of barrows in the Molochna River drainage were completely levelled off and their central points were reconstructed relying on grave distribution. In the Donetsk-Luhansk group, however, besides the locations mentioned above, catacomb graves were found also in south-western parts of mounds (Fig. 14).

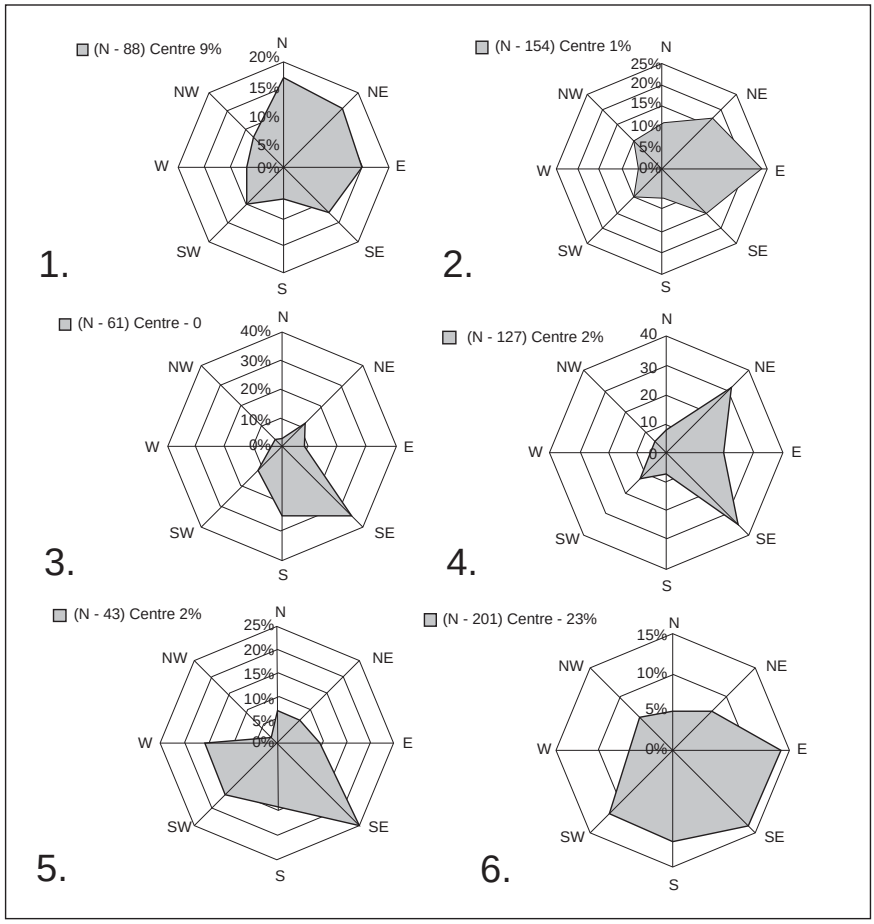
B. Grave structure

The basic grave form is a catacomb consisting of a shaft and chamber placed below and either adjacent to the shaft's wall or joined to it by a dromos. In the literature on the subject, several typologies of grave structures can be found but they all fall into two approaches. In the first one, the ordering criteria are the shape of shaft and its position with respect to the longer axis of the chamber [Bratchenko 1976]. In the other, the typology is based on four crucial criteria: shape of shaft, shape of chamber, ratio of long axes and the presence of a dromos [cf. Kovalova 1983; Pustovalov 1992b].

In this monograph, five characteristics of grave structure have been distinguished: (a) shape, (b) chamber size, (c) shape of shaft, (d) manner of horizontal connection, (e) presence of a dromos, gangway, or steps in the shaft, or entrance screens. The purpose of this approach was to find the characteristics that changed



a.



b.

Fig. 14. Grave location in barrow mound. a - General; b - Differences on the level of test areas; N - Number of observations; 1 - Molochna; 2 - Ingul; 3 - Donetsk-Luhansk; 4 - Budzhak; 5 - Orel-Samara; 6 - Verkhnetarasovka

Table 7

The share of individual types of burial chambers in regional groups

Group \ Shape	Oval	Rectangular	With niche	Observations
Molochna	84%	8%	8%	88
Ingul	95%	3%	2%	150
Budzhak	89%	9%	2%	44
Orel-Samara	83%	13%	4%	131
Verkhnetarasovka	50%	50%	0%	48
Donetsk-Luhansk	76%	23%	1%	202
Mean	80%	17%	3%	Sum: 663

with location and time, and others, the changes of which could be attributed to the status of the deceased. From the analysis, for the reason that it did not change significantly, has been left out the question of vertical connection between the chamber and shaft.

a. In the descriptions of burial chamber shapes, the following categories have been distinguished: oval, trapezium, beanlike, circular, semicircular, quadrangular, pentagonal and hexagonal [cf. Pustovalov 1992: 45]. It seems, however, that such a 'multiplication' of descriptive categories leads to artificially distinguished, intuitive entities. The chamber shape does not change – it depends on the chamber's function [Bratchenko 1976]. This observation is borne out by the assemblages analysed. The assemblages were analysed relying on the three basic categories:

1. Oval chamber – with a rounded outline (includes: beanlike, circular, semicircular, oval and polygonal);
2. Quadrangular chamber – includes: square, rectangular and rhomboidal;
3. Pit with a niche (Tab. 15).

In the whole analysed group, 80 per cent of graves had oval chambers (i.e. without marked corners). Departures from this rule were observed in the Donetsk--Luhansk (76%) and Verkhnetarasovka (50%) circles. In the latter case, the situation may be explained by the kind of data: the publications of materials from the Verkhnetarasovka site are not satisfactorily illustrated making it impossible to verify a description with a drawing (see Tab. 7).

b. The analysis has used a division based on a simplified scheme suggested by S. Pustovalov (1991). Three size classes were distinguished:

1. Small – when the longer axis of the chamber is shorter than 160 cm and the shorter one has 80 cm or less;
2. Medium – when the longer axis of the chamber has between 160 and 240 cm and shorter one fits between 100 and 200 cm;
3. Large – the longer axis of the chamber has more than 240 cm and the shorter one is more 200 cm long.

Table 8

Age group distribution and grave size classes

Chamber	Adult	Child	Mixed	Youth	Cenotaph	Unknown
Small	42%	46%	2%	9%	1%	7
Medium	81%	4%	8%	4%	3%	20
Big	77%	0%	20%	0%	3%	1
Unknown	75%	13%	4%	8%	0%	8
Mean	69%	16%	9%	5%	2%	Sum: 36

Table 9

Distribution of the number of people buried in individual classes of grave size

Chamber	Individual	Collective	Double	Cenotaph	Empty
Small	78%	2%	11%	1%	8%
Medium	72%	7%	14%	3%	4%
Big	57%	15%	24%	2%	2%
Mean	69%	8%	16%	2%	5%

This characteristic does not change significantly with location. It should rather be tied to the age and number of buried persons. Having investigated the size of graves with respect to the age of people buried in them, using such categories as adults, children, adolescents or mixed ages (adult + child, adult + adolescent, or adolescent + child), it can be claimed that large graves are connected with the groups of adults or mixed groups (which means that children could be buried in them, but always with an older person); in small graves people of all age groups were buried, albeit the largest group here is that of children (for the division into age and the number of buried groups see Tab. 8).

There is also a clear relationship between the size of a grave and the number of people buried in it. The most numerous group in all size categories is that of single graves, however, their share dwindles with the growth of grave size, but the share of pair and collective graves increases at the same time (Tab. 9).

c. Consistently with the reservations made earlier, when investigating the shape of grave shafts, the following variables were taken into account:

1. Rounded (including: circular and oval);
2. Quadrangular;
3. No shaft.

The shape of shaft shows regional variety. In the western circles (Ingul, Budzhak, Orel-Samara), catacombs with circular shafts are found. However, the further west one looks, the greater their share is. In the eastern circle – Donetsk-Luhansk – it seems to be a rule to dig graves with quadrangular shafts. In transition circles -

Table 10

Distribution of shaft shapes in regional groups

Shape / Group	Round	oval	Rectangular	Without shaft	Observations
Molochna	18%	35%	35%	12%	68
Ingul	70%	15%	12%	3%	113
Budzhak	82%	12%	0	6%	17
Orel-Samara	42%	32%	21%	5%	111
Verkhnetarasovka	36%	36%	29%	0	45
Donetsk-Luhansk	17%	23%	60%	0	161
Mean	45%	25%	26%	4%	Sum: 515

Verkhnetarasovka – West-Catacomb (i.e. Ingul) traits are more pronounced. There is a clear share of circular and oval shafts there; whereas in the Molochna group – East-Catacomb – there is a share of quadrangular shafts (Tab. 10).

d. In grave structure typologies two types are distinguished regarding the relative position of a shaft and chamber:

1. T-shaped catacombs – when the passage to the chamber is dug in the shorter wall of the shaft;
2. H-shaped catacombs – when the passage is located in the longer wall of the shaft.

This distinction can only be applied to the structures with oval or quadrangular shafts. Some authors writing on the subject express the view that the catacomb shape is indicative of a chronological position. T-shaped structures are believed to be chronologically earlier. In terms of location, this characteristic does not change much.

e. The presence of additional structures within the catacomb: a dromos, gangway, steps in shaft, entrance screen.

1. 'Dromos' – three categories were distinguished : 'none', 'short' – when its width is greater then length and 'long' when its width is smaller than length.
2. 'Gangway' – two categories were distinguished : 'present' and 'none'.
3. Steps in shaft – three categories were distinguished: 'one', 'many' and 'none'.
4. Entrance screen – six categories were distinguished: 'timber', 'stone', 'clay', 'bone', 'composite' – either timber and clay or stone and reed – and 'none'.

The characteristics listed above, frequently related to the status of the deceased (amount of labour invested in the preparation of the burial place), show also certain territorial variety. Albeit it seems not to be of primary importance for regional divisions of the CC, it is worthwhile to note observed tendencies.

Most of the graves lack a dromos (61%); a short one was found in 36 per cent of cases, while a long one occurred only in 5 per cent of graves. In the western group, the percentage shares of grave types are similar to these average figures. Marked departures from the average percentages are visible in the transition and eastern

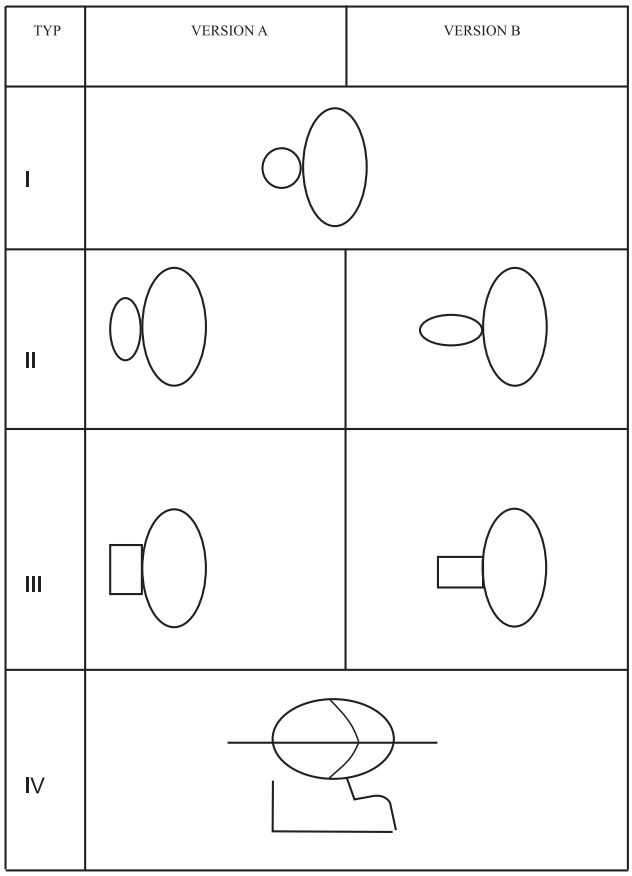


Fig. 15. Types of grave construction

groups. In the Molochna and Verkhnetarasovka groups the share of catacombs with a dromos is respectively 54 and 61 per cent, while in the eastern group a dromos was discovered only in 14 per cent of cases.

The other characteristic showing a marked geographical variation is the presence and type of a screen blocking entry to the burial chamber. Entrance screens were found in 28 per cent of graves. The percentage could have been higher originally, because one must allow for the fact that some screens made of organic materials may have rotten away completely. In the westernmost Budzhak group, no traces of screens were recorded at all. Whereas in the Donetsk-Luhansk group, they were found almost in a half of graves. Geographical variation is shown also by the kind of materials of which screens were made. In the groups situated on the right bank, Ingul and Verkhnetarasovka, stone block screens dominate whereas on the left bank – Molochna, Orel-Samara and Donetsk-Luhansk – a very large share of timber screens is recorded.

Table 11

Geographical variety in the share of individual construction types

Typ / Group	I	II			III			IV	Unknown
		Total number	IIA	IIB	Total number	IIIA	IIIB		
Molochna	18%	36%	18%	16%	36%	9%	25%	10%	28
Ingul	70%	16%	2%	1%	12%	3%	3%	3%	44
Budzhak	82%	12%	0	0	0	0	0	6%	43
Orel-Samara	42%	32%	4%	5%	21%	5%	5%	5%	21
Verkhnetarasovka	35%	36%	8%	6%	29%	2%	8%	0%	5
Donetsk-Luhansk	16%	22%	5%	1%	61%	24%	14%	1%	46
Mean	44%	26%	6%	5%	27%	7%	9%	4%	Sum: 187

Conclusions:

A preliminary analysis of individual elements of grave structures produces a typology based primarily on the form of grave shafts. Only a secondary place is occupied in the typology by the ratio of the longer axes of the shaft and chamber (Fig. 15). A review of the incidence of individual catacomb types in the test groups revealed that type I dominated in the Budzhak, Ingul and Orel-Samara groups. Type III prevails in the Donetsk-Luhansk group and has a considerable share in the Molochna and Verkhnetarasovka groups as well. In the last-named groups, there is a relatively high percentage of type II catacombs, too (see Tab. 11).

III.3. CORPSE POSITION TYPOLOGY

The next stage of creating a burial place is the interment of the deceased in the grave designed for him/her. While reviewing the whole range of human behaviour relating to interment, the following categories are worth noting: number of buried persons, their age and sex, place in the burial chamber, and position and orientation of the body/bodies.

A. Number of bodies in a single grave

In the review the following categories are used:

1. Single grave;
2. Twin grave;
3. Collective grave;
4. Catacomb without burial.

In the literature, a group of triple graves is distinguished. In this monograph, however, no such group was formed and triple graves were subsumed under col-

Table 12

Incidence of quantitative categories in regional groups

Grave / Group	Individual	Double	Collective	Without trace of burial	
				Cenotaph	Empty
Molochna	70%	23%	7%	0	0
Ingul	64%	19%	10%	4%	3%
Budzhak	87%	9%	2%	0	2%
Orel-Samara	74%	8%	3%	5%	10%
Verkhnetarasovka	69%	14%	10%	5%	2%
Donetsk-Luhansk	77%	11%	5%	3%	4%
Mean	74%	14%	6%	3%	4%

lective graves as there is little justification for assigning special significance to the burial of three people in family or social configurations.

In the analysed group, two grave categories without burials can be distinguished. 'Cenotaphs' include features where remains of ritual behaviour were recorded related to the preparations of a grave for burial (animal bones, ochre, lining). The recorded grave goods are arranged consistently with the same rules that are true for ordinary burials. Under the category 'empty', hypothetical graves were subsumed without any remains of ritual behaviour or grave goods arranged in the catacomb consistently with the rules observed in graves with burials. It must be stressed, however, that these categories are meant only to bring some order to the typology; for it is difficult to make clear distinctions relying on available sources or to exclude the possibility of existence of graves, deprived of any grave goods, in which a skeleton has not survived (or its traces have not been recorded during exploration).

In the CC funeral rites, the prevailing custom is to bury the dead in single graves (about 74% of all graves). Departures from this rule (not greater, however, than 10%) may be observed in individual geographical groups (Tab. 12). The second largest group is formed by twin graves (14%). The category of collective graves includes all features in which remains of more than three people were found. In both categories, one must allow for the possibility of a simultaneous burial of several individuals or for cases of recycling of an existing grave.

B. Age/sex

For the purpose of considering the complexity of social structure and its impact on ritual behaviour in the funeral sphere, it is important to trace potential variety in the funeral rites depending on the sex and age of the person buried. Unfortunately, too few credible anthropological determinations make it impossible to take up these questions now. Anthropological studies determining the sex and age of corpses have been made only for 88 out of 699 graves available for study. In total, 35 female burials and 64 male ones have been recorded (see Tab. 13). In this monograph, it was only possible to trace variety patterns in opposed categories of graves of adults and

Table 13

List of graves with anthropological determinations: A - Adult (sex not determined), F - Female, M - Male, Y - Youth (age not determined), C - Child (age not determined)

No	Group	Site*	Barrow	Grave	Sex
1	2	3	4	5	6
1	B	Belolesye	1	9	F
2	B	Novoselitsa	19	21	M
3	B	Novye Raskaentsy	1	8	FMC
4	B	Olaneshty	14	2	M
5	B	Purkari	1	32	M
6	B	Purkari	1	9	F
7	B	Trapovka	1	17	M
8	B	Trapovka	1	18	M
9	B	Trapovka	1	14	F
10	B	Trapovka	4	14	MC
11	B	Trapovka	6	11	M
12	B	Trapovka	10	3	M
13	B	Trapovka	10	8	M
14	B	Trapovka	10	7	F
15	DL	Chernukhino	1	6	M
16	DL	Chernukhino	1	9	M
17	DL	Nikolaivka	2	4	F
18	DL	Nikolaivka	6	6	M
19	DL	Nikolaivka	6	4A	F
20	DL	Nikolaivka	6	4B	FC
21	DL	Nikolaivka	8	1	M
22	DL	Nikolaivka	8	2	FC
23	DL	Preobrazhennoe	1	8	M
24	I	Konstantynovka I	12	8	FC
25	I	Konstantynovka I	12	17	YF
26	I	Otradnoye	22	19	M
27	I	Otradnoye	28	11	M
28	I	Privolnoie	1	2	ACYM
29	I	Privolnoie	1	28(30)	F
30	I	Privolnoie	2	26	M
31	I	Sofievka	1	12	MF
32	M	“Iushanli”	8	2	AACM
33	M	Akkermen I	1	6	F
34	M	Akkermen I	4	3	MFC
35	M	Akkermen I	6	3	M
36	M	Akkermen I	9	4	M

1	2	3	4	5	6
37	M	Akkermen I	9	6	M
38	M	Akkermen I	11	1	MC
39	M	Akkermen I	11	2	MC
40	M	Akkermen I	12	1	M
41	M	Akkermen I	14	7	M
42	M	Akkermen I	14	10	F
43	M	Akkermen I	17	1	M
44	M	Akkermen I	17	3	M
45	M	Akkermen I	17	4	M
46	M	Akkermen I	20	5	M
47	M	Akkermen II	2	1	FA
48	M	Novo-Pilipivka	3	11	MFC
49	M	Troickie	2	26	M
50	M	Troickie	2	3	F
51	M	Troickie	3	1	M
52	M	Troickie	3	9	MFMFC
53	M	Troickie	4	22	M
54	M	Troickie	4	24	M
55	M	Veliki Tokmak, hut.Sevchenka	1	9	M
56	M	Veliki Tokmak, hut.Sevchenka	1	10	M
57	M	Veliki Tokmak, hut.Sevchenka	1	1	F
58	M	Veliki Tokmak, hut.Sevchenka	2	5	M
59	M	Veliki Tokmak, hut.Sevchenka	2	13	M
60	M	Zamozhne	3	4	MF
57	M	Veliki Tokmak, hut.Sevchenka	1	1	F
61	M	Zamozhne	5	2	M
62	M	Zamozhne	5	4	MC
63	M	Zamozhne	5	5	M
64	M	Zamozhne	5	7	M
65	M	Zamozhne	6	3	M
66	M	Zamozhne	6	2	F
67	M	Zamozhne	7	5	MF
68	OS	Khaszczevoe	6	11	FY
69	OS	Shandrovka III	1	4	MCFF
70	OS	Terny- Dolgaya Mogila II	4.1	8	MF
71	OS	Terny- Dolgaya Mogila II	4.1	10	M
72	OS	Terny- Dolgaya Mogila II	4.1	11	F
73	OS	Terny- Dolgaya Mogila II	4.2	22	MF
74	VT	Kislichuvata II	4	5	FCCC

1	2	3	4	5	6
75	VT	Novyi Mir „Rodina" II	2	3	MC
76	VT	Novyi Mir „Rodina" II	2	7	M
77	VT	Novyi Mir „Rodina" II	2	8	F
78	VT	Pavlovka	-	8	FCMCC
79	VT	Pavlovka	-	12	MYA
80	VT	Pavlovka	-	2	F
81	VT	Pavlovka	-	5	FC
82	VT	Propashnoe	-	15	M
83	VT	Vekhnetarasovka	19	1	M
84	VT	Vekhnetarasovka	22	5	M
85	VT	Vekhnetarasovka	52	10	M
86	VT	Vekhnetarasovka	52	11	CFC
87	VT	Vekhnetarasovka	57	6	M
88	VT	Vekhnetarasovka	57	18	M

* See Annex I

children. In relation to divisions into age groups, the monograph quotes very general, frequently intuitive declarations given in source publications. It was for this reason that such data were treated here as a corpus of additional information supplementing conclusions drawn from other well-documented aspects of mortuary practices.

A detailed study of the variety of traits of funeral rites depending on well-defined age and sex groups should be a research priority in the future.

C. Place in the burial chamber

After analysing the place of the body within the burial chamber, the following categories have been distinguished:

1. Centre,
2. Close to entrance,
3. Under the wall, opposite entrance,
4. As above, to the right of entrance,
5. As above, to the left of entrance,
6. Other (also the cases of body remains found in the shaft).

The location of the corpse within the grave chamber seems to depend on the number of people buried and whether the grave was recycled. In the case of single graves, the dominating location of the corpse is in the centre of the grave chamber (91%). However, in the categories of twin and collective graves, the location of corpses varies considerably (Tab. 14).

D. Position of body

In the literature on the subject there are quite detailed typologies making distinctions into a general position of the body (extended supine or contracted on

Table 14

Body location within grave pit in idividual regional groups

Individual graves	Centre	Near entrance	Opposite entrance	Right	Left	Near wall	Other	Unknown
Molochna	88%	0	10%	0	0	2%	0	20
Ingul	96%	1%	1%	1%	0	0	1%	16
Budzhak	85%	3%	3%	0	0	9%	0	19
Orel-Samara	90%	1%	8%	0	0	1%	0	25
Verkhnetarasovka	100%	0	0	0	0	0	0	5
Donetsk-Luhansk	91%	1%	7%	0	0	1%	0	19
Mean	91%	1%	5%	0%	0%	3%	0%	Sum: 104
Double and collective graves	Centre	Near entrance	Opposite entrance	Right	Left	Near wall	Other	Unknown
Molochna	45%	13%	21%	2%	2%	15%	2%	10
Ingul	61%	13%	9%	2%	0	11%	4%	14
Budzhak	77%	0	0	0	8%	15%	0	2
Orel-Samara	48%	11%	19%	4%	0	18%	0	9
Verkhnetarasovka	32%	12%	4%	8%	4%	28%	12%	7
Donetsk-Luhansk	48%	15%	11%	8%	9%	8%	1%	17
Mean	52%	11%	11%	4%	4%	16%	3%	Sum: 59

the side), position of hands (both alongside the body, right/left on the hip, right/left slightly bent, right/left bent at a right angle, other) and position of legs (strongly, moderately/slightly bent, with heels next to hips, crossed, extended, with raised knees) [cf. Haüsler 1974; Pustovalov 1992b; Kovaleva 1983; Sanzharov 2001]. So complex typological criteria result in blurring the picture of the funeral rites. It is hard to tell without doubt when the arrangement of the corpse's limbs reflects their intentional, original arrangement and when it is a result of a number of post-deposition processes. Hence, for the purpose of this monograph, relying on the correlation of two descriptive categories (supine position or on the side and legs extended or bent), the following distinctions have been suggested (see Fig. 16):

1. Ia – supine position with extended legs,
2. Ib – supine position with bent legs,
3. IIa – position on the left side,
4. IIb – position on the right side,
5. III – prone position.

The study covered only single graves and those collective graves in which all corpses had been laid in the same way.

The position of body in a grave varies geographically. Of the test groups included in the western branch of the Catacomb entity (Budzhak, Ingul and Orel-Sa-

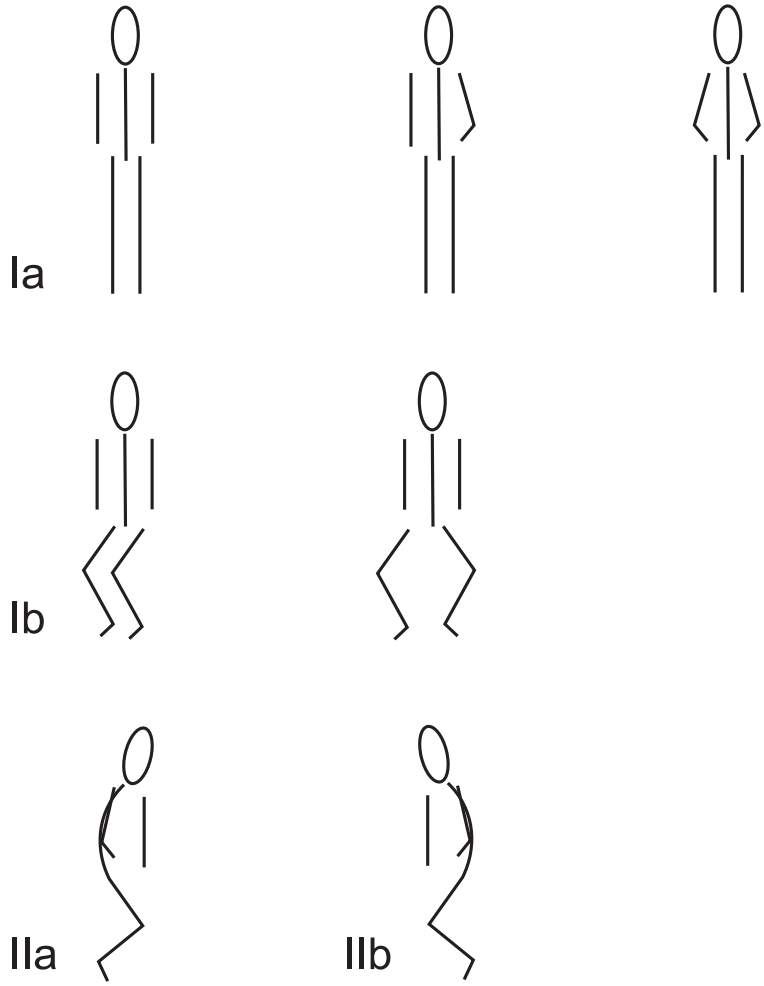


Fig. 16. Principal body position (without type III)

mara), the most characteristic is the supine position with extended legs. Slightly less common are the burials where the body lay in a supine position with legs bent. Of eastern branches – i.e. the Donetsk-Luhansk test groups – the most typical is the custom of placing bodies on their right side. The other positions are recorded very rarely – in not more than 10 per cent of graves. The greatest variety in terms of body position is encountered in the Molochna and Verkhnetarasovka test groups. In their case, it is difficult to determine a dominant position. On the Molochna River, there is a clear tendency to lay the body in a supine position with the legs bent, while in the other test group the position on the right side is more common (see Tab. 15).

In the literature on the subject, a conviction prevails about a relationship holding between position Ib and chronology. The position is related to the early phase

Table 15

Distribution of principal body positions in regional groups

Position / Group	Ia	Ib	IIa	IIb	III	Unknown
Molochna	31%	28%	4%	15%	1%	21%
Ingul	63%	14%	0	12%	2%	9%
Budzhak	63%	19%	2%	7%	0	9%
Orel-Samara	45%	31%	0	5%	1%	18%
Verkhnetarasovka	32%	18%	18%	26%	3%	3%
Donetsk-Luhansk	31%	28%	4%	15%	1%	21%
Mean	44%	23%	5%	13%	1%	14%

Table 16

Body orientation with respect to chamber entrance

Individual graves	Left	Left, turned back	Toward entrance	Toward inside	Right	Right, turned back
Molochna	76%	2%	10%	1%	7%	4%
Ingul	85%	4%	2%	2%	6%	1%
Budzhak	80%	0	5%	5%	5%	5%
Orel-Samara	81%	1%	2%	5%	9%	2%
Verkhnetarasovka	65%	2%	7%	0	26%	0
Donetsk-Luhansk	91%	2%	4%	1%	1%	1%
Mean	80%	2%	5%	2%	9%	2%
Double and collective graves	Left	Left, turned back	Toward entrance	Toward inside	Right	Right, turned back
Molochna	71%	5%	14%	0	5%	5%
Ingul	88%	3%	0	3%	6%	0
Budzhak	100%	0	0	0	0	0
Orel-Samara	80%	0	10%	0	10%	0
Verkhnetarasovka	25%	13%	12%	0	50%	0
Donetsk-Luhansk	86%	0	4%	5%	0	5%
Mean	75%	3%	7%	1%	12%	2%

of the Catacomb culture as a heritage, in a sense, of local 'pit' traditions. In the light of this view, it is worth stressing that this characteristic was most frequent in the drainages of the left-bank tributaries of the Dnieper.

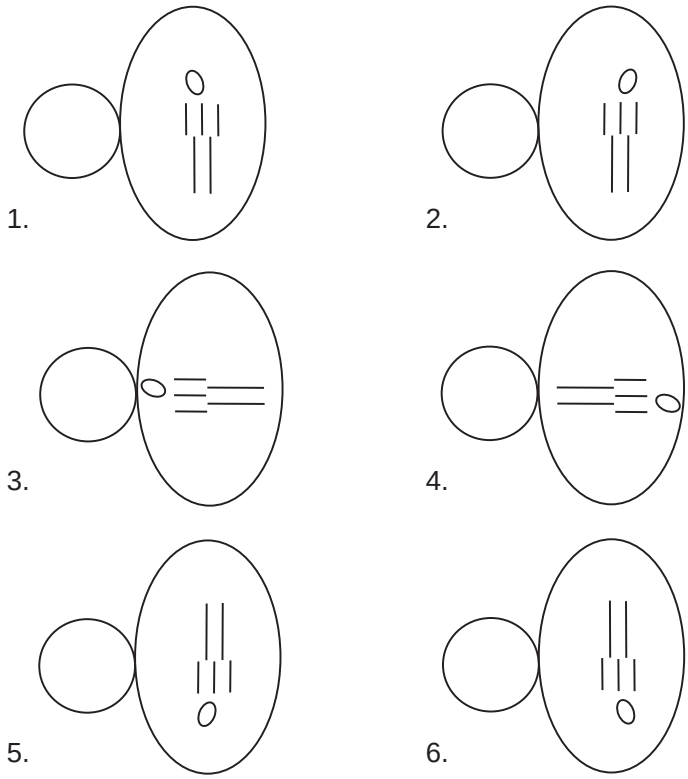


Fig. 17. Body orientation with respect to chamber entrance

E. Orientation

In publications on the CC, there are two approaches visible to the question of burial orientation. Some authors use points of the compass in their descriptions [cf. Bratchenko 1976; 2000; Kovaleva 1983; Sanzharov 2001]. A resulting great variety makes it impossible to trace a general rule of burial orientation. This monograph gives instead the orientation of a skeleton's head with respect to the chamber entrance. [cf. Dergachev 1983; Pustovalov 1992b]. This approach seems to describe better the rules governing corpse orientation without, at the same time, falling into the trap of 'multiplying' descriptive categories. The following categories were distinguished:

1. Left of the entrance, facing the shaft,
2. Left of the entrance, facing the chamber,
3. Towards the entrance,
4. Away from the entrance,
5. Right of the entrance facing the shaft,
6. Right of the entrance facing the chamber.

The categories are shown schematically in Fig. 17.

The study included a group of graves in the case of which it was possible to determine their location in a mound sector and the position of the shaft regarding the chamber (see Figs. 18a, 18b). In the case of both single graves and common ones, the most common position is the one with the head left of the entrance and facing it (Fig. 17.1). The other orientation categories do not account for more than 10 per cent. An exception here is the Verkhnetarasovka group in which, in about one-fourth of cases, the body was laid right of the entrance and facing it (Fig. 17.5). In the literature on the subject, an opinion can be encountered that other orientations may be related to multiple burials (Tab. 16). Lack of significant differences, regardless of the number of buried people, calls for a verification of this opinion. A significant question that should be taken into account in any analyses of burial orientation in collective graves is whether they came into being on one occasion or they were used several times.

III.4. CLASSIFICATION OF RITUAL BEHAVIOUR

Ritual behaviour related to the preparing of the burial chamber and corpse for interment is crucial for the study of ceremonial-mythological systems of the Catacomb entity. In the present monograph the study focused on the following aspects: bottom preparation and use of ochre (1a), preparation of the 'passage to the beyond' – the presence of animal bones and fire in various forms (1b), preparation of the corpse – treatments connected with the body itself – masks and tar (1c).

The analysis of traces of ritual behaviour was carried out in two stages. The first stage included the classification of all types of behaviour and determination of their incidence rate in the overall picture and individual territorial groups. The purpose of the second stage was to select ritual groups relying on values attributed to particular phenomena.

A. Bottom preparation

Bottom preparation – lining. The analysis was carried out in two stages. In the first stage, it was ascertained whether there was a lining or not. The occurrence of lining in graves varies geographically. In the Budzhak, Verkhnetarasovka and Donetsk-Luhansk groups graves with lining dominate, whereas in the other groups most graves lack any lining.

The next stage consisted in the analysis of materials. The following categories were distinguished:

1. Organic,
2. Mineral.

The cases where it was not possible to classify lining into any category were ignored. In all the test group, except for Verkhnetarasovka, there is a domination of graves with organic lining (in most cases vegetable one – made of bark, reed

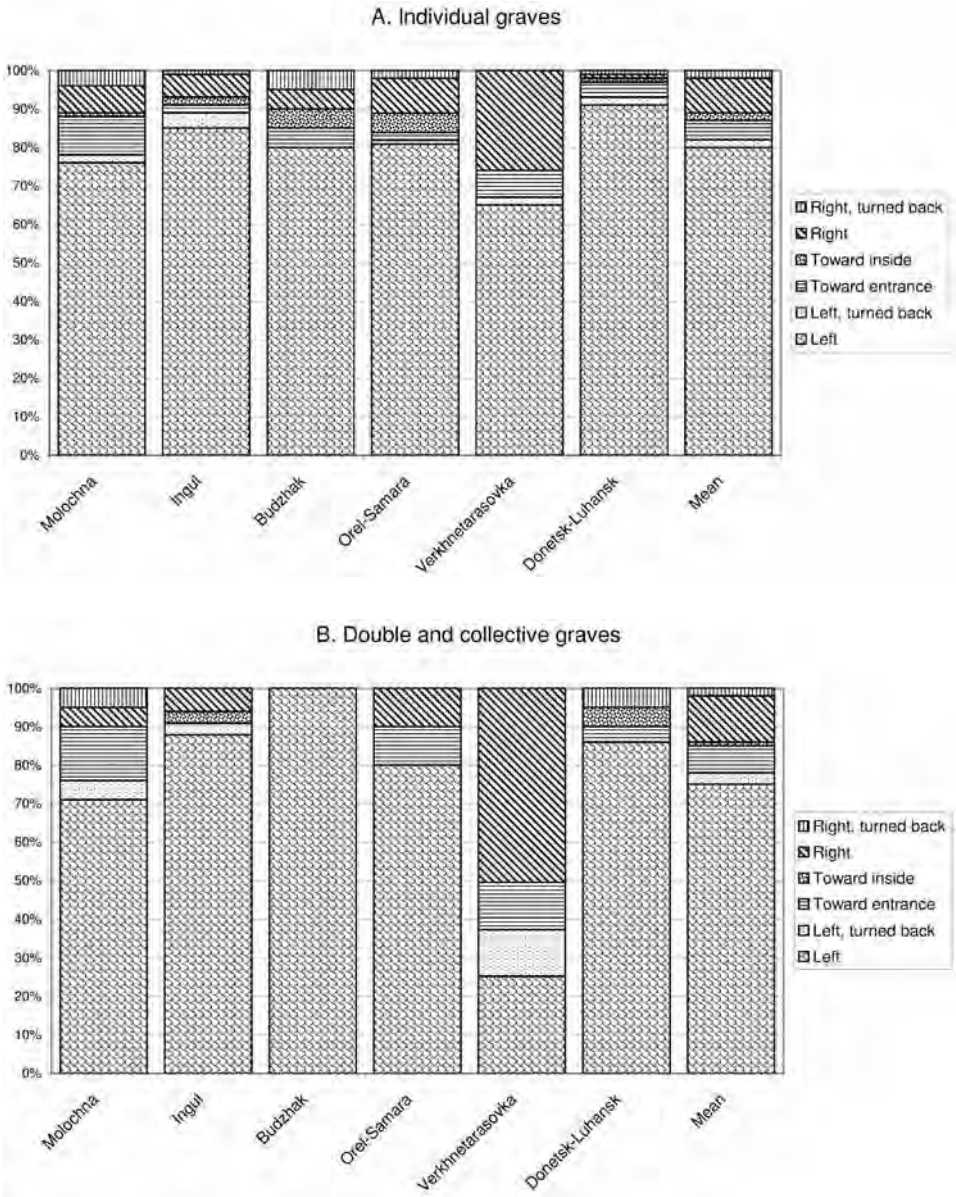


Fig. 18. Body orientation with respect to chamber entrance. A - Individual graves; B - Double and collective graves

or, less often, leather). In the category of graves with mineral lining were included those cases where the chamber bottom was partially covered with a layer of chalk, lime or clay (also 'green clay') (see Tab. 17). There were also recorded cases of composite lining where a layer of organic remains was accompanied by chalk and/or ochre.

Table 17

Lining types in graves

Group	+	–	Organic				Mineral	Number of observations
			Total number	leather	vegetable	organic		
Molochna	15%	85%	67%	17%	28%	22%	33%	94
Ingul	23%	77%	79%	5%	53%	21%	21%	158
Budzhak	64%	36%	100%	0	11%	89%	0	61
Orel-Samara	31%	69%	79%	0	71%	8%	20%	130
Verkhnetarasovka	31%	69%	44%	3%	19%	22%	56%	49
Donetsk-Luhansk	53%	47%	97%	6%	12%	79%	3%	207
Mean	36%	64%	77%	5%	32%	40%	22%	Sum: 699

In 19 cases, underneath the deceased's head, traces of organic lining survived in the form of a wooden, felt or leather pillow:

1 Molochna group – Zamozhne 6/3 and 8/-;
2 Ingul group – Bilogradovka -/18, -/23, Pelagaevka 1/4, Otradnoe 26/8;
3 Budzhak group – Purkari 1/32, Olaneshty 1/4;
4 Orel-Samara Group – Terny-Dolga Mogila II 4-1/3, Blagodatnoe 1/2, 1/5;
5 Verkhnetarasovka group – Pavlovka -/2, -/8, Noviy Mir II 2/8, Kislichuvata III 2/3;
6 Donetsk-Luhansk group – Peredelsk 1/9, 1/11, 1/12, Nikolaivka 6/41, Kindrativka 3/4.

Presence of coals without ash. This was made a separate category as distinct from the remains of fire made inside the grave. Coal was recorded in over a half of burials studied. In about 10 per cent of cases coal traces are accompanied by chalk. It seems justified to give this phenomenon a status of an element of preparing the chamber bottom for burial.

Ochre. The red mineral colorant is found in graves in the form of powder, the traces of which are found on bottoms or skeleton bones. It may also have the form of lumps of different sizes either shapeless or bearing traces of being shaped into a specific form or ornament. This situation was found in 16 burials; what is significant here is the fact that 14 of them come from the Donetsk-Luhansk test group. As in the case of lining, the analysis of the occurrence of the colorant in graves was carried out in two stages. In the first stage it was determined whether the colorant was present or not; it was found that ochre occurred in a half of all graves available for observation. In individual test groups a deviation from the mean value did not exceed 10 per cent.

The second stage of the analysis was aimed at tracing the dispersion of ochre in the grave. The following analytical categories were distinguished:

1 On bottom – when ochre covered the chamber bottom without clear concentrations;

Table 18

Ochre location in graves

Group	+	bottom	body & grave	body	in front	behind	above head	near feet
Molochna	59%	21%	8%	22%	4%	2%	1%	0
Ingul	45%	22%	10%	6%	4%	0%	1%	2%
Budzhak	48%	0	3%	42%	0	0	2%	0
Orel-Samara	55%	21%	0	10%	17%	3%	2%	2%
Verkhnetarasovka	59%	18%	2%	16%	16%	4%	2%	1%
Donetsk-Luhansk	58%	28%	0	4%	19%	0	2%	5%
Mean	54%	18%	4%	17%	10%	2%	2%	2%

2 Before – when an ochre stain was found between the body and the chamber entrance;
3 Behind – when an ochre stain was found between the body and the back wall of the chamber;
4 Above – when an ochre stain was found close to the body's head;
5 Below – when an ochre stain was found close to the body's feet;
6 Overall – when ochre was sprinkled on the bottom (or its parts) and the body;
7 On body.

The last of the mentioned categories is not, admittedly, an element of chamber preparation, however, it was included here so that the ochre occurrence analysis remained complete. This category shall be discussed later in detail.

The most frequent categories in the whole group are 'on bottom' and 'on body' reaching, respectively, 18 and 17 per cent. Significant variations were observed only in the graves from the Budzhak steppe, where ochre was recorded only on bones (42%) with no cases of its occurrence on the bottom only. In about 4 per cent of graves from this area, ochre occurred on both bones and the bottom. However, in the graves located in the drainage of the Siverskiy Donets River, the colorant was recorded chiefly on the bottom (28%) and, for the most part, only before the body (19%). Less frequent, however, are cases of ochre use for sprinkling the deceased's body (17% in all) (see Tab. 18).

A rare category is representations of feet made with ochre found before the body (Fig. 19). Such representations were recorded in 10 graves:

1 Ingul group – Khristoforovka 7/13;
2 Orel-Samara group – Terny-Dolga Mogila 4-1/6 and 4-1/11;
3 Verkhnetarasovka group – Noviy Mir II 2/7, Kislichuvata 1/4;
4 Donetsk-Luhansk group – Artemovsk 2/1, Ivano-Darevka 1/10, 2/2, Kindrativka 3/4, 'Razdalovka' 2/1.

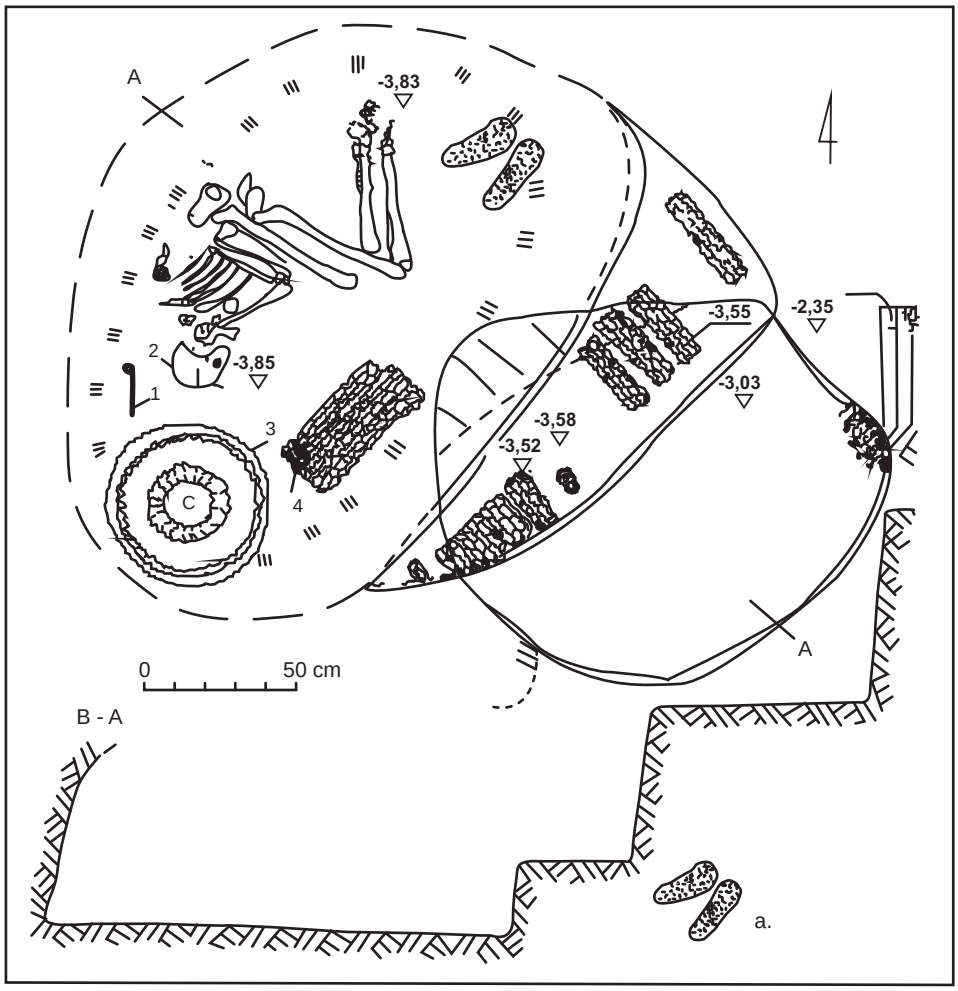


Fig. 19. "Rozdalovka" grave 2/1. a - Representation of feet made of ochre [according to Kravets, Posrednikov, Litvinienko 1990: Fig. 37]

B. Preparation of the 'passage to the beyond'

In this vaguely defined group of behaviour types, I include the custom of placing offerings (faunal remains and vessels) in graves and the use of fire in various forms in ceremonies.

Faunal remains. Faunal remains were recorded in 20 per cent of graves. This percentage varies depending on a test group. It is the lowest in the Ingul group – 5 per cent – and the highest in the Donetsk-Luhansk one – 42 per cent. Animal bones were placed in shafts or by the entrance – in the latter case, it was chiefly skulls and limb bones. Less frequently, they were placed next to the feet or head of the deceased or, possibly, before him.

Table 19

Incidence of pottery in individual regional groups

Group	-	1	2	3	4	10	Piece
Molochna	62	29	1	0	0	0	2
Ingul	75	55	19	4	0	0	5
Budzhak	46	12	1	0	0	0	2
Orel-Samara	94	28	6	0	0	0	2
Verkhnetarasovka	25	19	3	0	1	0	1
Donetsk-Luhansk	68	102	20	2	1	1	13
Sum	370	245	50	6	2	1	25

There is also a clear preference observable for placing specific parts of an animal carcass in graves. Most often these are skulls and limb bones: long ones or, in the case of artiodactylous animals, astragali and hooves. As a rule, remains of different animal species co-occur. The most common are the remains of the sheep/goat and cattle. In addition, finds were made of the remains of wild animals, fish, birds and the horse (only 8 cases, including 5 from the Donetsk-Luhansk test group). A low incidence of horse remains makes one wish to revise the well-grounded view held by many authors that the horse had a special, non-utilitarian meaning for Catacomb entity societies. The view is related to the vision, promoted by the school of M. Gimbutas, of the Indo-Europeans as a mobile society expanding from the steppes into central Europe. The basis of their success, in the light of this theory, was the rise of a mounted formation in the Decline Eneolithic, which allowed them to move quickly and dominate other peoples who did not know this means of transport. The significance of the horse, following from the advantages it offered to its 'users', supposedly resulted in a special value attached to horses. They were excluded from the group of animals providing milk and meat and raised to the rank of living hierophants [cf. Mallory 1989; Anthony, Brown 2000: 75-86]. However, in the case of the Catacomb entity, in the light of analyses made, the view does not seem plausible anymore.

Vessels. Ceramic inventories were analysed from two angles. The first stressed the role and place of this category in the funerary ritual (a), while the second referred to the values of pottery in chrono- and chorological schemes, which is a significant element in the reconstructing of cultural changes (b).

a. Pottery was found in about 50 per cent of studied graves. Most often single vessels were found; cases of a larger number of vessels deposited in a grave are less common. The incidence of pottery differs among the test groups. The highest incidence of vessels was recorded in the Donetsk-Luhansk group, while in the Budzhak group (Fig. 20) it was the lowest. In the latter case, the low share of ceramic materials may be a result, in part, of heavy damage suffered by burial mounds and hence graves (see Tab. 19).

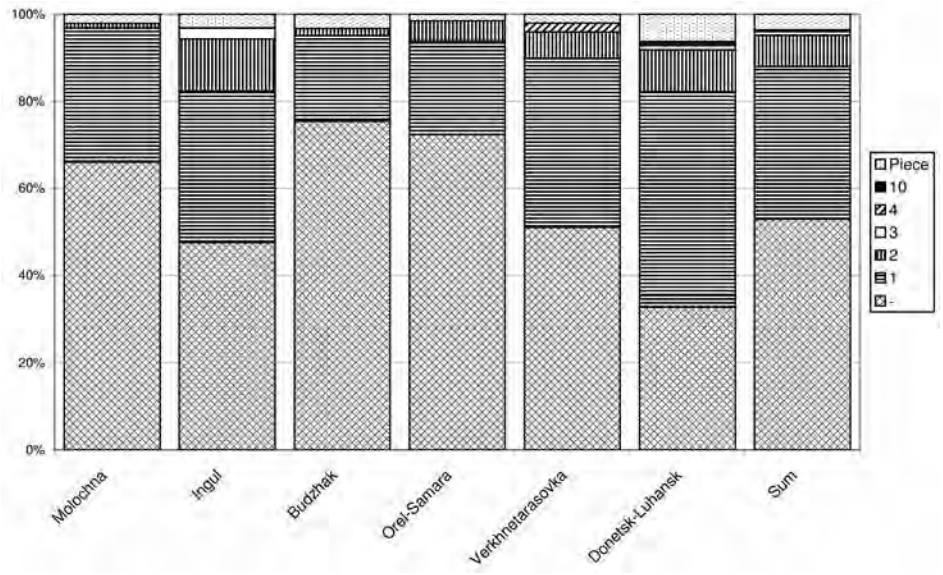


Fig. 20. Incidence of pottery in individual regional groups

A significant relationship seems to obtain between the amount of pottery and the number of people buried in one grave. In single graves usually a single vessel was found. In twin graves, the incidence of a set of two vessels grows, although graves with a single vessel continue to be the most numerous category. A more complex situation seems to prevail in the case of collective graves (Fig. 21). One may allow for a certain distortion of the picture of the rite by practices that are not always perceptible during exploration: recycling of the grave or a simultaneous burial of persons of equal/different status. Hence, it is hard to determine without doubt whether we deal here with an object treated as belonging to an individual (as an offering as such or a container for food 'for the journey' to the beyond) or a symbolic representation of a vessel with food (see Tab. 20).

Table 20

Correlation between vessel and people number in a single grave

Grave	-	1	2	3	10	4	Piece	Number of observations
Individual	273	194	28	3	0	0	16	514
Double	45	32	13	1	0	0	3	94
Collective	13	9	8	2	1	2	4	39
Cenotaph	14	10	1	0	0	0	2	27
Empty	25	0	0	0	0	0	0	25
Sum	370	245	50	6	1	2	25	699

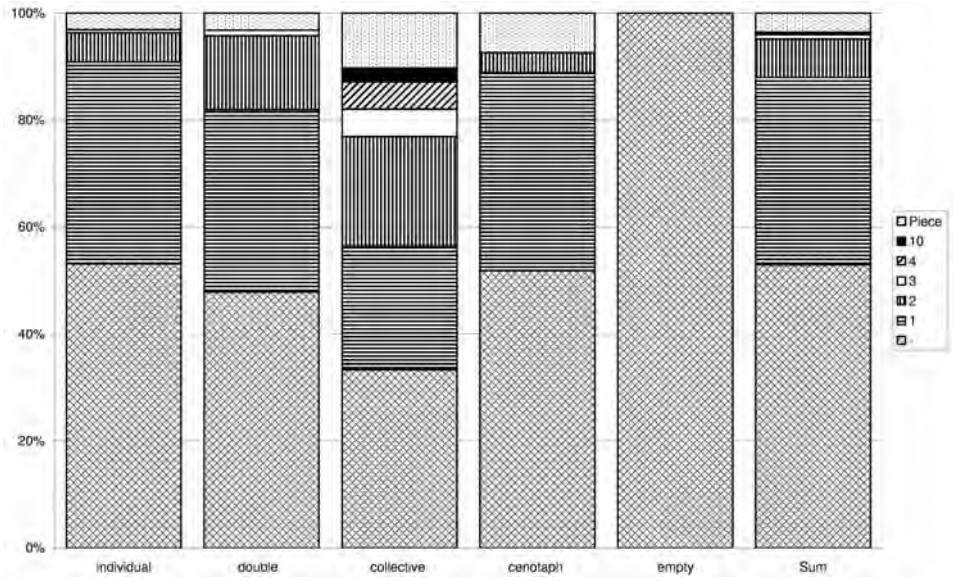


Fig. 21. Correlation between vessel and people number in single grave

A clue as to the function of these vessels may be offered by their location in the burial chamber and in respect of the body. To analyse these relationships, a distribution scheme of grave goods, developed by I. S. Kremenetskiy [1986: 126-203], was used (Fig. 22):

1. 'At the head',
2. on the left/behind head,
3. on the right/before head,
4. on the chest,
5. by the legs,
6. on the right/behind the back,
7. on the left/before the chest,
8. at the feet.

The most important principle organizing the distribution of ceramic grave goods in a grave is the custom of placing vessels at the head or feet (in this context, a frequent find is turniplike pottery, i.e. of low proportions, with a strongly protruding small bottom and a small lip diameter – considered to be relatively late and portable altars in the form of censers) as well as in front of the body, i.e. between it and the chamber entrance.

b. At the beginning, it is worthwhile to make several comments concerning the limitations and scope of the analyses undertaken. First of all, it must be made clear that the ceramic material analysed here does not make up a compact assemblage. It includes ceramic forms coming from (single or several from each) graves, on

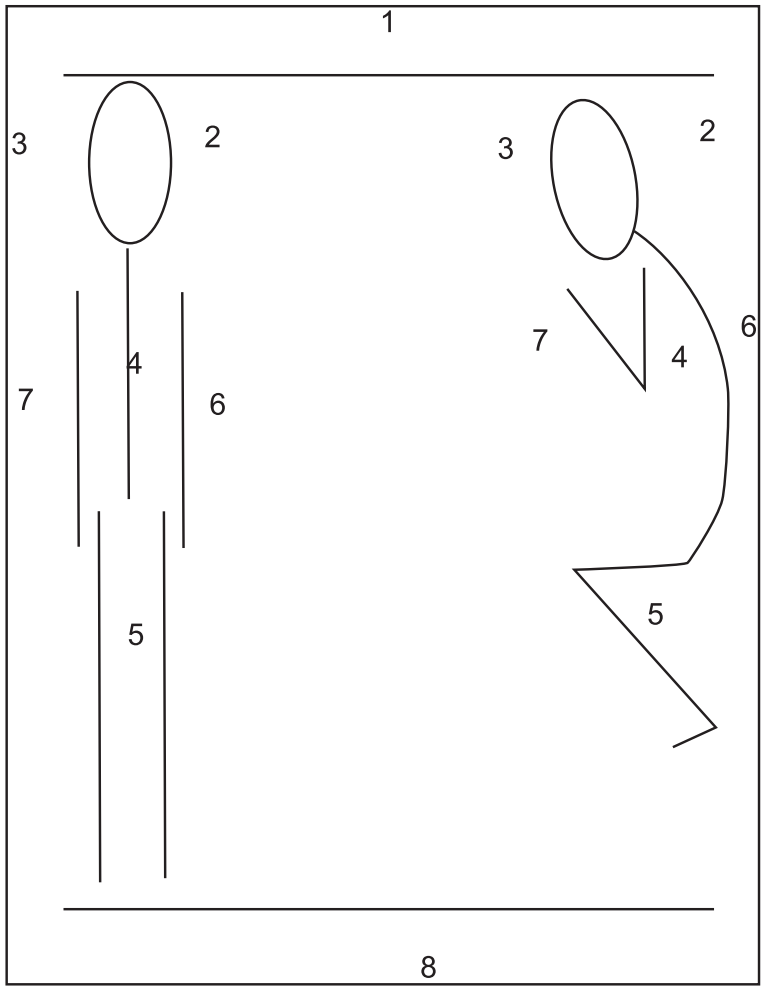


Fig. 22. Scheme of grave goods distribution in respect of the body [according to Kremenetskiy 1986: 126-203]. 1 - "at the head"; 2 - on the left/behind head; 3 - on the right/before head; 4 - on the chest; 5 - by the legs; 6 - on the right/behind back; 7 - on the left/before chest; 8 - at the feet

many occasions, very distant from one another. What can be only distinguished is assemblages from individual test groups and, on the lower level, assemblages from individual graves. An additional difficulty is that all source data come from written records – archives and publications. Unfortunately, the quality of illustrations leaves much to be desired and hence it is on many an occasion impossible to verify them by comparing them with their descriptions in the text. In addition, some data have already archival character – pottery from this group of graves was left out of the analysis because of the poor quality of illustrations (photographs for the most part). Having taken into account these reservations, I gave up detailed analyses of

technology, micromorphology and ornamentation. Instead, I focused on developing a general typological scheme of ceramic forms. In the Ukrainian literature on the subject, the most widely used system is the one developed by S. N. Bratchenko [1976]. The system is based on the observations of metric relationships obtaining between individual vessel parts. The said author distinguished eight types relying on the proportions of vessels and their parts. These are: three basic groups – pots and neckless cups, pots with short necks, pots with tall necks – and flasks, amphorae, jugs and wide-opening bowls. A separate group is formed by bowls and cups on feet [cf. Bratchenko 1976: Fig. 70-79].

This proposal seems to be most inspiring, but there are limitations to its applicability following from the fact that it was developed for analysing pottery from the eastern branch of the Catacomb entity. Another difficulty stems from the joining of ornamentation categories when distinguishing subtypes relying on macromorphological observations. It seems that separating the questions of technology, morphology and ornamentation would have resulted in a better exploration of the technological-stylistic system of Catacomb entity pottery. This is, however, a suggestion for further detailed studies. For this monograph, the exploration of pottery techniques is of secondary importance; conclusions following from analysis results were used only in an auxiliary way to make the questions of chronology and chorology more accurate.

The monograph gave up discussing pottery techniques in respect of the vessels studied as well. Most of available data concern complete vessels, hence there is no detailed information on them. The vessels were formed of clay that did not require leaning. Among tempers sporadically used by Catacomb entity potters were widely available materials: sand, crushed shells, and fine broken stone [cf. Bratchenko 1976]. The second of the named additives is characteristic of ceramic traditions followed by the groups settling Black Sea steppes already beginning with the Neolithic. An unusual development is the emergence of a category of vessels made following a special recipe: with a temper of crushed bones (including human bones), using special kind of clay (so-called green clay) and exceptionally poorly fired. This type of vessels is associated with the western portion of the CC lands.

The exploration of the CC pottery was influenced above all by the fact that settlement and burial sites were not investigated equally well. In fact, most of the known pottery assemblages come from graves while settlement materials are not as readily available. This situation is aggravated by another fact, mentioned here already, that it is difficult to separate homogeneous systems on settlement sites.

In catacomb graves, in the eastern branch of the Catacomb entity, the so-called burners occur. These are undecorated fragments of walls of large vessels bearing traces of burning. The technology of making these objects differs from that of other pottery found in graves. It can be assumed that fragments of kitchen vessels were used as burners. In the case of forms originating in grave contexts one can speak of ritual ceramics made solely for the purpose of a funeral ceremony and for the

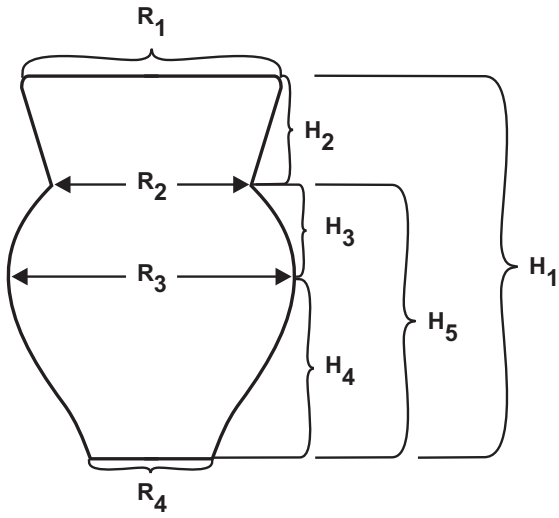


Fig. 23. Graphical definition of dimensions in formal taxonomy [according to Kośko 1979]

deceased's 'use'. This could be testified to by a great formal variety and certain carelessness in forming and firing. This hypothesis is additionally supported by the occurrence of pottery made using a special technology, namely, the Ingul type cups with a non-standard temper (bones, coal etc.), and left unfired.

b.1. Macromorphology. The description scheme of vessel morphology given below is not an attempt at a new and universal proposal. It is rather an attempt to find a compromise between the system developed by S. N. Bratchenko [1976], the principles of formal taxonomy developed for Kujawy materials [Kośko 1979: 41-50] and the situation where almost each vessel may be classified as a separate type. Under these circumstances, it was necessary to create descriptive criteria general enough to grasp common traits and tendencies (Fig. 23).

The study included 126 (out of the total of 304) complete forms. Most of the vessels (76%) represent forms metrically corresponding to the basic group of 'pot', i.e. single- or double-segment vessels meeting the condition $R2<R3\geq R1$ and $R1:H1\leq 1$. Vessels corresponding to the basic group of 'vases', i.e. meeting the conditions $R3\geq R1$ and $R1:H1>1{,}0$ and $<2{,}0$ make up 23 per cent of vessels studied. Relying on such definitions of basic groups one may suggest the following list of detailed types. For the ease of reading, the list gives the type a given category refers to according to S.N. Bratchenko [1976].

1. **Pot** – single- or double-segment vessel meeting the condition $R2<R3\geq R1$ and $R1:H1\leq 1$ (Ia and Ib according to Bratchenko) (Fig. 24).
   1.1. as above, with no distinct neck
   1.1.1. as above, round-bottom
   1.1.2. with a flat bottom

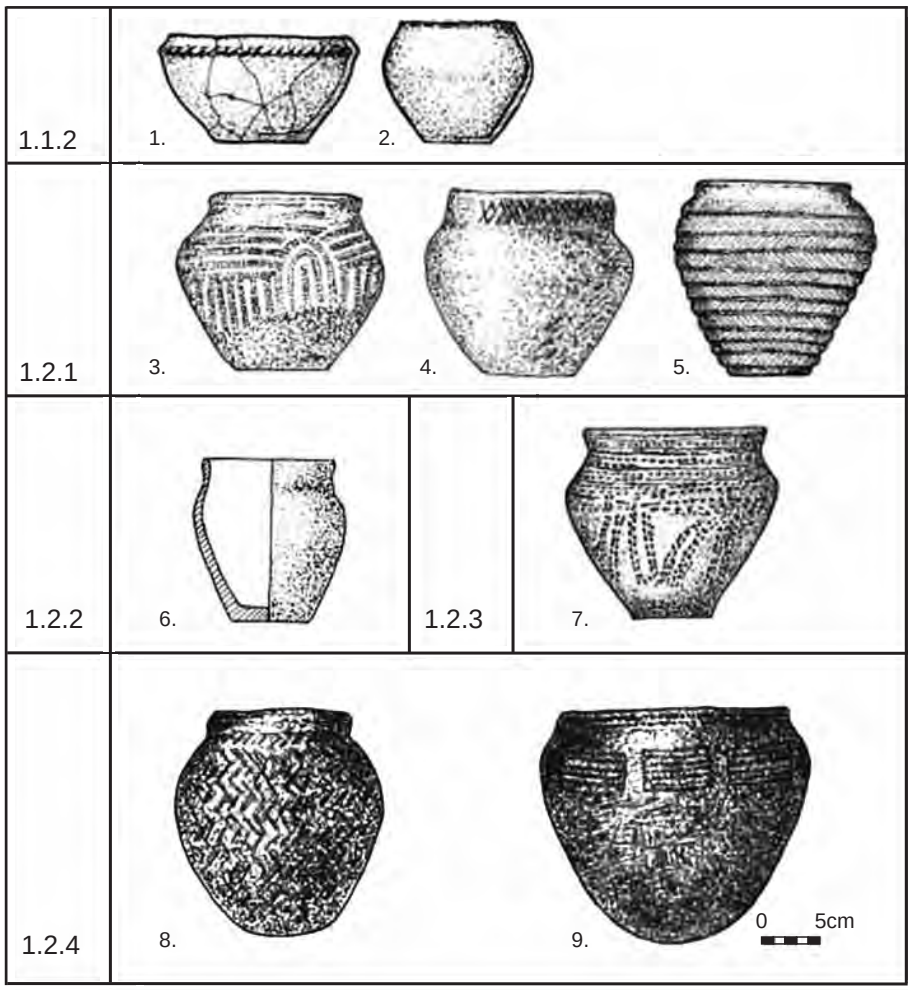


Fig. 24. Macromorphology: Pots. 1 - Purkari 1/14; 2 - Purkari 1/3; 3 - Sokolovka 2/14; 4 - Pelageevka 1/12; 5 - Kislichuvata II 4/5; 6 - Trapovka 1/18; 7 - Novorozanovka 2/17; 8 - Novopilipivka 4/3; 9 - Akkermen I 12/1

1.2. pot with a distinct neck (IIa, b, w, g and IIIb-g according to Bratchenko)
1.2.1. as above, with a short neck
1.2.2. as above, with a tall neck
1.2.3. having an S-shaped profile
1.2.4. round-bottom with a distinct neck

2. **Vase** – R3≥R1 and R1:H1>1.0 and >2.0 (VIIa and VIIb according to Bratchenko) (Fig. 25)
2.1. flat- or round-bottom with curved lip – so-called Ingul type
2.1.1. flat-bottom with a tall straight neck

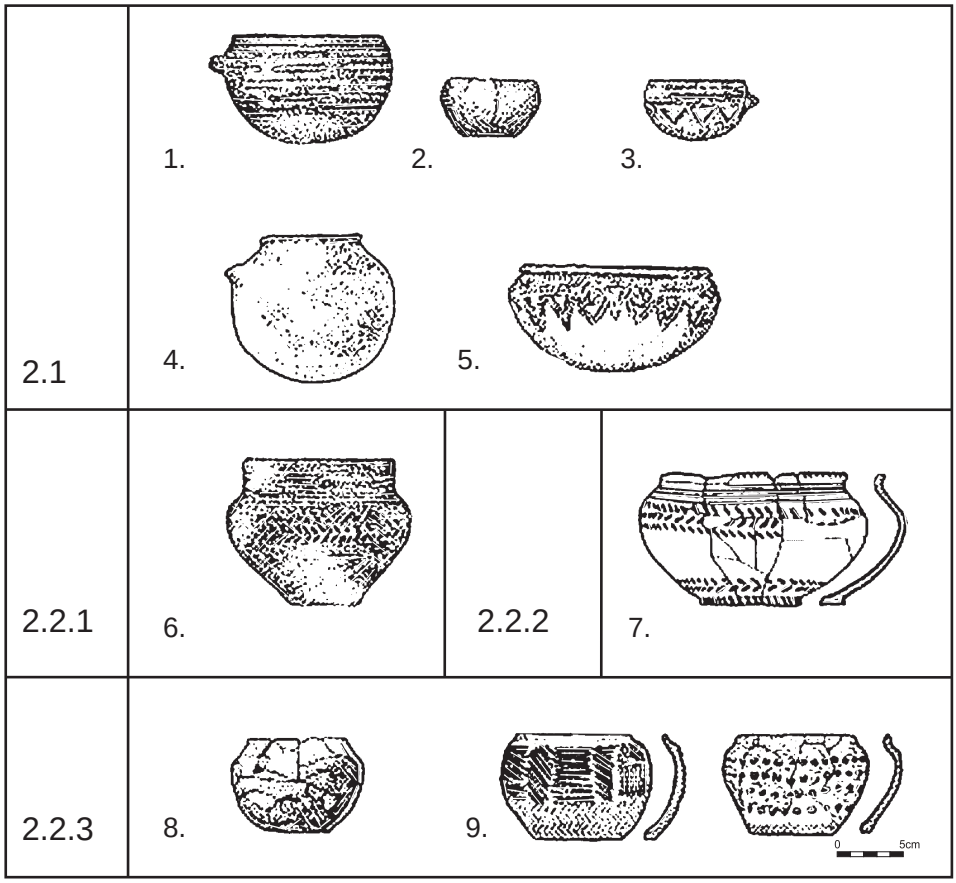


Fig. 25. Macromorphology: Vases. 1 - Privolnoe 1/16(18); 2 - Starogorozheno 2/19; 3 - Starogorozheno 2/22; 4 - Mykolaivka II 1/7; 5 - Trapovka 10/1; 6 - Verkhna Maevka XII 1/22; 7 - Krasnaya Zarya 7/2; 8 - Chernokino 1/7; 9 - Krasnaya Zarya 3/4

2.1.2. flat-bottom with S-shaped profile
2.1.3. with a short neck

3. **Bowl on feet** – a bowl-shaped vessel meeting the condition R1:H1≥2 and R1R3≥0,9 – so-called 'censers' (VIII according to Bratchenko)
4. **Amphora** – R1≤R2, R3>R1 and R3>R2 (according to Bratchenko types 1w, 2d – so-called 'turniplike vessels' – and V) (Fig. 26)
   4.1.1. amphora without handles or neck
   4.1.2. as above, with a short neck
   4.1.3. as above, with a tall neck
5. **Cup** – a pot-like vessel of the following proportions: R3≥R1 and 0.75>R1:H≤1 (IIIa according to Bratchenko) (Fig. 27).

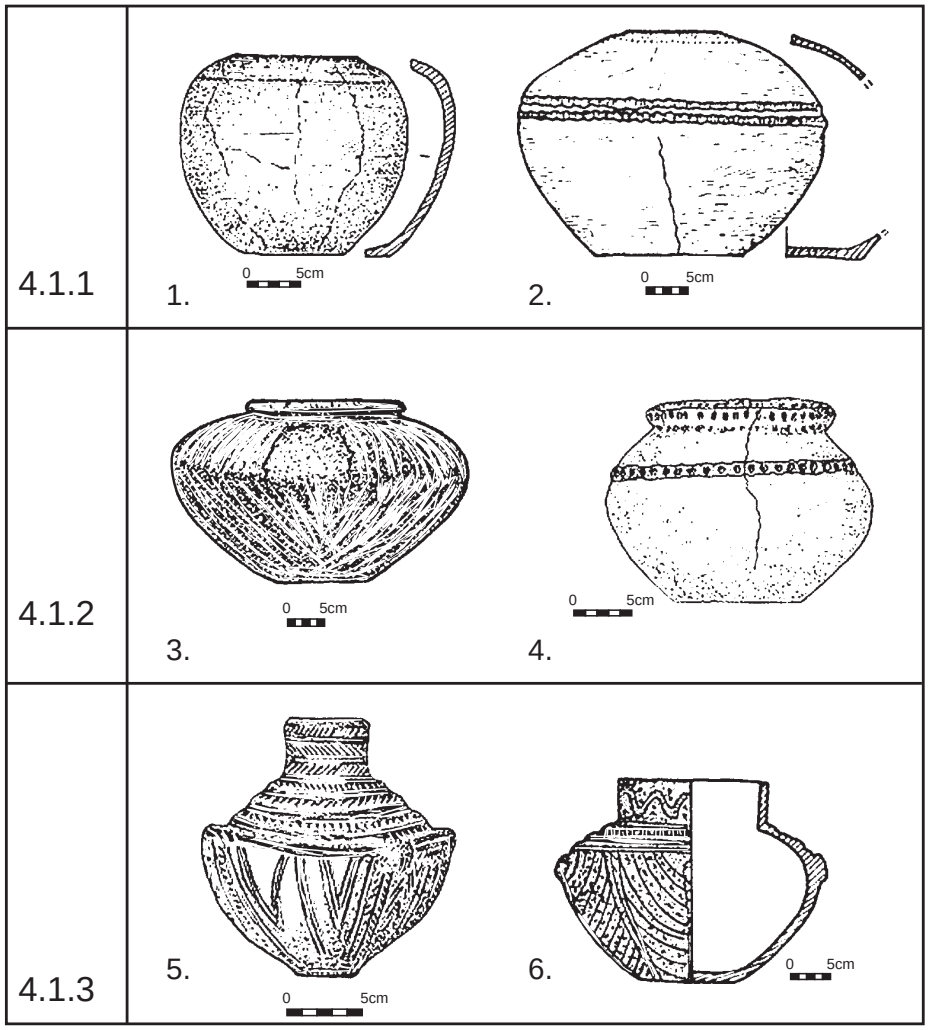


Fig. 26. Macromorphology: Amphoras. 1 - Krasna Zarya 1/1; 2 - Krasnaya Zarya 6/10; 3 - Akkermen I 17/3; 4 - Zhitenko 2/3; 5 - Sokolovka 2/6; 6 - Verkhna Maevka XVIII 4/12

5.1. cup with a handle
5.1.1. cup with no handles and a straight neck
5.1.2. S-shaped cup with no handles
5.1.3. cup with no handles and a tall neck
5.1.4. round-bottom cup without a neck
5.1.5. as above, with a distinct neck

6. **Jug** – a pot-like vessel with a tall neck having the following proportions R1:H1 = 0.7 (IIId and VIa, VIb according to Bratchenko) (Fig. 28).

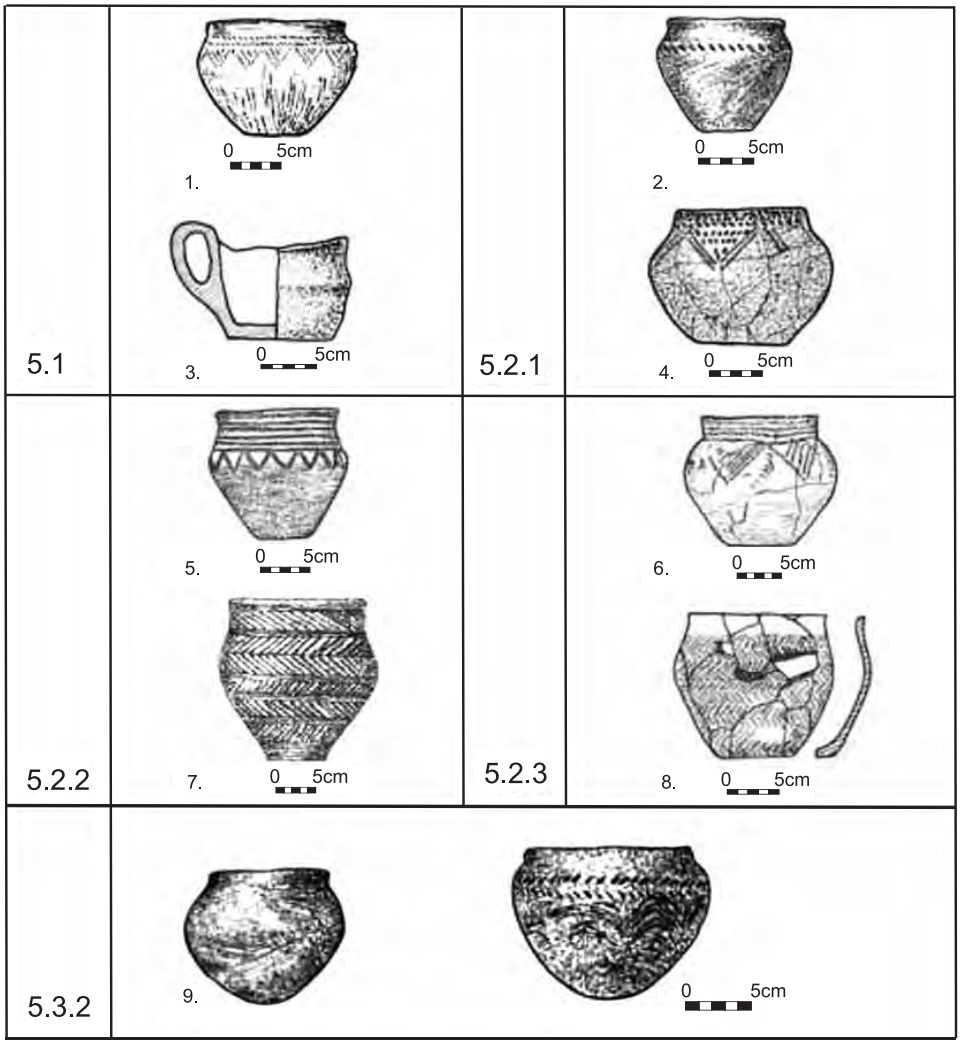


Fig. 27. Macromorphology: "Cups". 1 - Zamozhne 3/4; 2 - Akkermen I 7/1; 3 - Novoselitsa 19/20; 4 - Novorozanovka 2/14; 5 - Privolnoe 4/8; 6 - Veliki Tokmak 2/5; 7 - Sokolovka 1/23; 8 - Krasnaya Zarya 6/2; 9 - Akkermen I 19/1

6.1. jugs without handles
6.2. jugs with a loop-shaped handle

7. **Flasks** – pot-like vessels fitted with vertically perforated handles
7.1. round-bottom
7.1.1. flat-bottom with a short straight neck
7.1.2. as above, with a tall straight neck

The assortment defined in this way corresponds to standards set for the Cata-

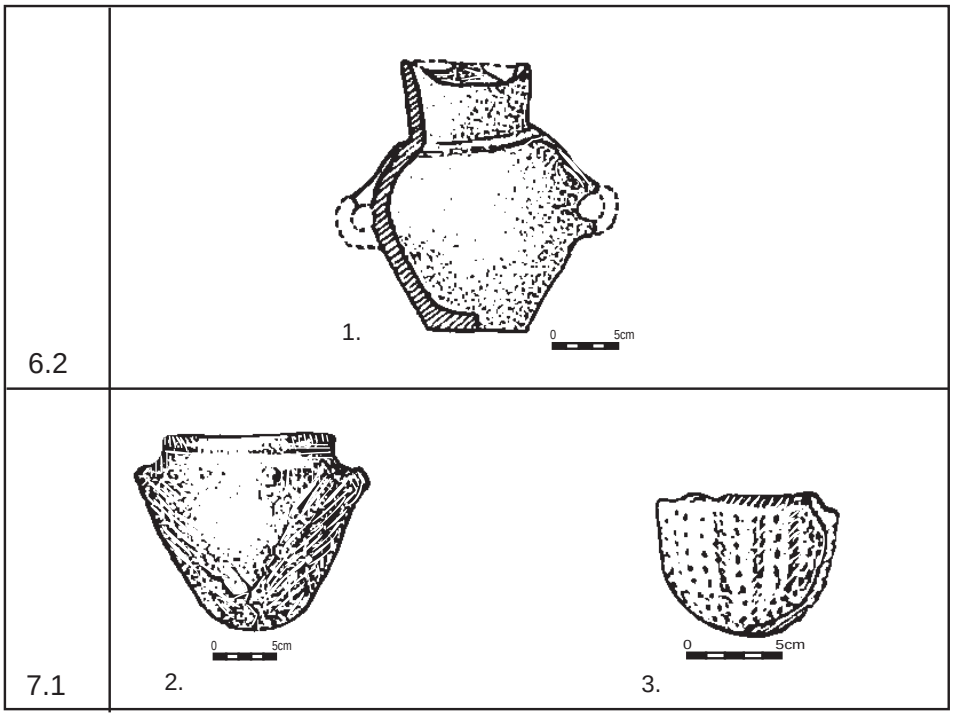


Fig. 28. Macromorphology: Jugs and flasks. 1 - Trapovka 1/18; 2 - Akkermen I 14/10; 3 - Olaneshti 13/2

comb entity. Preliminary data obtained by analysing available settlement materials suggest that in extra-ritual contexts the incidence of detailed types may be similar. However, such forms do not have any elaborate ornaments (see Tab. 21).

In terms of usefulness of the pottery assemblages for the study of relative chronology, the following forms seem to be significant: round-bottom pots and cups with a straight or narrowed neck as well as amphorae – the so-called 'turnip-like vessels' (*repovidne sosudy*) originating with the eastern branch of the Catacomb entity. The former seem to show affiliations with the forms present in the YC while the latter supposedly mark the late horizon of catacomb traits.

b.2. Ornamentation. Ornamentation of pottery, besides its best-known advantage, namely its traditional usefulness in archaeology for distinguishing taxonomic units, provides insight into the iconography of past societies. From this perspective, it seems to be important also for a broader study of symbols and worldview of a given group of people.

In the case of the assemblage available for observation, it is not possible to carry out a comprehensive and exhaustive analysis that might identify a system of iconography. Due to the fact that it is not possible to credibly verify ornamentation techniques and patterns with illustrations, this potentially highly significant cate-

Table 21

List of vessel types by graves – includes forms verifiable by drawings

Type	Site
1.1.2	Sokolovka 3,21; Sokolovka 3,21; Purkari1,14; Nikolaivka 1,2
1.2.1	Troickie 3,9; Sokolovka 2,14; Pelagaevka1,12; Purkari 1,3; Kislichuvata II 4,5; Krasnaya Zarya 4,1; Preobrazhennoe 1,5
1.2.2	Novorozanovka 2,17; Pelagaevka 1,15
1.2.3	Novopilipivka 1,5; Trapovka 1,13; Trapovka 1,18; Zhitenko 4,2; Nikolaivka 6,2
1.2.4	Novopilipivka 4,3; Akkermen I 12,1; Starogorozheno 2,24
2.1	Akkermen I 20,1; Akkermen I 20,1; Privolnoie 1,16(18); Starogorozheno 2,19; Starogorozheno 2,22; Trapovka 10,1; Purkari 1,3; Mikolaivka 1,7; Kislichuvata II1,4
2.2.1	V. Maevka XII 1,22; Krasnaya Zarya 7,2
2.2.2	Purkari 5,8; Krasnaya Zarya 6,3; Krasnaya Zarya 7,5; Chernokino 1,9; Chernokino 1,10; Nikolaivka 6,4B; Preobrazhennoe 1,2; Preobrazhennoe 1,3; Preobrazhennoe 1,5; Preobrazhennoe 1,13
2.2.3.	Akkermen I 4,5; Akkermen I 14,4; Akkermen I 19,1; Novorobehindnovka 2,15; V. Maevka XIV 7,10; Krasnaya Zarya 3,4; Krasnaya Zarya 3,4; Chernokino 1,7
3	Nikolaivka 6,2
4.1.1	Krasnaya Zarya 1,1; Krasnaya Zarya 6,10; Preobrazhennoe 1,6; Preobrazhennoe 1,18
4.1.2	Akkermen I 17,3; Akkermen I 20,2; Purkari 1,9; Zhitenko 2,3
4.1.3	Sokolovka 2,6; V. Maevka XVIII 4,12; Krasnaya Zarya 7,4
5.1	Zamozhne 3,4; Novoselitsa 19,20
5.2.1	Akkermen I 7,1; „Yushanli" 1; Privolnoie 1,2; Novorozanovka 2,14; N. Raskayentsy 1,8; Pelagaevka 1,19; Starogorozheno 2,24; Belolesye 3,11; Chernokino 1,4; Stepnoy 1,4; Preobrazhennoe 1,6; Preobrazhennoe 1,7
5.2.3	V. Tokmak 2,5; Privolnoie 2,27; Sokolovka 1,23; Sokolovka 2,20; Pelagaevka 1,19; Krasnaya Zarya 2,8; Krasnaya Zarya 6,2
5.2.2	Akkermen I 7,2; Akkermen I 17,2; V. Tokmak 1,6; V. Tokmak 2,1; V. Tokmak 2,21; Privolnoie 2,27; Privolnoie 4,8; Sokolovka 1,23; Sokolovka 2,6; Maevka XII 1,3; V. Maevka XII 1,20; Kislichuvata II 1,4; Kislichuvata II 4,8; Krasnaya Zarya 3,2; Stepnoy 1,3; Nikolaivka 2,6; Novoamvrosievka 4,2
5.3.1	Bobrikove 1,3; Bobrikove 1,3
5.3.2	Akkermen I 3,1; Akkermen I 19,1; Zamozhne 2,9; Zamozhne 4,6; Privolnoie 1,3; Sokolovka 1,24; V. Maevka XIV 7,9; V. Maevka XVIII 1,8; Mikolaivka 1,7
6.2	Trapovka 1,18
7.1	Akkermen I 14,10; Olaneshty 14,2

gory of data, especially for the study of symbols and rituals, was ignored in this monograph.

Hearths and ash concentrations. Concentrations of coals and ashes, which can be interpreted as hearths, occurred in 28 cases (i.e. about 4%). The share of graves with traces of hearths grows when one moves from the west to the east.

Burners/censers. The incidence of burners/censers in graves seems to be similar to that of hearths and ash concentrations. In the whole assemblage studied, there were 59 cases of the occurrence of such objects. However, only two cases were recorded outside the Donetsk-Luhansk test group (one in each of Ingul and Verkhnetarasovka groups; in both cases, the body had been placed following the western standard). A vast majority of cases comes from the Donetsk-Luhansk group; burners/censers were usually placed next to either the feet or the head of the deceased.

C. Treatment of the Deceased's Body

This group covers the following traces of ritual behaviour: presence of ochre on skeletons as well as masks and tar.

Sprinkling ochre over body. Among the traces of ritual behaviour relating to the deceased's body this practice is the most frequent. Its incidence was discussed earlier (see III.1.b.). While discussing the use of the red colorant as an element of body treatment, I have included in the study the cases when the colorant was recorded on both skeleton bones and the grave bottom around them. The practice of sprinkling bodies with ochre is the least common in the test groups of the western branch of the Catacomb entity, i.e. Ingul and Orel-Samara, while it is more common in the mixed groups (Molochna and Verkhnetarasovka) and in the eastern branch (above 24%). A surprisingly high incidence of this practice is noted in the Budzhak group (45%).

Masks and tar. Both traits are rather rare in the studied group of graves. Masks were recorded only in 18 cases. There are four types of masks

1. complete mask – when the features of the whole face are reconstructed,
2. partial mask – when there are imitations of a mouth, closed eyes and/or a nose and original lumps stopping aural openings,
3. eye-sockets only, this type includes both 'models' of closed eyes in clay and eye-socket covers made of shards,
4. embraces skulls with the skull cap covered with tar (see Fig. 29).

In the Molochna group, masks were recorded in 12 cases (11 graves). All four types are represented (2 complete ones, 7 partial ones, 1 covering eyes only and 2 with traces of tar on the skull). Two masks were recorded in the Ingul group: types 1 and 2. In the Orel-Samara group masks were found in 4 graves; in one grave a complete mask was recorded, in the other three partial ones. Two burials with partial masks (in one grave) were discovered in the Donetsk-Luhansk group.

Tar is a rare occurrence in graves: it was found only in 8 burials. Two cases have been discussed above. In the other cases, lumps of tar were found immediately next to the head or close to the arms. In total, 5 cases are connected with the Molochna group, 1 with the Orel-Samara and 2 with Donetsk-Luhansk groups.

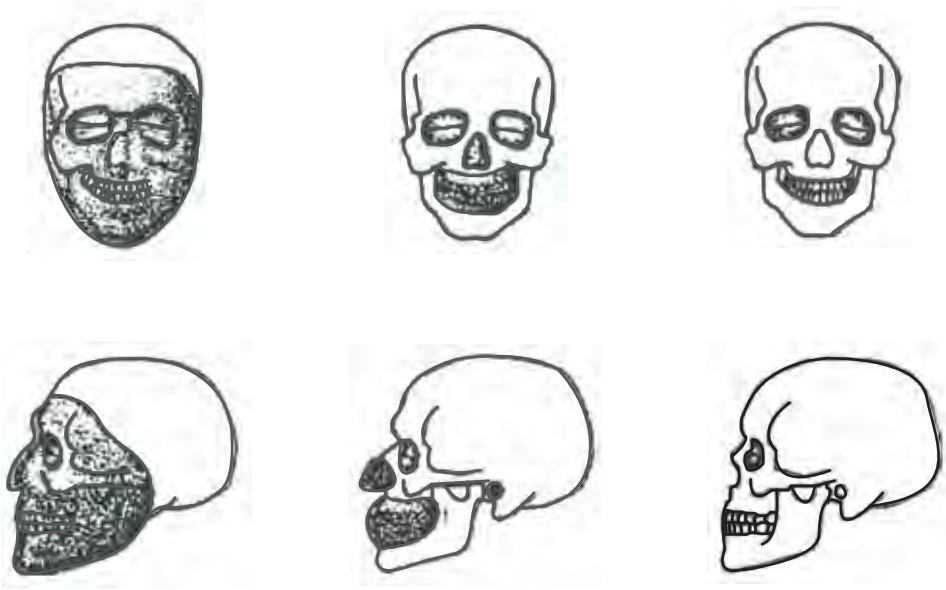


Fig. 29. Main types of masks (without type 4)

D. Definition of Ritual Groups

Ritual behaviour taking place in the grave pit includes above all actions aimed at preparing space for the deceased. Such actions must have taken place between the digging of the grave and the placing of a body in it. The second most common type of behaviour includes traces of actions related to the placing of offerings and the special treating of the body – above all the sprinkling with ochre.

The results of investigations discussed above show that the use of fire in funeral practice was by no means common. It was more common in the east than the west, where it is recorded only sporadically. The traces of fire include primarily portable altar-hearths. In this function censers or their 'Catacomb' substitute, namely burners, were used. It seems plausible to believe that what this was about was fumigation meant to cleanse the grave and the deceased or to remove the stench of decay. The question how to interpret these types of behaviour shall be discussed further on in the monograph (see Chapter V).

In an attempt to bring order to the data on ritual behaviour, a number of ritual groups have been distinguished relying on the sum of values given to each grave. The values can be graded:

1. In the case of relatively common types of behaviour (over 10%): preparation of the bottom in terms of the presence of vessels, coals and/or chalk, lining, ochre, animal remains and traces of fire – each of these types of behaviour is given the value of 1.

Table 22

Incidence of ritual groups

Group	0	I	II	III	IV	V	VI
Molochna	0	16	31	28	8	8	3
Ingul	33	47	31	31	11	3	2
Budzhak	10	4	16	21	8	2	0
Orel-Samara	26	13	40	35	9	2	5
Verkhnetarasovka	6	2	13	18	9	0	1
Donetsk-Luhansk	17	34	31	50	31	20	24
Sum	92	116	162	183	76	35	35

2. In the case of less common types of behaviour (below 10%): representations of feet made with ochre, portable altar-hearths – censers and burners, masks and tar lumps – were given the value of 2.

The totals of values given to individual graves allowed me to distinguish seven ritual groups.

Group 0. This group embraces graves lacking any offerings or showing no traces of activities aimed at preparing the grave or the body.

Group I. This group embraces graves that show only one type of behaviour: most often offerings in the form of vessels or animal bones, preparation of bottom or ochre.

Group II. This group is made up of graves in which two types of basic activities occur primarily related to bottom preparation: chalk/coal and ochre. Less common finds in this group include animal bones and traces of fire.

Group III. This most numerous group is made up of graves in which three basic types of behaviour were recorded: there are offerings, ochre, and the bottom shows traces of preparation for burial. In some cases, one or two basic types of behaviour are replaced by others. On each occasion, however, at least one of the above types of behaviour is present.

Group IV. This group includes graves in which, next to the three basic types of behaviour (offerings, bottom preparation and presence of ochre), additional elements occur including also those of a higher ritual value mainly related to the use of fire.

Group V. Graves included in this group are characterized by highly complex ritual behaviour. Types of behaviour representing all three stages of activity are present. The presence of ochre and linings is mandatory (above 95%), whereas the incidence of chalk and/or coal is lower. In over a half of graves there were recorded portable altars, masks or tar.

Group VI. Burials included in this group had the greatest value of ritual behaviour. Offerings are mandatory here as well as traces of ochre in the form of powder and drawings of feet. The preparation of bottom is elaborate and organic linings occur

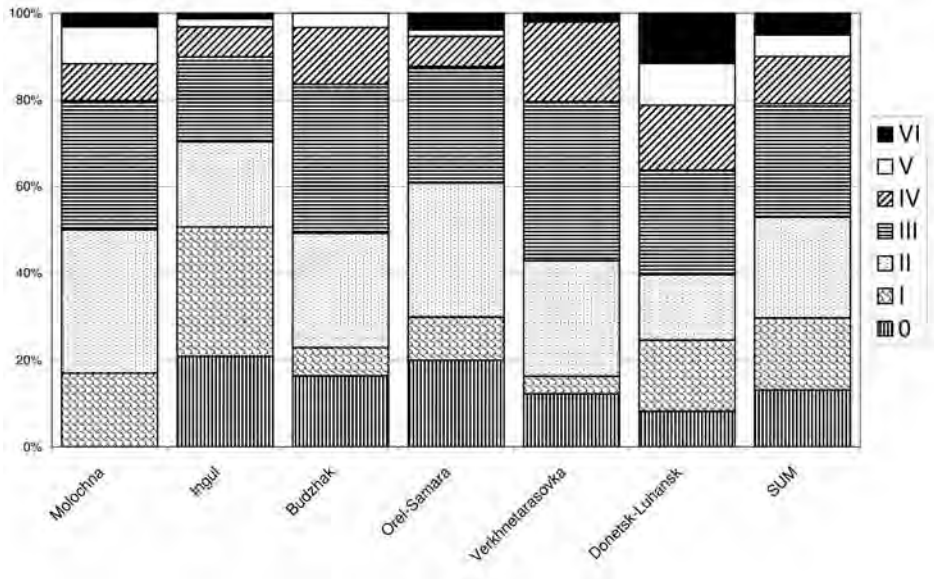


Fig. 30. Incidence of individual ritual groups on the level of test areas

in as many as 85 per cent of graves. Also, fire seems to be a constant element characterizing this group.

The purpose of the analysis was to determine the incidence of the groups in the whole set of graves and in individual test areas (see Tab. 22, Fig. 30).

III.5. CLASSIFICATION OF GRAVE GOODS

From the discussion on this level, pottery has been excluded despite the fact that it is traditionally classified as an element of grave goods. In this monograph, objects accompanying the deceased have been divided into two classes: offerings (encompassing vessels and animal remains) and outfit (consisting of objects that are due to the deceased such as clothing, ornaments, tools and weapons) [cf. Wawrzeniuk 2002: 75-82]. The former class, having a strong ritual value, was discussed in part III.1.3. For the discussion of the funeral theory, the distinction may be significant.

A. Weapons

It has to be made clear in the beginning that the literature on the funeral rites commonly uses the criterion of raw material. Objects made of metal, flint, stone or

bone are discussed separately. However, this approach, as it seems, does not suit well, in terms of informative content, the purpose of reconstructing the funeral rites. Thus, in the further discussion, a functional classification of grave goods shall be kept. The discussion covers weaponry following its classification and definitions as used by V.I. Klochko [2001: 11-13]. The Catacomb entity's weaponry assemblages lack any protective gear such as shields, armours or helmets. Two classes of weapons can be distinguished in the strict sense of the word: long-range weapons (archery gear, javelins) and 'close-quarters' weapons (spears, maceheads, axe-hammers, daggers). Under the category of weaponry knives have been subsumed. I am fully aware that this approach carries a certain risk of a wrong classification of a user's intention. A similar risk is entailed in the attempt to classify knives under the category of tools. The function of objects classified as metal knives is still unclear. An interesting proposal was made by V.I. Klochko [2001] who suggested that tanged knives could have served as daggers, especially those with a long blade broadening at the upper end. Owing to the similarity of some forms to flint daggers, it is justified to include this category among elements of weaponry. It has also been suggested that knives should be interpreted as points of long staff weapons (e.g. spears) or as elements of leather-working tool kits. I shall return to this issue when I shall discuss the typology of knives found in the studied assemblages.

In Catacomb culture graves, weaponry is not an inherent element of the funeral rites. It forms a group of rather 'optional' objects that are not a basic category of grave goods such as tools or sets of ritual objects. The existence of such specialized categories, related to the structure of society, was suggested by S.Z. Pustovalov [1991; 1992; also Klochko, Pustovalov 1994].

For the purpose of this monograph grave goods were analysed from two perspectives: a ritual one (a) and a formal one taking into account chorological and chronological changes (b).

a. Weaponry occurred in 75 graves that account for 11 per cent of all graves studied. However, it must be noted that the share of graves with weapons varies in individual test groups. The highest share was recorded in the Molochna and Donetsk-Luhansk groups (18% and 15% respectively), while in western groups weapons were found only in 8-9 per cent of graves. Surprisingly, in the graves located between the Orel and Samara rivers, this class of grave goods was recorded only in 2 per cent of graves. A similar result was reported by S.Z. Pustovalov [1992b].

Number of objects in grave. A vast majority of graves where weapons were found had only a single object or the same class of weapons (80% of which 9% is made up of objects belonging to the same class, e.g. arrowheads); a rare occurrence is the presence of two (17%) or three (2%) types of weapons. As the share of graves with weapons declines in the western branch of Catacomb entity graves, there are more cases of weapons of more than one class present in the grave. An interesting situation is encountered in the Dnieper drainage, both eastern and western (Verkhnetarasovka and Orel-Samara groups). It is characterized by a low share of graves with weapons which are restricted to one class only.

Assemblages. With a rather modest amount of data, the following assemblages have been recorded: a bow and/or arrowheads + a macehead, a bow and/or arrowheads + a metal knife + a macehead; a metal knife/axe-hammer + macehead or a bow and/or arrowheads + an axe-hammer; a bow and/or arrowheads + a metal knife + an axe-hammer. It seems that the axe-hammer and mace occurred interchangeably. There are no cases of complete forms of these artefacts occurring in one grave.

Location of weaponry in grave. The location of weaponry in the grave was analysed according to the same criteria that were used to analyse the pottery distribution. Graves with a single element or category and assemblages were analysed separately. However, in both cases weaponry arrangement was similar. In about 52-60 per cent of cases weaponry was placed around the deceased's head, specifically above the skull. In a large share of cases weapons were placed in positions 3 and 7, i.e. between the face and chest of the deceased, on one side, and the entrance to the burial chamber on the other. There is also a class of burials where weaponry is placed at the deceased's feet. Other potential locations seem to be of little importance for the rites observed in the Catacomb entity. The preferences concerning the placement of weaponry vary geographically. However, the differences are not very significant except that in the Ingul test group weaponry was most often placed in front of the deceased or at his/her feet.

Incidence of individual types of weapons. For the further discussion, the share of individual weapon types in graves is important. In all the burials studied, the most frequent type of weapon is the metal knife followed by axe-hammers, arrowheads and javelin points. In this case, however, geographical differences are strongly pronounced. This is related, as it seems, to the number of graves with weaponry in a given group. The greatest number of such graves are found in the Molochna and Donetsk-Luhansk test groups.

A quite large group, without noticeable geographical variations, is formed by arrow- and spearheads. At the same time two traditions are observable: an eastern one, in which the dominant weapon type is the knife and a western one, in which axe-hammers or maceheads dominate in terms of numbers. Assuming that metal knives were an element of weaponry, it may be claimed that ways of combat differed geographically [see also Klochko 2001: 139-141].

However, an alternative explanation should also be considered in which knives are excluded from among weaponry. The exclusion of knives from the analysis of incidence of individual weaponry elements in local groups showed a numerical domination of axe-hammers and maceheads (Orel-Samara – 100%) in the western groups and in the Verkhnetarasovka group, while points dominated in the Molochna and Donetsk-Luhansk test groups.

b. What shall follow is the results of a study showing how weaponry elements changed in time and space.

Knives (Tab. 23, Fig. 31). This element is not typical only of the Catacomb culture contexts. Metal knives (made of 'pure' copper or with a natural arsenic admixture,

Table 23

List of inventories with knives

Site	Barrow	Grave	Knife	Position	Other	Tools	Sex*	Pottery	Wood	Other information
1	2	3	4	5	6	7	8	9	10	11
Akkermen I	7	1	VI	3	-	awl, hammerstone	C	1	piece of wood	- -
Akkermen I	17	4	V (?)	7	bow?	hammerstone	M	-	bowl	-
Artemovsk	1	1	VI	7	-	awl, kit for arrowheads production: arrow straightener, punch, core, 20 unfinished arrowheads	A	1	-	-
Chernukhino	1	9	VI	7	-	0	M	1	box	ochre object
Ivano-Darevka	1	8	III	8	mace-head	awl, scraper	A	1	-	unfinished axe-hammer, stone baton-sceptre, bone ring
Ivano-Darevka	2	2	V	7	-	0	A	1	-	spear-staff
Khristoforovka	6	16	? one-edged	6	-	0	A	3	-	-
Kindrativka	3	4	II	7	-	awl, hammerstone	A	2	tray	-
Kindrativka	3	10	III	6	-	awl	A	1	-	painted leather rug
Konstantynovka I,	2	2	III?			grindstone	A	1	-	-
Konstantynovka I	8	5	?	6		perforator	A	1	-	-
Krasnaya Zarya	1	3	VI	7	-	awl, 6 flint tools	A	-	-	-
Krasnaya Zarya	2	9	II	near entrance	-	awl	AAC	F	-	2 metal sheets, 11 forges, 2 multiturn wire pendants, ochre object
Krasnaya Zarya	4	2	VI	7	-	awl	A	-	-	ochre object
Krasnaya Zarya	6	6	2x III	7	-	awl	AA	-	-	3 multiturn temple rings, ochre object

1	2	3	4	5	6	7	8	9	10	11
Lisichansk LNPZ	2	1	III	2	-	awl	AAA	1	-	-
Nikolaivka	1	3	V	3	-	0	A	-	-	-
Nikolaivka	6	2	II	7	-	awl, flint tools	A	1F	-	9 pieces of belemnit, separator made of astragal, clay ball, lump of ochre
Nikolaivka	8	1	?	3	-	0	M	-	-	-
Nikolaivka	11	7	?	7	-	0	CCC	2	-	7 bone rings, temple rings, 2 pendants
Oleksandrivsk	1	38	VI	7	-	0	Y	-	-	-
Preobrazhennoe	1	6	III	near. entrance	-	0	A	2	-	-
Preobrazhennoe	1	14	III	Centre	-	awl, grindstone, 2 concentration of raw flint	A	-	-	-
„Razdolovka”	2	1	?	7	-	awl, unfinished awl	A	1	-	-
Staroro- behindnovka behindnovka	1	9	?	2	axe-hammer	perforator	AA	1; some pieces	piece of undefined object	flint, 4 shells
Voroshilovgrad VSHI	3	19	3x III	3	-	scraper	AA	2	-	beads: amber, faïdence, 2 Caucasian pendant
Voroshilovgrad VSHI	5	4	III	1	-	awl	AA	-	-	-
Zamozhne	5	2	V	7	axe-hammer (Inhul type), spearhead	awl	M	1	cup	organic pillow, knife and awl in box, pieces of textile
Zamozhne	5	7	V	3	axe-hammer,	awl, grindstone	M	1	cup	-
Zamozhne	6	3	V	8	-	awl, grindstone, perforator	M	1	behind head	-

* See table 13

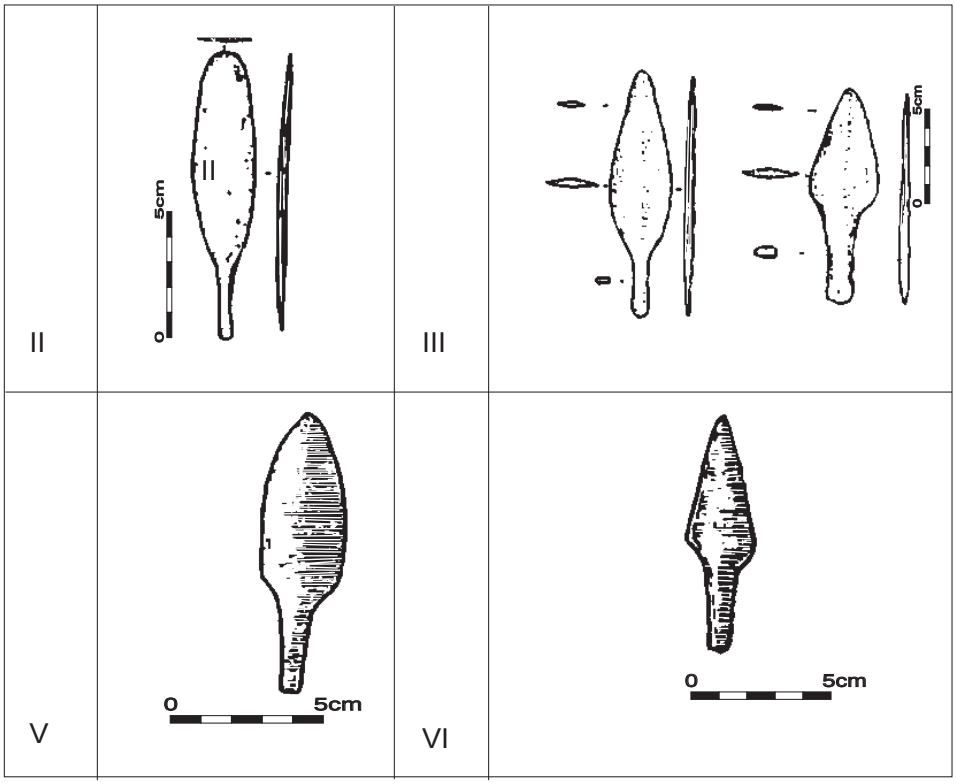


Fig. 31. Knife typology. Type II - Krasnaya Zarya 2/9; Type III - Krasnaya Zarya 6/6; Type V - Akkermen I 17/1; Type VI - Akkermen I 17/1

later also of tin bronze) were recorded in YC assemblages as well as in later ones: MC and SC. Interpretations of their function do not provide a clear answer what this element was designed for: they may have been utility knives, daggers, razors or utensils related to sacrificial rituals. A possible explanation may be that we deal with multifunction objects in this case.

Several formal typologies have been suggested. From the point of view of this monograph, an inspiring typology of knives has been developed by A.A. Britiuk. It is based, for the most part, on the observation of formal changes taking place while an object is used [1996: 170-177]. The said author has suggested that there might have been three cycles of use of different chronologies. For the sake of further discussion, it should be noted that in the early CC stage type III forms dominate with only a slight share of type II. However, in the classic stage, type IV and its modifications – types V and III – were to be initial forms (however with more slender proportions than in the early stage). The late stage witnessed the domination of types IV and V in grave contexts and the spreading of type VI, which A.A. Britiuk believes to be the final form in the process of knife utilization.

A. A. Britiuk's proposal concerns the eastern expanses of the Catacomb culture. For the western ones, there is a typology developed by E. Kaiser [2003] consistent with the one mentioned above and the classic proposal by S. N. Korenevskiy [1978: 33-48]. In this monograph, knives were classified according to the typology developed by A.A. Britiuk, but to make it easier for the reader to find his/her way around, references to two other typologies shall be given as well.

I – knives with parallel sides and an upper part, without traces of sharpening (group 1 according to S. N. Korenevskiy; no designation according to E. Kaiser);

II – knives with parallel and slightly tapering sides, sharpening angle of 0-5 degrees (group 1 according to S. N. Korenevskiy; no designation according to E. Kaiser);

III – the blade is the widest at one-third of its length, triangular blade, blade length > blade width, sharpening angle 10-46 degrees (groups 3 and 4 according to S.N. Korenevskiy, type C according to E. Kaiser);

IV – knives with the upper portion of the blade formed into a triangle and sharpened, parallel edges, sharpening angle 19-47 degrees (group 2 according to S. N. Korenevskiy, type A according to E. Kaiser);

V – as above, without the flattened portion of the blade, sharpening angle 10-56 degrees (group 2 according to S. N. Korenevskiy, type B according to E. Kaiser);

VI – knives with a triangular blade, blade width > blade length (groups 3-4 according to S. N. Korenevskiy, type C according to E. Kaiser);

Out of the total number of graves, knives were found in 29 of them of which 22 belong to the Donetsk-Luhansk test group. In this group, the typological variation between knives is large. The largest group is made up of type III knives (8), followed by group VI (5) and groups II and V (3 each). This might suggest the existence of two time horizons in these assemblages: an earlier one defined by type II and III forms (thickset) and a later one represented by assemblages including type V knives. In the Molochna group, of the total of five knives, four belonged to type V and one to type VI, which might indicate that these contexts are related to the developed phase of the CC. The most difficult to define is a group of assemblages from the Ingul region. Among the analysed objects, there is a case of an untypical single-blade form, while in another case there is no sufficient data to classify. However, according to E. Kaiser's results [2003], in assemblages found in the western expanse of the CC, there is clear prevalence of forms corresponding to types III (slender proportions) through VI according to A.A. Britiuk.

To understand better the function of knives in the funeral rites, it is worthwhile to consider also the contexts in which they occur. Except for six cases, all the knives were among the goods found in single graves of adults. In the few graves for which anthropological analyses had been made, not a single case was found of a knife associated with a female burial. However, the small number of such analyses do not justify making a connection between knives and typically male assemblages.

Table 24

List of inventories with axe-hammevs

Site	Barrow	Grave	Weaponry	Position	Other weapon	Tools	Pottery	Sex*	wood	Other
Chernukhino	1	4	Bohuslav – late YC	4	-	-	1	A	-	-
Ivano-Darevka	1	8	boat-shaped AHMS?	near wall	mace-head, bronze knife	scraper, awl	1	A	-	stone baton-sceptre, bone ring
Limantsy II	7	11	AHMS (GA2a)	7	-	-	-	A	-	-
Nikolskoe	1	13	AHS	7	-	-	-	A	-	-
Novye Raskaetsy	1	12	AHS	7	-	scraper	-	A	-	-
Novyi Mir „Rodina”	2	3	AHS (GA2)	7	-	-	2	MC	-	-
Novyi Mir „Rodina”	2	6	AHME (Vc)	7	-	-		Y	-	-
Oleksandrivsk,	1	8	?	1	-	-	1	C	-	2 bronze beads, temple rings with flattened ends
Otradnoye	28	8	axe-hammer-unfinished	7	-	awl	-	A	-	-
Preobrazhennoe	1	5	Bohuslav – late YC	near wall,	spearhead	-	1	A	spear-staff	
Purkari	1	38	boat-shaped CWC (P)	3	4 flint arrowheads	scraper, flint knife	-	-	-	spearhead-unfinished
Trapovka	6	13	boat-shaped CWC (P)	7	-	-	-	A	-	-
Zamozhne	2	9	AHS (L1)	7	-	-	1	A	-	-
Zamozhne	5	2	AHS (VA1)	7	2 spears – one with spearhead, knife	awl	1	M	cup	organic pillow, knife and awl in box, pieces of textile
Zamozhne	5	7	AHS (GA2)	3	knife	awl grindstone	1	M	cup	-

* See table 13

In the vast majority of cases knives were placed in front of the deceased and less often behind his head or back, or at the feet. Other types of weapons co-occur with knives only in five cases (3 in the Molochna group and 1 each in the Ingul and Donetsk-Luhansk groups); these are mainly axe-hammers and a single case of macehead. As far as tools are concerned, knives are most often accompanied by metal awls and, on occasion, objects related to arrow production or colorant grinding (assemblage from Akkermen I 17/4).

What attracts our attention is a quite complex funeral rite. The position of the deceased is not a decisive factor; all positions are encountered: Ia, Ib and IIb. In the majority of cases, a clear tendency is observed to use ochre for sprinkling the bottom and body. A frequent occurrence is ochre representations of footprints and other ochre ornaments (Zamozhne 6/3, Ivano-Darievka 2/2, Kindrativka 3/4, 3/10). In the other cases complex linings of organic origin were found as well as fragments of decorated cushions or rugs. Grave goods including a knife could have been placed in a special container or case (Zamozhne 5/2).

The evidence presented above shows that knives did not have a solely utilitarian function. Originally, they could have been used both as multi-purpose tools and weapons – daggers or points of long staff weapons – as well as objects related to skin processing in the meaning of a herdsman's kit [cf. Kaiser 2003: 142]. The presence of knives among grave goods seems to be a sign of their role in defining the status of the dead person within a group of people.

Axe-hammers (Tab. 24). In the case of stone axe-hammers classifying them as weaponry raises no doubts. They were typologically analysed following the scheme proposed by V.I. Klochko [2001]. The analysis covered objects from the whole of the Northern Pontic Area and corresponded to the chorological brackets of the present monograph. As patterns of different genetic backgrounds appear in Catacomb entity assemblages, the genetic aspect of particular axe-hammer forms, proposed by the author of this typology scheme, is important as well.

To describe the forms of CC axe-hammers, the scheme uses four basic categories:

1. AHS – short proportion axe-hammers – thickset,
2. ASE – slender proportion axe-hammers,
3. AHMS – thickset axe-hammers with a mushroom-like butt
4. AHME – slender axe-hammers with a mushroom-like butt

The criterion of axe-hammer ornamentation – one of the most obvious markers of the western (Ingul) tradition – plays no role in this classification. It is for this reason that this monograph uses elements of E. Kaiser's typology [2003] (in the table, references are given in parentheses).

Six forms from unpublished assemblages remained unclassified due to the absence of illustrations. Among the other specimens, which were assigned to typological categories, AHS type dominated by counting six axe-hammers while the three other types were represented by one specimen each. In addition, the assemblage included four forms of other types: two forms showing affinities with

CWC boat-like shapes and two others belonging to YC assemblages of the Bohuslav type.

Axe-hammers are the most numerous in the Ingul test group, unfortunately most of them are part of unprocessed and unpublished assemblages (5 specimens). In the case of only one axe-hammer it was possible to determine its type – in grave Limantsy II 7/11 an AHMS axe-hammer was unearthed. The second largest concentration of axe-hammers, in terms of incidence, is the test area on the Molochna River. There, four AHS forms were recorded including a single decorated one. In the Budzhak group, two axe-hammers belonged to AHS type while two others were similar to those from the central European CWC. In the Donetsk-Luhansk group axe-hammers are rare. In the investigated graves, two axe-hammers belonged to the rather archaic Bohuslav type typical of the late YC. An interesting case is offered by grave 1/8 from Ivano-Darevka. A single assemblage included a pear-shaped macehead and a semi-produced axe-hammer. However, in the other cases these two weapon forms are mutually exclusive.

The observations presented above are consistent with the findings of V. I. Klochko. In the eastern portion of the CC area, axe-hammers are not a dominant weapon type. Most of them represent post-CWC or late Yamnaya forms. Ingul-type axe-hammers do not dominate here. In the western portion of the CC area, axe-hammers are a dominant type of weapon and form a compact typological group. In these assemblages, forms typical of the IC prevail, namely undecorated ones or others with a rich ornament. Extra-catacomb types are very common along the CC western frontier, specifically in the Budzhak test group. In the area of this group, finds were made of forms related to post-Corded traditions. These conclusions are consistent with observations made by E. Kaiser for the western branch of the Catacomb entity [Kaiser 2003: 170-186].

Axe-hammers were usually placed before the deceased – close to the shoulders or face. There were also recorded single cases of placing an axe-hammer close to the head or on the chest of the deceased. Axe-hammers were above all found in the graves of adults, although in one case an axe-hammer accompanied a child to its grave. In the western groups – Budzhak, Ingul and Molochna – the dead were usually placed in positions Ia, more rarely Ib. Whereas in the Donetsk-Luhansk and Verkhnetarasovka groups axe-hammers are found with bodies lying on their side. Other weaponry categories were recorded only in five cases: three cases involved knives or spears or sets of arrows. With axe-hammers there are no obvious ties to tool assemblages as it was the case with knives and bronze awls.

Except for graves from Otradnoye 26/7, 28/8 and Trapovka 6/13, all other graves bore traces of rituals performed within the burial chamber. In the simplest version they consisted in sprinkling ochre, ground chalk and/or coal over the bottom and/or the body. More sophisticated rituals involved an organic lining frequently made of fabric layers, mats of plant fibres and leather forming a kind of bed for the deceased. It, too, was coloured with the three colorants: ochre, chalk and coal. In the 'richest' cases, in terms of rituals used, portable hearths-altars (censers/burners)

Table 25

Inventories with mace-heads

Site	Barrow	Grave	Weaponry	Other weapon	Sex*	Position	Tools	Pottery	Wood	Other
Akkermen I	6	3	G	bow; 4 flint arrowheads	M	7	-	-	cup	-
Blagodatnoe IV	5	6	G	-	A	1	flint knife	-	-	-
Blagodatnoe IV	13	16	G	-	A	7	-	2	-	-
Ivano-Darevka	1	8	G	bronze knife	A	8	scraper, awl	1	-	unfinished axe-hammer, stone baton-sceptre, bone ring
Kindrativka	1	9	K	flint spearhead	A	7	-	1	-	90 bronze pendants, 3 faïence beads, 3 bronze beads
Konstantynovka I	8	1	K	flint spearhead	A	1	-	1	-	-
Konstantynovka I	12	10	K	bronze knife, flint arrowhead	unknown	near entrance	flint chip	-	-	2 bone beads
Otradnoye	1	15	?	knife?	A	1	bronze awl	1	-	-
Privolnoie	2	26	K?	-	M	2	-	-	-	bronze pendant
Veliki Tokmak	1	9	K	-	M	7	-	-	-	-
Veliki Tokmak	2	13	G	flint head	M	7	-	1	-	-

* See table 13

were recorded accompanied by masks and feet painted with ochre on the chamber bottom. Animal bones were encountered only in two cases: Chenokino 1/4 (catlle) and Ivano-Darevka (a skull and limbs of a sheep and cattle).

Maceheads (Tab. 25). Maces with stone maceheads are another category of weaponry, possibly of a stately nature, that is found in the assemblages of Neolithic/Eneolithic – Eneolithic/Bronze Age cultures in the Northern Pontic Area [Klochko 2002: 22-30]. In the investigated graves they were recorded in 11 cases. They fall into two formal groups only: there were five spherical specimens with a smooth surface corresponding to type A according to A. Kośko [2002: 31-81] (Tab. 25: K), and five pear-shaped ones with a roll moulding at the lower edge of the perforation (Tab. 25: G). In the case of the macehead from Otradnoye 1/15 it is not possible to describe its form.

Likewise axe-hammers, maceheads were usually placed in front of the deceased and only less often at the head or feet. Maceheads are found in adult burials (some skeletons have been designated as male). In the studied group of burials no macehead was found in child or adolescent graves. The deceased were usually placed in positions Ib and IIb. Only in two cases (Otradnoye 1/15 and Blagodatnoe IV 13/16) was the body laid in a supine position (Ia). The same body position was most often recorded in the case of graves containing an axe-hammer. These differences can be variously interpreted, also from the point of view of the genetic variety of inventory forms.

Inventories accompanying maceheads do not differ much from those recorded in the case of axe-hammers. This observation may support a hypothesis that these objects are mutually exclusive because of their similar function. Further similarities are found in the complexity of additional rituals inside the grave. What dominates is actions aimed at bottom preparation: sprinkling the bottom with ochre and/or chalk and coal. Less frequently than in the case of graves containing knives or axe-hammers, bottom preparation involves hearths or hearth-altars or ochre ornaments.

In a single case, a mask was recorded (Blagodatnoe IV 13/16) and in a grave from Kindrativki 1/9 (a mutilated or killed individual) a censer was discovered. In two cases, apart from rituals related to grave preparation, animal bones were recorded including skulls and long bones of cattle and the sheep/goat (Ivano-Darievka 1/8).

Archer's kits: bows and arrows (Tab. 26). The remains of wooden bows were discovered in eight grave inventories. Their low incidence does not mean that the weapon was not popular, it reflects rather the fact that wood rots away easily. Another serious obstacle to drawing any conclusions, following from the state of preservation of most objects, is the difficulty to determine beyond any doubt whether we deal with a bow or the staff of a hurled weapon, not speaking of describing in any detail the design of such an object. For in most cases, what is available for archaeological observation is a streak of decayed organic substance that cannot be analysed any further. There is not enough evidence either to determine the design of the bows;

Table 26

Inventories with the contexts of bow remains

Site	Barrow	Grave	Weaponry Size	Other weapon	Sex*	Position	Tools	Pottery	Wood	Other
Akkermen I	2	3	?	-	A	7	-	-	-	-
Akkermen I	6	3	100x2,5cm	mace-head; 4 arrow-heads	M	7	-	-	cup	-
Akkermen I	12	1	120x3,5cm	-	M	7	-	1	-	-
Akkermen I	17	4	80x2cm	bronze knife	M	6	X	-	bowl	-
Ivano-Darevka	1	10	110x2 cm	-	A	7	-	1	-	-
Khristoforovka	1	10	90x?cm	arrowheads	A	7	-	1	-	-
Kindrativka	1	10	120x1,2cm	arrowheads	A	7	-	1	-	-
Kislichuvata III	2	3	90x3cm	-	A	7	-	1	-	-

* See table 13

we may deal here just as well with simple bows or composite ones. An argument for their composite design could be their relatively small size (1.3-0.9 m). If this were true, it would be an argument for an early (ca. 3000 BC) appearance of composite bows in this part of Europe [cf. Klochko 2001: 93-94].

All known cases of bow occurrence come from adult graves. In the burial chamber they were placed along the deceased's right side or in front of him/her (see Fig. 32). Accompanying objects commonly include groups of arrowheads (that could have been remains of quivers that have not survived).

Besides a basic set of actions aimed at preparing the bottom of a grave (chalk/coal and/or lining) and sprinkling the body with ochre, in two cases, next to the deceased's skull, lumps of tar were recorded. More complex behaviour was observed in the Donetsk-Luhansk test group where archer's kits were found with faunal remains and portable hearths in the form of censers or burners. A mask was recorded only once (Zamozhne 5/4).

In the Catacomb culture contexts, sets of arrows are recorded. Several arrows are placed in a specific place inside the burial chamber, most commonly in front of the body. The fact that they are usually found in a compact cluster would suggest the presence of a quiver in which a bunch of arrows had been placed. In this case, it can be suggested that arrows were part of goods/weaponry intentionally handed over to the deceased.

There are also cases in which single arrowheads occur, sometimes made using a different technique, placed close to the skeleton or amid its bones. In such cases, one should consider a hypothesis that there might be a connection between these objects and injuries, not necessarily fatal, resulting from an armed struggle. In the studied burials such a connection can be considered in six cases (see Tab. 27). It

Table 27

List of inventories from graves with corpses classified as victims of armed struggle

Site	Barrow	Grave	Spearhead	Position	Weaponry	Sex* Anthop.	Position	Tools	Pottery	Wood	Other
Akkermen I	9	6	old YC type	?	-	M	7	-	-	cup?	raw flint
Akkermen I	14	7	CC type?	between ribs	-	M	-	-	-	-	-
Akkermen II	4	1	YC type	-	-	A	7	4	1	-	3 ferrules with meander ornamentation, tusk pendants
Artemovsk	4	1	late CC	between ribs	stick, spear-staff	A	1	arrow straighteners, awl, punch, polishing plate, hammerstone	1	-	raw flint
Kindrativka	1	9	late CC type	stomach wound	mace-head	A	7	-	1	-	90 bronze pendants, 3 faience beads, 3 bronze beads
Kindrativka	1	10	late CC type	near knees	bow, arrowheads	A	7	-	1	-	-
Veliki Tokmak	2	13	CC type	between ribs	mace-head	M	7	-	1	-	-

* See table 13

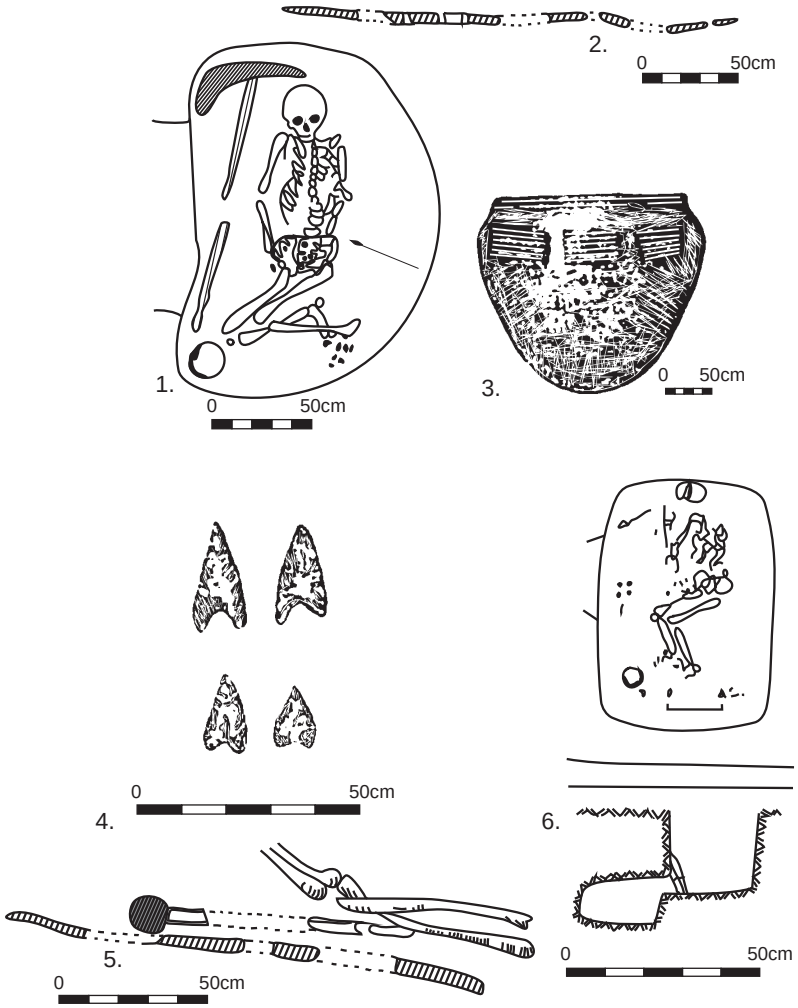


Fig. 32. Location of bows in catacomb graves. 1-3 Akkermen I 12/2; 4-6 Akkermen I 6/3

is hard to find out with certainty, due to the absence of anthropological opinions, whether an injury was fatal in a given case; yet in the case of an individual buried in grave Akkermen I 14/7, it can be assumed that death resulted from an armed struggle, possibly due to a cranial injury (fraction of the frontal bone without traces of healing).

In one case (Akkermen I 9/6) an arrowhead was found typologically corresponding to late YC forms. This might be an indirect argument for partial contemporaneity of Yamnaya and Catacomb culture structures.

Despite the fact that the group of burials of 'fallen in combat' is very small, some common traits of rituals recorded in them seem to be significant. What is

Table 28

List of inventories with flint points of shaft weapons

Site	Barrow	Grave	Weaponry	Other weapon	Sex*	Position	Tools	Pottery	wood	Other
Akkermen I	17	2	flint spearhead - dagger	-	A	7	awl	1		3 ferrules with meander ornamentation, tusk pendants
Artemovsk	4	1	Blagodatnoe type	stick-spear-staff	A	1	arrow straightener, awl, punch, polishing plate, hammerstone	1		raw flint
Blagodatnoe	5	6	Blagodatnoe type	globular mace-head	A	7	-	-	-	-
Chernukhino	1	6	Blagodatnoe type	-	M	3	-	-	-	-
Konstantynovka I	8	1	Blagodatnoe type.	globular mace-head	A	1	-	1	-	-
Preobrazhennoe	1	5	Blagodatnoe type	axe-hammer, flint	A	near wall centre	-	1	spear-staff	
Propashnoe	-	15	Blagodatnoe type	-	M	7	-		-	-
Zamozhne	4	7	flint spearhead - dagger	-	AC	7	-		-	-
Zamozhne	5	2	?	knife, axe-hammer (Ingul type)	M	7	awl	1	cup	organic pillow, box with knife and awl, pieces of textile

* See table 13

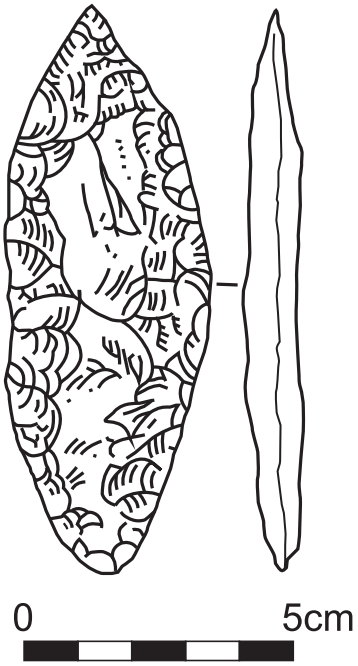


Fig. 33. Spearhead - type Blagodatnoe. Chenukino 1/6

meant here is the presence of animal bones chiefly of cattle and the sheep/goat. In grave Kindrativka 1/10, at the feet of the deceased, a horse skull and limb bones lay. This is one of four cases of the presence of *Equidea* remains in the analysed group.

Spearheads/flint daggers (Tab. 28, Fig. 33). Authors writing on the subject do not agree how to define bifacially worked flint objects. Being unable to verify manufacturing techniques or find any traceological analyses, the present monograph has adopted, as a key for classifying these forms, a working definition proposed by V.I. Klochko [2001]. Following the reservations made by him, large forms of slender proportions having a clearly rhomboid shape with one part different than others may be treated as daggers. Whereas leaf-shaped forms would fit into the category of spearheads. In the studied collection of artefacts, there are only Blagodatnoe type spearheads typical of CC contexts.

Likewise other weaponry types, spearheads are connected to adult burials. In the chamber, they take the same place – in front of the deceased. Additional rituals recorded in graves containing flint spearheads, are limited to bottom preparation: sprinkling it with ochre, chalk and coal as well as preparing a lining (see Tab. 29).

B. Tools

a. Subsuming artefacts under this inventory category relied on the functional criterion. For the most part, these are multifunction objects made of rocks. It is de-

Table 29

List of weaponry and elements of ritual

		Weaponry					Rite						
Site	Sex*	Knife	Axe-hammer	Mace-head	Archer's kits	Spear-head	Animal bones	Ochre	Chalk/ Charcoal	Lining	Burner/ censer	Mask	Tar
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Akkermen 2/3	A				B			+	CH				+
Akkermen I 6/3	M			+	A+B			+	CH				+
Akkermen I 7/1	CA	+						+	CH				+
Akkermen I 9/6	M				Wounded		+	+		+			
Akkermen I 12/1	M				B			+	CH	+			
Akkermen I 14/7	M				Wounded				CH			+	+
Akkermen I 17/2	AA					+		+	CH				
Akkermen I 17/4	M	+			B			+	CH				
Akkermen II 4/1	A				A		+		CK/CH	+			
Artemovsk 1/1	A	+					+	+	CK	+			
Artemovsk 2/3	A	+					+	+			+		
Atemovsk 4/1	A				Wounded		+	+		+			
Behindmozhnoe 4/7	A					+			CH				
Blagodatnoe IV5/ 6	A			+		+		+	CH				
Blagodante 13/16	A			+				+	CH	+		+	
Chenokino 1/4	A		+				+	+	CH	+	+		
Chenokino1/5	M					+							
Chernukhino 1/9	M	+					+	+		+	+		
Ivano-Darevka 1/8	A	+		+			+	+		+			
Ivano-Darevka 1/10	A				B		+	+		+	+		
Ivano-Darevka2/2	A	+					+	+		+			

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Khristoforovka 1/10	A				A+B			+	CH				
Khristoforovka 6/16	A	+						+	CH	+			
Khristoforovka 7/13	A		+					+ feet	CH				
Kindrat ivka 1/9	A			+	Wounded	+	+	+		+	+		
Kindrat ivka 1/10	A				Wounded; B		+			+	+		
Kindrativka 3/4	A	+					+	+ feet	CH		+		
Kindrativka 3/10	A	+					+	+		+	+		
Kislichuvata III 2/3	A				B				CK/CH				
Konstantynovka I 2/2	A	+						+	CH				
Konstantynovka I 8/1	A			+		+		+	CH	+			
Konstantynovka I 8/5	A	+											
Konstantynovka I 12/10	Unknown			+				+	CH				
Krasnaya Zarya 1/3	A	+						+	CH	+			
Krasnaya Zarya 2/9	AAC	+									+		
Krasnaya Zarya 4/2	A	+						+	CH	+			
Krasnaya Zarya 6/6	AA	+						+		+			
Limantsy II 7/11	A		+					+	CH	+	+		
LNPZ 2/1	AAA	+						+		+			
Nikolaivka 1/3	A	+						+					
Nikolaivka 6/2	A	+					+	+		+	+		
Nikolaivka 8/1	M	+					+	+		+			
Nikolskoe 1/13	A		+					+	CH	+			
Novy Mir Rodina II 2/3	MC		+						CH	+			
Novy Mir Rodina II 2/6	Y		+						CH	+			
Novye Raskaentsy 1/12	Cenotaph		+					+	CH	+			
Oleksandrivsk 1/8	D		+					+			+		
Oleksandrivsk 1/38	J	+						+		+			

1	2	3	4	5	6	7	8	9	10	11	12	13	14
Otradnoye 1/15	A	+		+	A			+	CK/CH				
Otradnoye 26/7	AJ		+										
Otradnoye 28/8	A		+										
Pieski 4/8	A		+					+	CH				
Preobrazhennoe 1/5	A		+			+		+		+			
Preobrazhennoe 1/6	A	+					+			+			
Preobrazhennoe 1/14	A	+						+					
Privolnoe 2/26	M			+									
Propashnoe -/15	M					+		+	CK/CH	+			
Purkari 1/38	AA		+					+	CH	+			
„Razdolovka" – Ivano-Darevka 2/1	A	+						+		+			
Starorobehindnovka 1/9	AA	+	+					+	CH				
Trapovka 6/13	A		+										
Talmaz 3/15	A				A								
V. Tokmak 1/9	M			+				+	CH				
V. Tokmak 2/13	M			+	Wounded			+	CH				
VSHI 3/19	AA	+					+	+				+	
VSHI 5/4	A	+						+		+			
Zamozhne 2/9	A		+					+	CH				
Zamozhne 5/2	AD	+	+			+		+	CK/CH	+			
Zamozhne 5/4	M				A			+	CK/CH			+	
Zamozhne 5/7	MC	+	+					+	CK/CH			+	
Zamozhne 6/3	M	+						+	CK/CH			+	
Zamozhne 8/1	M		+					+	CH	+		+	

* See table 13

Legend: see Annex II

Table 30

Number of individual tools types

Object	Number	Object	Number
1. Arrow straightener	8	8. Punch	4
2. Scraper	14	9. Hammerstone	8
3. Polishing plate	7	10. Tuyère	2
4. Awl	35	11. Casting mould	2
5. Grindstone	17	12. Flint knife	7
6. Bone digging tool	3	13. Adze	2
7. Perforator	10	x. Other	38

batable why metal awls (made of a metal square-section bar sharpened on one or both ends) were classified as tools. Because of their co-occurrence with knives, which were classified as weapons in this monograph, it may seem unjustified to separate these assemblages. In the literature on the subject, awls have not been thoroughly examined yet. Similarly to metal knives, it may be suggested that awls could have served several purposes: a utility one (as awls-perforators) or a military one (as javelin points). This hypothesis may be verified by detailed traceological examinations.

Tools were found in 100 of the investigated graves. As in the case of burials containing weapons, this figure represents about 10 per cent of the total number of burials. The following parameters were studied: number of objects in this category, composition of assemblages and position with respect to the body (see Tab. 30).

Number and incidence of individual tool categories in graves. Most graves contained only one tool category; cases of finding tool assemblages (two-four) are rare. The most frequent category of objects recorded in grave assemblages is the bronze awl followed by bone perforators, scrapers and grindstones. A separate, quite numerous category is made up of semi-products and flint raw material. This category often accompanies other objects.

Composition of assemblages. There were 25 cases of assemblages recorded. It is hard to find a clear rule determining the composition of assemblages. Hammerstones, punches, tuyères and casting moulds occurred exclusively in assemblages with other categories in the studied set of graves.

Location. Tools, likewise other categories of grave goods discussed earlier, were placed above all next to the head of the deceased or in front of him/her. This pattern is followed in individual test groups. However, the share of burials where tools were placed before the deceased is higher in the Ingul and Orel-Samara groups. In the Budzhak group, in some graves tools were placed on the deceased's chest. In groups living east of the Dnieper, they are placed more often than not behind the deceased's head.

b. Tool typology (see Tab. 31, 32). It must be observed first that the term 'tool typology' is used here by convention – the majority of objects discussed could serve many purposes. While presenting successive tool categories a division according to the raw material shall be followed: metal tools (awls), stone tools (straighteners, hammerstones, polishing plates, whetstones, mortars, and grindstones) and flint tools (scrapers and burins), antler tools, bone tools (punches and digging tools) and clay tools.

Metal tools – awls. Copper awls with a natural trace of arsenic are the most numerous category of the studied tool assemblages. They were found in 27 graves. Outside of the studied group of burials, they are a quite numerous category of objects in Catacomb entity inventories throughout the territory it occupied. They were made of square-section bars 3-14 cm long [Kaiser 2003: 143-144]. Only a tanged awl from grave Artemovsk 2/3 was 21 cm long. The form of these simple objects depends most on their function, hence there is little variety. E. Kaiser distinguished two varieties of this implement: A – square-section bars with both ends sharpened and B – bars with one end sharpened and a short rounded tang for mounting in an organic (wooden?) handle. This does not mean, however, that only type B awls were mounted in handles. Traces of a wooden handle are borne by the object from grave Verkhnyaya Mayovka XVIII 1/12. Moreover, one has to consider a possibility of the existence of 'movable' handles formed by winding a piece of string or leather strap around one end of an awl or mounting it in a long bone etc.

In the studied graves, bronze awls accompanied 32 burials; in 12 cases they co-occurred with other tool categories or flint semi-products or raw material. These included arrow straighteners, polishing plates, and hammerstones. Awls co-occurred also in assemblages with certain weapon categories. In over a half of cases these were metal knives and less often points/axe-hammers/maceheads. In several cases, remains of a case made of organic material were recovered (Artemovsk 2/3, 4/1, Kindrativka 3/4) or they were found in a context suggesting intentional placing of these object together (Purkari 1/38 – on an ochre stain). These assemblages, apart from tools, consisted also of knives.

Arrow straighteners. This category comprises square stone objects of a semicircular cross-section. They were made chiefly of sandstone and were 6-10 cm long. On the flat side, along the longer axis, they had a groove approx. 0.6-0.8 cm wide. Used in pairs, they formed a tool for smoothing arrow shafts. In the studied group there are seven such objects. In CC inventories they are relatively frequent likewise in YC ones.

In the analysed assemblages, straighteners were found unaccompanied by other tool categories: Khristoforovka 1/5 – a single straightener and Peredelsk 1/11 – a pair of modified straighteners-hammerstones. In the other cases they were usually found in pairs in assemblage with raw material/semi-products or semi-products/other objects – a polishing plate, awl, punch and hammerstone. There are cases known of placing a whole set of tools in an organic case.

Table 31

List of inventories with tools: numerical designations of tool types are given in tab. 30

Site	Barrow	Grave	Weaponry	Sex*	Tools	Pottery
Akkermen I	7	1	knife	C	4,9	1
Akkermen II	17	4	bow, knife	M	9,x	-
Zamozhne	5	7	axe-hammer, knife	M	4,5	1
Zamozhne	6	3	knife	M	4,5,7	1
Limantsy - Gorodska mogila	1	21	arrowhead	A	x,5	2
Starorobehindnovka	1	9	axe-hammer, knife	AA	1,2,x,7	F
Bilogradovka	-	7	-	A	12,x	-
Pelageevka	1	19	-	A	2,7,x	2
Purkari	1	38	axe-hammer, 4 flint arrowheads	-	2, 12	-
Nikolskoe	8	11	-	A	x,1	1
Verkhnyaya Mayovka XIII,	1	12	-	A	1,3,4,x	-
Pryadovka VII	4	4	-	A	x,3	1
Krasnaya Zarya	1	3	knife	A	4,x	-
Artemovsk	1	1	knife	A	1,4,8,x	1
Artemovsk	2	3	knife	A	1,3,4,8,x	1
Bobrikove	1	3	-	C	2,3	2
Artemovsk	4	1	1	A	1,4,8,9,x	1
Ivano-Darevka	1	8	knife, mace-head	A	2,4	1
Prishib	1	9	-	AA	10,11	F
Nikolaivka	6	2	knife	A	4,x	1F
Oleksandrivsk	1	29	-	A	7,x	1
Kindrativka	3	4	knife	A	4,9	2
Kindrativka	4	4	-	A	9,x	1F
Voroshilovgrad VSHI	3	16	-	cenotaph	2 -10,2 -22, crucible	1
Preobrazhennoe	1	14	knife	A	3,4,x	-

* See table 13

Legend: F - fragment

Arrow straighteners are a 'specialized' category of stone tools designed for a specific kind of work. Although even in this case it cannot be excluded that they combined several functions (e.g. hammerstone or grindstone). Other stone tools represent a broad array of multipurpose objects. They were chosen from available

Table 32

Grave inventories with tools

Site	Barrow	Grave	Weaponry	Sex* anthrop.	Tools	Pottery	Wood	Other
1	2	3	4	5	6	7	8	9
Akkermen I	7	1	bronze knife	C	awl, hammerstone	1	piece of wood	-
Akkermen I	11	1	-	MC	scraper		-	-
Akkermen I	17	4	bow?, bronze knife	M	raw flint		bowl	-
Akkermen II	3	6	-	-	raw flint	-	-	-
Akkermen II	4	1	flint spearhead	A	awl	1	-	3 ferrules with meander ornamentation, tusk pendant
Zamozhne	2	7	-	-	perforator	-	-	-
Zamozhne	5	2	axe-hammer (Ingul type), 2 spearheads, knife	M	awl	1	cup	-
Zamozhne	5	4	8 arrowheads	C	awl	1	-	-
Zamozhne	5	7	axe-hammer, knife	M	awl, grindstone	1	cup	-
Zamozhne	6	3	knife	M	awl, grindstone	1	behind head	-
Zamozhne	7	2	-	-	awl	-	cup	-
Khristoforovka,	1	5	-	-	arrow straightener	-	2 bowls	necklace: bone pendants, tube beads,
Khristoforovka	1	7	-	-	awl	2	2 bowls	-
Konstantynovka I	8	5	knife	A	awl	1	-	-
Konstantynovka I	12	14	-	-	grindstone	2	-	-
Limantsy - Gorodska mogila	1	21	1	A	raw flint, grindstone	2	-	-
Starorobehind-novka	1	9	axe-hammer, 1-edge knife	AA	arrow, straightener scraper, raw flint, perforator	F	frag-ment	flint, 4 shells
Sokolovka	2	6	-	-	raw flint	1	-	-
Sokolovka	2	17	-	-	raw flint	-	-	-
Sofievka	1	10	-	A	scraper	-	-	-
Bilogradovka	-	7	-	A	flint knife, raw flint	-	-	chip
Otradnoye	1	15	mace-head; knife	A	awl	1	-	-
Otradnoye	1	16	-	-	grindstone	-	-	-
Otradnoye	28	8	axe-hammer-unfinished	A	awl	-	-	-

1	2	3	4	5	6	7	8	9
Otradnoye	36	18	-	-	grindstone	1	-	-
Pelageevka	1	15	-	A	scraper	1	-	-
Pelageevka	1	19	-	A	scraper, grindstone, perforator, raw flint	2	-	2 stone balls
Trapovka	4	14	-	-	grindstone	-	-	-
Novoselitsa	19	21	-	-	raw flint	-	-	-
Novye Raskaetsy	1	8	-	-	grindstone	F	-	-
Novye Raskaetsy	1	12	axe-hammer	A	scraper	-	-	-
Purkari	1	38	axe-hammer, 4 flint arrowheads	-	scraper, flint knife	-	-	unfinished spearhead
Purkari	2	16	-	-	raw flint	-	-	-
Nikolskoe	1	15	-	A	raw flint	-	-	-
Nikolskoe	8	11	-	A	polishing plate, raw flint, arrow straightener	1	-	-
Shandrovka I	1	7	-	-	adze	1	-	-
Purkari	1	38	axe-hammer, 4 flint arrowheads	-	scraper, flint knife	-	-	unfinished spearhead
Shandrovka I	1	10	-	A	scraper	-	-	-
Shandrovka III	1	1	-	A	scraper	1	boards	leather bag
Khaszczevoe	2	7	-	-	bone digging tool	-	-	-
Khaszczevoe	6	5	-	-	raw flint	-	-	-
Verkhnyaya Mayovka XIII	1	12	-	-	arrow straightener, grindstone, awl, raw flint	-	-	*Unio shell*
Verkhnyaya Mayovka XIV	7	6	-	A	flint knife	-	-	-
Terny- Dolgaya Mogila II	4/1	4	-	-	bone digging tool	1	1	-
Terny- Dolgaya Mogila II	4/1	8	-	MF	scraper	-	-	necklace: 3 shells, animal teeth and bone hammer-head pin
Terny- Dolgaya Mogila II	4/1	10	-	-	polishing plate	1	-	
Terny- Dolgaya Mogila II	4/2	22	-	-	flint knife	1	1	-
Blagodatnoe IV	4	4	-	-	bone digging tool	-	-	-
Blagodatnoe IV	13	6	-	-	raw flint	2	-	-
Blagodatnoe IV	13	11	-	-	perforator	1	2	-
Blagodatnoe IV	13	15	-	-	raw flint	2	8	-
Buzovka	1	7	-	-	raw flint	1	1	-
Pryadovka VII	4	4	-	-	raw flint, polishing plate	1	-	*Unio shell*
Pryadovka VII	4	6	-	-	grindstone	-	-	-
Dmukhailovka XI	1	11	-	-	polishing plate	-	-	-
Dmukhailovka XIII	3	7	-	-	raw flint	-	-	-
Vekhnetarasovka	19	4	-	-	perforator	1	1	-

1	2	3	4	5	6	7	8	9
Vekhnetarasovka	57	10	-	-	grindstone	-	-	necklace: bone tubes, teeth
Novyi Mir „Rodina" II	2	3	axe-hammer	MC	raw flint	2	-	-
Kislichuvata II	4	8	-	-	raw flint	1	-	-
Kislichuvata II	4	13	-	-	raw flint	-	-	-
Krasnaya Zarya	1	3	knife	A	awl, raw flint	-	-	-
Krasnaya Zarya	2	9	knife	AAC	awl	F	-	2 metal sheets, 11 bronze ferrules, 2 spiral pendants, ochre object
Krasnaya Zarya	3	4	-	-	awl	1+F	-	bronze beads, bone hammer-head pin, Caucasian pendants, 2 silver metal sheets, faïence beads, bones, ochre object
Krasnaya Zarya	4	2	knife	A	awl	-	-	ochre object
Krasnaya Zarya	6	6	2 knives	AA	awl	-	-	3 silver temple rings, ochre object with holes
Krasnaya Zarya	6	7	-	-	awl	-	-	-
Krasnaya Zarya	7	5	-	-	awl	-	-	-
Artemovsk	2	3	knife	A	arrow straighteners, polishing plate, awl, punch, raw flint	1	1	-
Artemovsk	4	1	1	A	arrow straighteners, polishing plate, awl, raw flint	1	1	-
Ivano-Darevka	1	6	-	-	awl	2	pad	box?, 2 arched pin, 12 beads, metal sheet, 5 bronze pendants
Ivano-Darevka	1	8	knife, mace-head	A	scraper, awl	1	1	-
Ivano-Darevka	1	12	-	-	awl	2	1	-
Ivano-Darevka	4	2	-	-	grindstone	1	-	-
Artemovsk	1	1	knife	A	arrow straighteners, awl, raw flint	1	centre	-

1	2	3	4	5	6	7	8	9
„Razdolovka" - Ivano-Darevka	2	1	knife	A	awl	1	-	unfinished awl
„Razdolovka" - Ivano-Darevka	2	4	-	-	awl	1	-	-
Prishib,	1	9	-	-	2 casting mould, orifice	F	in shaft	-
Peredelsk	1	11	-	-	arrow straighteners for arrows	1	-	stone with traces of ochre, ochre object
Voroshilovgrad VSHI	3	3	-	-	perforator	2	-	-
Voroshilovgrad VSHI	3	19	3 knife	AA	scraper	2	-	beads: amber, faïence, 2 Caucasian pendants
Voroshilovgrad VSHI	5	4	knife	AA	awl	-	-	-
Lisichansk LNPZ	2	1	knife	AAA	awl	1	6	-
Lisichansk LNPZ	2	3	-	-	perforator	-	-	-
Oleksandrivsk	1	15	-	-	awl	1	6	-
Oleksandrivsk	1	29	-	-	perforator, raw flint	1	6	-
Oleksandrivsk	1	44	-	-	awl	2	3	-
Kindrativka	2	8	-	-	hammerstone	1	-	-
Kindrativka	3	4	knife	A	awl, hammerstone	2	7,2,1	-
Kindrativka	3	10	knife	A	awl	1	1	1
Kindrativka	4	4	-	-	hammerstone, raw flint	1F	1,3	-
Bobrikove	1	3	-	D	scraper, polishing plate	2	1	-
Preobrazhennoe	1	12	-	-	hammerstone	2	-	bone ring
Preobrazhennoe	1	14	knife	A	polishing plate, awl, raw flint	-	-	2 concentrations of raw flint

* See table 13

Legend: F - fragment

stone material and used in agreement with the properties of a given rock type without giving much care to shaping them in any specific or standardized way.

Grindstones. These are small stone objects with at least one rounded surface. A broad variety of stone was used for this purpose: granite, basalt, diorite, limestone and sandstone. Objects often combined the functions of hammerstones and grindstones. It appears that their basic function was to pulverize ochre or copper ore etc. E. Kaiser distinguished three basic types of these tools and called them *Reibsteine* (literally *grindstones*):

A. conical forms,

B. circular forms,

C. circular forms with concentric grooves on their upper surfaces [Kaiser 2003: 186-190].

Following the suggestion of the authors of the respective publications under this category forms from the following graves were subsumed: Zamozhne 5/7, 6/3, Limantsy-Gorodska Mogila 1/21, Otradnoe 1/16, 36/18, Novye Raskaentsy 1/8, Pryadovka VII 4/6, Verkhnyaya Mayovka XIII 1/12, Verkhnetarasovka 57/10, Ivano--Darievka 4/2 and Preobrazhennoe 1/3. In grave Trapovka 4/14 a grindstone was discovered corresponding to type C according to E. Kaiser. In the publication, it is referred to as a grindstone-hammerstone for pulverizing copper ore [Subbotin, Dzigovskiy, Ostroverkhov 1995: 33].

It appears that this category comprises multipurpose tools for pulverizing different substances or polishing metal objects.

Objects with a flat working surface: polishing plates, grinding plates. Under this category I subsumed objects made of fine-grained sandstone and quartzite having one or two working surfaces and the form of a rectangular or triangular plate. They were discovered in graves at Nikolskoe 8/11, Terny-Dolgaya Mogila II 4-1/10, Pryadovka VII 4/4, 4/6, Preobrazhennoe 1/14, Artemovsk 2/3, 4/1. These objects, often preserved only in fragments, may have served similar purposes as the category discussed earlier, i.e. smoothing and polishing metal, bone or wooden objects, pulverizing mineral and organic substances or serving as a kind of pad/mortar on which such work was performed.

Hammerstones. As hammerstones were classified seven objects from graves Akkermen I 7/1, Artemovsk 1/1, 2/3, 4/1, Kindrativka 2/8, 3/4, 4/4. They are made of granite or flint concretions with cortex preserved. They have a form of an elongated bar, the cross-section of which is circular, oval or almost rectangular. Its lower surface bears traces of smoothing. They may have served different purposes but, likewise the objects discussed above, most likely they were used for backing-off, smoothing or pulverizing.

Casting moulds. A separate category of stone tools testifying to craft specialization is made up of casting moulds. In the studied set of graves, they were found only in graves Prishib 1/9 and Voloshilovgrad 3/16. In the former case, these were two two-piece moulds for casting axe-hammers of the Pidlissya type (according to V.I. Klochko this type is characteristic of YC inventories – 2001) and tools of the flat axehead-chisel type. The grave in which the moulds were found is classified as belonging to the early CC horizon.

Flints. They form a relatively numerous category especially in the eastern portion of CC territory, where easily accessible flint deposits are located. In the western portion, flints are limited to weaponry elements discussed earlier (arrow- and spearheads). The most common are scrapers and flint knives. Scrapers were found in 13 graves. These are tools made on large shapeless chips with a crudely worked working surface or combined tools of the knife-scraper type.

Flint knives were encountered in four graves. Under this category are subsumed tools made on flakes or large chips of a triangular or trapezoidal cross-section.

Large, laurel-leaf shaped forms regularly retouched and sharpened on both ends were taken to be spearheads and counted as weaponry. As cutting tools were treated smaller objects, 5-8 cm long, with a rounded base or shapeless but resembling a triangle.

Besides flint tools, flint raw material or semi-products are often recorded in CC burials.

Tools of bone, antler and shells. This category comprises eight bone perforators. They were made of fragments of thin, long bones. What is characteristic of them is above all a long pointed needle. Their function may have been connected with leather work, but some of them may have served as punches. In the analysed graves, only one antler punch-presser and a small object made of a long bone, identified as an adze, were found.

C. Adornments

In the set of investigated graves, adornments of various shapes and materials form a rather numerous category (Fig. 34). Including in the present study the discussion of adornment typology does not mean in the least that such objects are classified as grave goods placed intentionally next to the deceased in a grave. In the literature on the subject a heated debate is going on concerning a possible connection between elements of clothing and the status of a buried person. The present author strongly believes that the presence of adornments in a grave should be explained in the first place by concluding that they were elements of clothing belonging to a given person – his or her personal property. This, therefore, does not exclude a possibility of making conclusions on the social status of a person by studying the jewellery worn by him/her.

The decision to include adornment assemblages in the typological analysis was caused by their potential value for tracing cultural relationships and building chronologies.

In the Catacomb entity's adornment assemblages, two traditions are observable. The first involves making and using adornments made of commonly available materials such as animal teeth, bones, shells and fruit stones. This tradition takes advantage of natural decorative values of such objects and does not require users to treat them in any special way (apart from making a perforation). It cannot be excluded that a choice of adornments depended on the symbolic significance attributed to such objects. The second tradition encompasses adornments made of processed material, often abstract in form and showing no affinity to the 'natural adornments' discussed above. Among them are hammer-head pins and others – arched or with a loop – copper, bronze, silver, glass, stone or amber (very rare) beads, and other types of metal and bone adornments.

Adornments of all types were recorded in 83 graves. Their incidence is quite high in child burials (in the context of child skeletons). Possibly, adornments may be related to an age group. This question, however, calls for a separate study relying on credible age and sex determinations. The data available to the author of the pre-

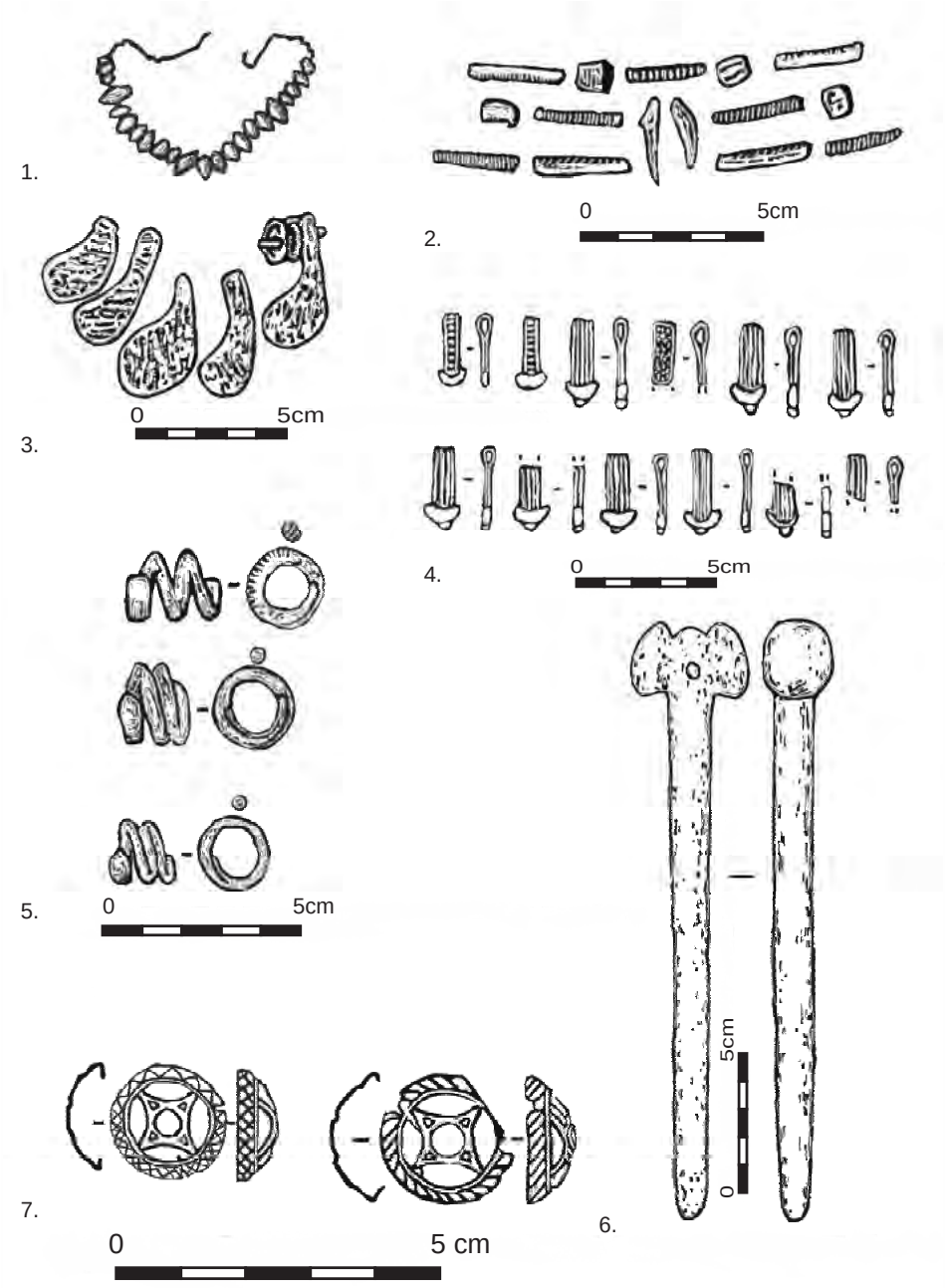


Fig. 34. Adornments. 1 - Fruit stone pendants: Starogorozheno 1/10; 2 - Adornments made of bone and animal teeth: Akkermen I 19/1; 3 - Animal tooth pendants: Starogorozheno 1/10; 4 - Rod pendants: Krasnaya Zarya 3/4; 5 - Temple rings: Krasnaya Zarya 6/6; 6 - Hammer-head pin: Krasnaya Zarya 3/4; 7 - Silver sheets: Krasnaya Zarya 3/4

sent monograph, however, are insufficient to discuss this question in any exhaustive manner.

Yet, one may attempt to preliminarily establish the place and role of adornments. Most of beads and pendants were found next to the neck, head and wrists, which justifies an assumption in my opinion that they were parts of necklaces, bracelets and, possibly, rather indeterminate hair adornments: headbands, tiaras or bonnets.

Multiturn wire pendants were most often recorded around the temples, hence they are interpreted as temple rings. Moreover, perforated stones and lumps of worked ochre present in graves suggest that amulets may have been worn round the neck or sewn into clothing.

Pendants. This is one of the most numerous categories, next to beads. It is made up of 'natural adornments' and a number of metal objects:

a. Tooth pendants were found in eight graves. This category comprises both teeth of hoofed (wild) mammals and (far more numerous) wild predators. The custom of making adornments of animal teeth has a long tradition reaching back almost to the Palaeolithic. It cannot be excluded that besides the decorative function they may have been used as amulets conferring on the person who wore them many desirable traits or providing him/her with a special kind of protection.

b. Fruit stone pendants. In the set of studied graves there was only one in which a necklace of deer teeth and cherry stones was found adorning the neck of a child (Starogorozheno 1/10). It is possible that it was not an isolated case. The state of preservation or the manner of exploration may make such adornments escape the attention of investigators.

c. Tubular bone beads were made primarily of long bones of small diameters (including bird bones). They had a shape of long smooth or finned tubes or cylindrical beads, or small circles. Next to tooth pendants and bone hammer-head pins, they are frequently found in YC grave inventories, particularly in the western branch of the YC. The presence of such necklaces in Catacomb culture graves may be an auxiliary argument in favour of their early chronology.

d. Metal beads. This category comprises many copper and bronze beads. Most of them are either barrel-shaped or biconical. These forms are neither chronologically nor chorologically sensitive.

e. Other types of beads. Relatively rare in the studied assemblages, stone, amber or glass beads are very small and very simple in form. Only in the Donetsk-Luhansk test group, nipple-shaped glass beads were recorded indicating connections to North Caucasus and Caucasus goods. In the contexts of Catacomb entity's eastern branch, glass beads (or faïence) are quite common. Simple forms are associated with the entity's developed phase whereas complex ones (including nipple-shaped) with its late phase [Makhno, Bratchenko 1977: 53-59].

f. Bone hammer-head pins were encountered in three burials in left-bank Ukraine (one in each of the Molochna, Orel-Samara and Donetsk-Luhansk test groups). The closest analogies to these forms are found in YC graves, of which culture they are

quite characteristic. Their presence in the Catacomb entity graves is not a novelty. They are found in the burials of the early phase.

g. Next to bone hammer-head pins, a single instance of a bone pin with a loop (possibly modified) was found in grave Akkermen I 1/6. In grave Ivano-Darevka 1/6 two arched bronze pins were unearthed. They were placed close to the grave entrance.

h. Rod pendants – this category includes small pendants in the form of a smooth or twisted loop ending in a ball or thickening. Typologically, they correspond to rod or string-like pendants. Representing several types of different chronologies, these pendants are recorded in vast areas from the Caucasus across the northern Caucasus and southern shores of the Black Sea. The simple forms (a rod or a loop with a ball) seem to be the earliest while others resembling a finned plate ending in an arched roll moulding are later [cf. Sanzharov 1992: 29-30]

i. Pendants-medallions. In the investigated set of burials there are objects of a characteristic shape, which are collectively referred to in the literature as 'Caucasian pendants'. This group includes very complex and larger plank-like pendants having the form of a circle suspended from a loop, pince-nez pendants, and rhomboid pendants having the form of a flat, rhomboid sheet decorated with an ornament of concentric circles and ending in three balls. They are associated with the complexes of the developed Catacomb entity. Formally, they indicate connections to central Caucasian jewellery patterns of the Trialeti culture. Their presence in Catacomb culture graves was explained as an effect of the exchange of goods with this centre [cf. Sanzharov 1992].

j. Temple rings – in the studied set of burials, multiturn temple rings of bronze and silver wire were encountered in twelve burials including ten originating with the Donetsk-Luhansk test group. These objects have either 1.5 or 2.5, or 3 turns of wire. Following Sanzharov's findings, multiturn temple rings are an archaic form while simpler ones – with only 1.5 turns – have a later chronology. Generally speaking, however, this form of adornment is the most characteristic of the early development horizon of the Catacomb entity and associated chiefly with its eastern expanses: Donets, Azov, Don and Kuban groups. Moreover, these forms find their analogies in the contexts of Southern Bug and Azov varieties of the YC. The oldest forms are associated with the earliest jewellery tradition in the northern Caucasus [Sanzharov 1992: 27-29].

k. Sheet metal – round and arched objects made of silver and bronze sheets decorated with punctated ornament are a small group characteristic of the Siverskiy Donets drainage. They occur in the early phase of the Catacomb entity in this area. Both form and purpose of these objects remain debatable. What is important for the chronology of such adornments is the finding that they are akin to sheets originating with YC contexts in the Azov area. This may be an argument in favour of the partially synchronic development of both taxa in the north-eastern Pontic Area and the shores of the Sea of Azov as well as evidence of the strong impact of North Caucasus traditions [cf. Sanzharov 1992].

IV. CATACOMB COMMUNITY AS A QUESTION OF CIRCUMBALTIC REFERENCES*

The emergence of architecturally developed graves, having the form of catacombs, across the vast expanses of Europe covering the drainages of the Black, Azov, Mediterranean and Baltic seas in the beginnings of the Bronze Age gives rise to a question whether it is justified to relate these phenomena to the emergence of a **"province of cultures with catacomb graves"**. Adopting such a working hypothesis about the real existence of such a province would entail a need to define its potential genetic areas, trails of expansion and other common elements of the hypothetic taxon, besides ritual ones, such as types of settlements (or rather their absence), subsistence strategies, metal objects, and social structure [cf. Zanotti, Rhine 1974: 334]. In the literature on the subject, the question of existence of such a province is intertwined with the discussion on the beginnings of an Indo-European impact on Europe. The discussion treats Northern Pontic structures in two opposing ways: as points of departure (school of M. Gimbutas) or destination for central European and eastern Mediterranean phenomena (theory of L. Klein).

From the point of view of further discussion, it seems that the most important aspect is the one stressing the role of the Baltic-Pontic connection in the spreading of new cultural patterns. In this regard, of special significance is a relationship between phenomena found to exist in CC and CWC contexts in Małopolska. The emergence of catacomb graves there (niche graves as they are called in the Polish literature on the subject) has usually been tied to the impact from Pontic or Mediterranean areas. The question was complicated by the fact that radiocarbon dates for CWC and CC contexts were few and unevenly distributed, which strongly contrasted with a deep-seated, relatively late dating of the latter taxon, i.e. to the period between ca. 2400-1800 BC [*Arkheologiya Ukrainskoy* ... 417-418]. Obtained in the recent years, a set of ^{14}C dates, however, points to the parallel existence of the two cultural systems (see Chapter II.3). To assess the ties between the two systems requires to review the elements of the funeral ritual at CWC sites in Małopolska. It is worth stressing first what the basic characteristics of the catacomb ritual were. Relying on the observations made by the present author, it is possible to present the most distinctive traits of such features. The only known form of grave is a catacomb. A catacomb structure entails the presence of a barrow mound. Flat catacomb structures, suggested in the literature, are not documented convincingly enough. Graves are sunk into mounds along their outer edges. There are no strict

* At the request of the Editors, this Chapter supplements the scope of the monograph as initially planned by its author. We felt it was necessary to revise the views on the geographical origins of so-called niche graves. This specifically applies to the latest inspiring studies on CC chronometry and the taxonomy of the Małopolska CWC cited in this Chapter (Eds).

rules of grave orientation in relation to the points of the compass. A basic rule requires that the burial chamber be directed towards the barrow centre. The deceased were buried in an extended position either supine or lying on their right side with the head to the left of the chamber entrance; there were no differences in the burial rite depending on the sex. In Małopolska, catacomb/niche graves are not tied to barrow mounds; there are only few exceptions known to this rule (e.g. feature 4 from Kolosy [Kempisty 1978: 238]). Following the findings of P. Włodarczak, niche structures clearly prevail on flat cemeteries. Many features, described as pit-graves in older publications, may have been wrongly classified, as suggested by P. Włodarczak, because of the poor state of preservation of their shafts [Włodarczak 2006: 53]. A typical Małopolska niche feature consists of a shaft and chamber, often connected by a corridor. The chamber entrance was blocked by stone slabs, blocks of yellow loess or wooden screens. A rule that was strictly followed had graves oriented along the E-W or NW-SE axis, with the burial chamber being located west or north-west of the shaft. The same rule was obeyed in the case of graves sunk into a barrow mound [Włodarczak 2006: 55-57]. The dead were placed in the central part of a pit or deep in a niche. According to P. Włodarczak, this position resulted from the fact that graves were designed for a single burial, although collective burials are known, too. Bodies were laid on their back, in a flexed position and facing the chamber entrance. Head orientation was determined by grave orientation with respect to the points of the compass. The dominant position was along the N-S axis with the head facing E; a rule that was followed made female burials point S with their heads, while the opposite was true for male ones [Włodarczak 2006: 59-61]. There are clear rules observable concerning the assemblages and placement of grave goods. They are grouped in two areas: at the feet and behind the back of the deceased. The most common type of grave goods was pottery. Other objects are closely related to the sex of the deceased. In male burials we deal mostly with weaponry (axe-hammers, large axeheads or archer's kits), deposits of flint semi-products or antler and bone tools except awls. Meanwhile, female burials, besides pottery, contained single tools (axeheads, awls, whetstones, flint tools), single specimens of flint semi-products and adornments [Włodarczak 2006: 143-145]. From the above review of the funeral rite characteristics of the Kraków-Częstochowa group of the CWC a conclusion can be drawn that similarities between the graves of the two cultural systems do not go beyond, in any significant way, the questions of architecture (bipartite structure and the presence of screens separating both parts of a grave – a shaft and a chamber). The other characteristics of the funeral rites of the CWC group do differ significantly from the package of basic traits defined for the Catacomb entity by the present author. A view claiming the absence of any direct ties between the discussed cultural environments is also stressed by P. Włodarczak in his latest publication [2006: 135]. At the current stage of exploration of the rise of catacomb structures in the steppe zone one can hardly agree with a claim made by the said author that the origins of Małopolska niche structures should be searched for in the Pontic Area in the period preceding the rise of the CC. In the cited paper,

new series of ^{14}C dates for the Catacomb entity, indicating to its contemporaneity with the Kraków-Częstochowa group, have not been taken into account [cf. Włodarczak 2006: 135]. Of some consequence for the problem at hand is the presence of sub-barrow catacomb structures in the CWC environment at Grzęda Sokalska (e.g. Wereszczyca 1, Hubinek 4) [Machnik 2003: 212-240]. An element joining these phenomena to the Pontic environment is the rule of placing graves along a barrow edge, with the burial chamber oriented towards the barrow centre. With the cultural situation on the Dniester being insufficiently explored and the reliability of radiocarbon dates from this area being questioned, the issue of the mechanisms of ritual pattern penetration from the Black Sea steppes remains unsettled.

V. THE FUNERAL RITES OF THE CATACOMB ENTITY FROM THE PERSPECTIVE OF INDO-EUROPEAN MYTHOLOGY

Following the assumptions made, the subject of this chapter is an attempt at an interpretation of observations made earlier in the light of tropes offered by Indo-European mythologies. Being aware of the limitations of the adopted method, following from the specific 'ahistoricity' of myths (see Chapter I), I assume, however, that a mythological message may be a valuable source of concepts – archetypes enriching the plane of interpretation. The specific 'timelessness' of myths becomes an insuperable obstacle only when we expect a mythological record to give us a useful and sufficient tool to discover the past in all its aspects.

Both Proto-Indo-European language and myths are constructs developed by comparing grammatical structures of sentences in different languages and mythical threads known to us as encountered in this language family. Best documented in terms of records and, hence, best explored, the Vedic mythology still is a source of some controversies as to the dating of the oldest hymns included in the Rig-Veda. It is believed that they survived as an oral tradition for a long time. The editing and recording of the texts are dated, by most scholars, to the middle of the 2nd millennium BC [cf. recently Rozwadowski 2003: 72 – see there for further literature]. The reading of Sanskrit and the development of Indo-European studies that followed made Indo-Aryan mythology, recorded in Sanskrit texts, a reference point for the comparative studies of Indo-European myths.

For the sake of the discussion undertaken by me, especially in the context of the proposed Circum-Pontic cultural province, a natural inspiration, as it were, should come in the first place from Hittite mythology. Despite the fact that both Hittite pantheon and – taking advantage of the preserved texts of prayers and magic formulae – ritual and magic practices are quite well known, a fundamental hindrance is a large number of versions of mythical narratives and tropes depending on the place where they were recorded. Taking full advantage of the interpretative potential offered by the Anatolian branch of mythology is prevented by the sheer number of power centres where local pantheons of deities were worshipped and the openness of Hittites to alien – of non-Indo-European origin – elements. For these reasons, the discussion presented in this chapter shall refer to Indo-Iranian mythologies. Assuming that in the relevant time bracket, in the Northern Pontic Area, a certain, indeterminate, Indo-European language was used, the present author also accepts a possibility that the societies living there took part to some extent in a mythical reality organized in a similar way and that they attached value to their 'being in the world' in accordance with such a reality.

To some extent this chapter follows the division of preparing a ritual place into phases used in Chapter III. The discussion shall focus on two fundamental questions defining the concept of funeral theory: organization of the funeral space and the concept of man. First, the discussion shall deal with the location of burial places in the space accessible to human activity, architecture and location of a grave within a barrow, and worldview value attached to these elements (V.1). Second, the chapter shall consider the concepts of the origins of man and his/her posthumous fate. These considerations cover the questions of grave and corpse preparation for burial and the presence of objects in the grave (V.2).

V.1. FUNERAL SPACE

The question how ancient man conceptualised his/her surroundings is now studied within the field of phenomenology [cf. Tilley 1993; 1994]. A phenomenological approach to the problems of spatiality of human behaviour allows one to see how a landscape perceived through senses is pervaded by experience controlled by symbolic (including mythological) convictions. Space with special meanings attributed to its salient points appears to be especially informative in regard to the study of burial traditions. Elevated terrain features such as mountains, hills or solitary rocks, because of their conspicuousness, could have and probably did play a role of places important for organizing space surrounding humans in past societies. They were all salient points on a collectively created and passed down mental map. It is also worth stressing that man maintains an active attitude to space – not only does he attribute special meanings to it but also, while using it, influences and modifies it.

V.1.1. LOCATION OF BURIAL PLACES AND THE CONCEPT OF THE BEYOND

In Indo-European mythology, there are several versions of locating the beyond in space. According to one version, the land of the dead was in the east or north, often beyond water (river, ocean), while another version held that it was to be found underground. In the opinion of A.M. Kempiński*, both these conceptions are a reflection of two levels on which this idea took shape [Kempiński 1993: 403]. Regardless of where it was to be found, the land of the dead was on the edge of

* I give up reviewing all aspects of the discussion of Indo-European mythologies. Quoting extensive literature devoted to this subject goes beyond the scope of the present monograph. Hence, I have restricted quotations to general works and dictionaries where rich bibliographies of selected questions can be found (see Kempiński 1993).

the oecumene and was not easily accessible. A special value of separating the world of the living from that of the dead was attached to water with its chaotic valuation. It should be remembered that any mythology is to a high degree ethnocentric – it describes a world that is known and accessible to those who create the mythology. Hence, the location of the beyond corresponds closely to the area that can be penetrated and the natural landscape.

Due to poor exploration of the Catacomb entity's settlement network, and by extension any relationships holding between the location of burial places and settlements, it is hard to say how far it is possible to interpret them along the conceptions mentioned above. Preliminary data on settlement locations indicate to their quite close connection to the sources of water. Admittedly, since barrows built earlier were used by Catacomb entity societies, it was not their members who made decisions on barrow location. It can be assumed, however, that they treated barrow groups so located as exceptional and appropriate for funeral ceremonies and laying the deceased to rest. Following the adopted model approach to the settlement, river valleys were places where permanent settlements (so-called *zimniki*) were found and occupied by Catacomb entity populations (in any case by that part of a community which was not engaged in herding) most of the year [cf. Pustovalov 1994: 86-134]. However, with our present knowledge of the settlement structure, it is hard to tell without a doubt what area and in what way was used or where the borderline of the tamed and untamed world was, and how settlements and burial places functioned within that space.

V.1.2. A BARROW AS THE MODEL OF THE WORLD

In Indo-European mythology, a mountain is one of the most significant tropes connected to the idea of tripartite world order (as a version of *axis mundi*). It must be stressed, following A.M. Kempiński, that the oldest version of cosmogony held the world order to be based on the binary opposition of order – chaos → the male stone sky and female stone earth. Both these elements came into being by the splitting of the primary being (in the Hittite version of the myth, Song of Ullikummi, the splitting was done with a stone tool – stone has a lot of meaning attached to it in mythology). According to A.M. Kempiński, the cosmogony emerged already in the Neolithic [Kempiński 1993: 233 – see there for further literature]. Regardless of which conception is adopted, the peak of a mountain is identified with the heaven, whereas the underground space and the interior of a mountain were supposedly the domain of chthonic powers, inhabited by monsters, but were also identified with the female aspect. In a sense, the idea of mountain is tied to the notions of the netherworld. The land of the dead, wherever it was to be found, was accessed through caves [cf. recently Kempiński 1993: 403]. Under the tripartite world order, a slope was the area of human activity.

This notion contains several elements that put a new perspective on interpreting a barrow as a reflection of the concept of mountain [cf. Kraig 1978: 149-172]. The building of a barrow may reflect the desire to repeat the act of creating the world which took place 'in the beginning' for the purpose of restoring order and balance upset by the death of a group member. Significant data are also supplied by the location of graves within the barrow itself. In accordance with the findings made in section III.1, as a rule, graves were sunk into the foot of the mound, primarily in its eastern side. The question of values attached to the points of the compass in Indo-European mythology is a very complex one. According to one version, the land of the dead is located in the east (hence, the east is identified with the idea of death); in another, the points of the compass, determined by the path of the sun on the firmament, are associated with the idea of revival [cf. Kraig 1978: 149-172, see there for further literature]. The east is related to the idea of life and revival, while the west is linked to the realm of death and decay. In this case, one should consider the explicatory potential of another conception of location of the netherworld – within the lowest sphere of the cosmos or underground (see Chapter V.1.3).

V.1.3. THE GRAVE – THE DECEASED'S HOME

From the mythological perspective, the grave is endowed with many meanings. First, it symbolizes the deceased's home, a place where he/she dwells after death. Second, the grave represents a return to the beginnings, to the mother's womb. The first meaning entails the question what condition man is in after death and calls for considering the soul as an *alter ego*. The second meaning is closely related to the myth of anthropogenesis (chthonic nature of man), which shall be discussed in greater detail below (cf. Chapter V.2).

A connection between the sphere of human activity and the underworld reserved for the dead and chthonic powers was all kinds of pits, openings, caves as well as bodies of water, in particular springs. Hence, the sinking of a grave is not only necessary to dispose of the body, but also to isolate the deceased and any processes they are subject to from the living. On the meaning plane, this may be understood as the 'opening' of the way leading to the beyond. This interpretation angle is offered by Hittite records as well [Haas 1999: 2021-2030]. From this angle, filling the shaft with earth, or closing it with stone slabs or timber, or filling it with stones may reflect similar beliefs. It is possible to interpret these customs as an opening or closing – cutting off the route taken by the deceased.

A lot of inspiration may be drawn, too, from the notions relating to caves as entrances to the underworld or even its part. It is a dark and inaccessibleplace (darkness is an element of the underworld), where chthonic powers prevail. In a version of the myth of cosmogonic struggle, the Serpent – embodying the powers

of the chaos and the rival of the thunder-wielding deity – in nowhere else but in a cave hid life-giving forces (originally identified with water, only later with cattle), hence condemning the world to destruction [cf. Kowalski 1988: 113-126]. However, both mythological and linguistic sources point to the sexual aspect of caves where the unity of life and death was achieved (cf. Sanskrit words *vavrá* – a cave and *vavrí* – womb). It was in graves that nuptials took place, and gods and heroes were given birth to [cf. Kempiński 1993: 206].

This ambiguity of notions is consistent with the description of border places where the worlds of humans and of the supernatural come into contact with each other. Such places are especially potent, but the potency may be either favourable or sinister. The same way of thinking is clearly visible in the notion of circle. In Indo-European mythology, a circle carries the idea of perfection, order, finiteness and infiniteness at the same time. The notion of circle includes also the idea of frontier: a circle separates cosmos from chaos [cf. Kempiński 1993: 236]. It is worth reminding here the observation concerning the location of catacomb graves forming a circle or semicircle at the foot of a barrow mound. In the context of the observations made above, an interesting aspect is taken on by the meaning of the catacomb itself as a form of grave. The bipartite structure, made up of a shaft or entrance and a chamber or grave may be a reflection of the notion of cave. A similar meaning may be suggested in this case assuming that the ambiguous aspect of border played an important role in funeral rites taken for rites of passage.

V.2. BEHAVIOUR WITH RESPECT TO THE DECEASED'S BODY

Earlier, I have attempted, through symbolic elements, to define the organization of space and the conditions it had to meet for funeral rites to take place. An equally important element is the presence of participants taking part in the ceremony: the deceased and those who play the role of actors. A funeral ceremony is not designed for the deceased only but also for the living. It helps the latter to live through the crisis caused by the departure of a member of the group and restore the upset balance of the world by cleansing the defilement caused by death [cf. Thomas 1991: 7]. Hence, it is worth considering the scope of symbolic references concerning a human being; this may help to understand better the complex issues related to the views of death and posthumous existence.

The most basic version of anthropogenesis holds that man originated from earth. The telluric origin of man is borne out by linguistic data and mythological tropes. Quoted by A.M. Kempiński, the lexemes referring to man/people and earth (e.g. Lat. *homo – humus*, Frig. *zemelos – Semélē*, Lith. *žmones – žeme*, Pol. *ziemianin – ziemia*) derive from the pair of Indo-European words **g'hmo(n)-*g'hem*,

which may be a proof that this anthropogenetic belief developed already when the Indo-European linguistic community existed [cf. Kempiński 1993: 36].

The study of myths of different peoples reveals also elements in support of this hypothesis. One of them is characters, known chiefly from Indo-Iranian mythology, whose names alone indicate their origin (Iranian *Gilshah* – Clay/Earth King). Earth is identified with the female, life-giving aspect, with the mother of not only people, but also monsters, gods and heroes. This progenitive aspect of earth has survived in most Indo-European languages in such phrases as 'mother earth' [cf. Kempiński 1993: 466]. In the context of telluric origin of life and man, the metaphor of grave – mother's womb becomes especially meaningful.

A special version of anthropogenesis claims that mankind derived from stones taken to be bones of earth [cf. Kempiński 1993: 36]. This version has two inspiring aspects. The first one is the stone lineage which is reflected in many mythological threads telling the stories of the origin and fate of some gods and heroes. The second one is the association of stones and bones or giving certain anthropomorphic traits to the environment surrounding man. Similar narratives can be found also in a relatively late tradition transmitted in the Upanishads showing how human body and senses are posthumously transformed into the elements of the cosmos. According to them, the body is changed into earth and bones become rocks. Other transformations take place as well, e.g. blood into water, hair into vegetation, breath into wind, eyes into the sun and moon [Lincoln 1977: 246-264] In this way the sacrifice of the first mortal is repeated owing to which the act of re-creating the world is completed and through the death of other people it is made immortal. This thread is the most conspicuous in Indo-Iranian myths, according to which the first deceased person, and by this very fact the ruler of the underworld, *Yima/Yama*, is killed for his pride or sacrificed by *Manu* – the first man and ruler-priest [cf. recently Rozwadowski 2003: 134-135 – see there for further literature]. The motif of the first sacrifice – the first mortal – can be traced back to the mythology of the Indo-European community. A counterpart of the Iranian and Indian ruler of the dead is a deity of the same competence known as **Yemos*. Besides it, a pantheon of the earliest deities related to death was composed of: **Enūyō* – deity bringing death, **Kolis* – deity (goddess?) of sudden death and destruction, **Mr̥tis* – personification of death, **Potalos* – a demonic god of the Underworld, **Welos* – a guide – shepherd of souls [Witczak, Kowalski 2002: 70-71]. It cannot be excluded that the named deities were hypostases of a single deity of the dead. This multiplicity of deities related to death may be, as A. Kowalski correctly observed, a consequence of the absence of the concept of death as such – as a biological and inevitable end of human existence. "Mortuary practices had depended on the causes of death, on its noticeable manifestations for a long time or on the kind of rituals being an active response to the fact of death." [Kowalski 1999: 181].

At the same time, being subject to death is a characteristic that distinguishes people from gods. This is another version of the dichotomy that is common in Indo-European mythology (male-female, left-right, lower-upper, etc.). What's more,

death was not treated as a final and irrevocable fact but rather as a transient state that could be controlled by appropriate rituals [cf. Woźny 2000: 47]. Already at the time of the Indo-European community, death began to be understood in several different ways, which is borne out by linguistic data. A.P. Kowalski distinguished four groups of meanings:

- Death as killing – lexemes of **mer-* type and its counterparts in particular languages delineating the semantic field of 'to die', 'to vanish' and 'sudden death';
- Death as a decease – **g ^{w}el* – semantic field of 'suffering', 'to die of suffering', 'wound';
- Death as an object of a ritual experience – **gwa-* indicating 'departing', 'crossing a river' (the symbol of water being a border of the underworld): 'to go', 'to leave', 'ship', 'vessel';
- Death as a manifestation of the change a body is in – **ster-* carries several meanings denoting numbness: 'stiff, 'stiffen', 'extinguished', 'dark' [Kowalski 1999: 180-181].

Also this polysemy of notions related to death and dying shows that the Proto--Indo-European language community did not have clearly delineated semantic distinctions within this notion (cf. the multiplicity of deities related to death). At the same time, however, there was a distinction into violent death (**m$_{o}$rthi*), when it was not possible to provide the deceased with all rituals prescribed by tradition, and good death (**su-m$_{o}$rthi*) [Kowalski 1999: 181]. Here, it is worth referring to the anthropological conceptions of death. Funeral rites are a response to two contradictory desires: keeping the deceased and getting rid of him/her. In the relevant literature, death is included among the rites of passage whereby the deceased is first separated from society and then included among ancestors. This process has three stages. The first one is separation (covers preparations for burial), the next one is passage (thanatomorphosis leaving behind bones, ashes or a mummy). The third and final stage is the entrance into the company of ancestors sometimes effected by a secondary burial or another ceremony that does not leave perceptible traces [cf. Van Gennep 1977]. All these rites and notions are brought together in the funeral theory of a given group. Completing the ritual defined in the theory is sanctioned not only by the care for the deceased's fate but also by the safety of the group [Thomas 1991: 127]. Indo-European mythology abounds in creatures well-disposed or hostile to the living, into which the deceased are transformed depending on whether the funeral ceremony was properly carried out or not. The treatment of the dead body is strongly tied to the conception of man, his or her body and posthumous fate. It should be remembered that during interment the deceased do not belong yet to the company of ancestors. The body, over which a ceremony is held, still belongs to the group, which struggles with opposing desires: the need to get rid of the corpse and uncleanness that upon death encompassed not only the next of kin but to some degree the whole community, and the necessity to provide the deceased with everything that is needed in his/her further and different

existence. How the deceased's further fate is imagined determines the way a corpse is placed in a grave. In the traditional approach, the metaphor of 'returning to the mother's womb' is used to explain why the deceased were placed in a contracted, foetal position. This could be a manifestation of a belief expecting a re-birth, while the metaphor of sleep could explain the custom of placing the body in an extended supine or flexed position. This slightly simplified explanation calls for further study. There is no clarity concerning another characteristic of placing the deceased in a grave, either. In archaeological discussions great importance is attached to orientation with respect to the points of the compass. In the case of the Catacomb entity the only rule applied to burials in this respect is placing the body with the head left of the entrance, facing the shaft, on its back or the right side. The opposition right-left refers to one of the fundamental dichotomies but rarely expressed directly, namely good-evil. The left side is associated with the earthly/underground, nocturnal, dark, demonic, female and mortal aspects [cf. Kraig 1978: 162; Kempiński 1993: 349]. Thus, this is yet another element referring to the symbols of death and the beyond.

V.3. GRAVE GOODS AND OFFERINGS

The basic range of notions concerning man, his/her condition and attitude towards death outlined above makes room for attempts to interpret the Catacomb entity funeral rites from this angle. Available archaeological data do not, admittedly, allow us to distinguish the three stages of the funeral ceremony following the conception of rights of passage. Inaccessible to archaeological observation, the realm of songs, dances and incantations could have (and it probably did) formed an integral part of the ceremony. It seems that the most readily observable activities are those related to the first stage of the ceremony – the separation. The activities included grave and body preparation and the deposition of grave goods and offerings.

A relatively common find in Catacomb entity graves, the remains of an organic substance underneath the skeleton are often identified as the remnants of reed, fabrics, skins or felt. At some sites, such remains were successfully identified as leather rugs covered with colourful ornament (e.g. Kindrativka 3/4), organic 'cushions' or mats covering the body. Such elements are as a rule found only directly underneath the body. This custom may be perceived as making bed. In Indo-European mythology, there is a marked connection between death and sleep manifested by the common residence of twin deities responsible for these states in the underworld (e.g. Thanatos and Hypnos in Greek mythology) or by the fact that in caves (identified with the sphere of death too) heroes remained asleep for centuries. This thread calls, however, for more discussion.

One of the most characteristic traits of the funeral rites of societies settling the Northern Pontic Area is the use of ochre. Ochre had been used in graves in this area since as early as the Neolithic. This trait became an element distinguishing steppe 'kurgan cultures' (using the terminology of M. Gimbutas's school) or the 'Ochre-Grave culture' (*Ockergrabkultur*) [Häusler 1963: 157-179; 1974; 1976].

The significance of a red colorant, including ochre, is discussed in the literature also in the context of its use in graves dated to the Palaeolithic and Mesolithic (cf. discussion in *Current Anthropology* 21-5: 631-643 – see there for further literature, also recently Woźny 2005). A full presentation of all aspects of the discussion on the use of biological colorants (following from the structure and operation of the human brain) and the cultural mechanisms of attaching meanings to colours fall outside the scope of this monograph. Only several aspects shall be related. Above all, in archaeological reports the word 'ochre' is a certain code denoting the presence of a mineral substance, the colours of which range from yellow, through the shades of red and purple to brown. The question of colorant use introduces the vast area of the role and meaning of colours in culture.

Ochre, being a chemical substance, is a derivative of powdered ferric oxides (limonite, hematite). The colorants recorded in graves include also sandstones, conglomerates and clay with a high content of iron and sulphur oxides giving a reddish colour. The significance of red as the most common colour is included in the following semantic sequence: red → blood → fire → power → life. A study of some *Primatae*, who like humans are able to distinguish colours, and inter-cultural studies of groups of people indicate to another, not entirely opposing sequence of associations. A connection between red and blood is clear too: red → blood → danger → death [cf. Stephenson 1973: 379-386]. Leaving aside the question whether the attachment of meaning to colours is primarily a result of cultural factors or psycho-physical properties, it can be said that the environment of man has never been deprived of colours. Only a fragment of this 'colourful' presence is accessible to archaeological examination. One reason is that a majority of potential colorants and materials they were used on are subject to biodegradation. The colour factor, because of the emotional potential it carries, must have been important for funeral ceremonies.

In Catacomb entity graves ochre is recorded in the form of both powder, which was used to sprinkle the body and grave bottom, and in the form of balls or sticks, or drawings made on grave bottoms. Traces of ochre are found on objects accompanying the deceased: grindstones, stone plates, or hammerstones. Because of the diversity of forms ochre occurs in graves, I have decided not to discuss this element in any greater detail.

In Catacomb entity grave contexts, the most important, due to its high incidence, seems to be the red colour coming from mineral colorants (vegetable ones cannot be traced for reasons given earlier). Ochre is recorded on grave bottoms, on skeleton bones, also as a colorant of clay mask elements. There are also 'drawings' in the form of lines, circles or representations of human feet made in ochre on

chamber bottoms. The question of the symbolic meaning of such representations shall be discussed below. Besides ochre (occurring in different shades), a white chalk colorant and a black one – coal – are recorded in graves. Indo-European mythology does not directly valuate colours. However, it may be helpful to refer here to the Indo-European triad. This notion comes from the *varnas* known in the Vedic tradition (from Sanskrit *várna* or colour, hue, dignity). In reality, we deal not with a tri- but rather bipartite system comprising endogamous groups (and not castes!) that are further subdivided. The first group – the *dvija* or 'free' – (identified with Aryans) corresponded to priests (brahmins), warriors (kshatriyas) and merchants (vaishyas). The second group, whose origin is not clear, is made up of slaves – the Shudra. According to the creation myth, the *varnas* originated from different parts of Purusha's body: priests from the mouth, warriors from the hands, merchants from the hips and slaves from the feet. Each group was assigned a colour: white, black, red and yellow, respectively. The Vedic pattern, which is relatively late, is by no means the only mythical trope. The underworld was described as a dark place; black animals had a demonic aspect unlike white ones associated with the heavenly aspect. The latter accompanied heroes or were sacrificed to them. The red and yellow/gold appear in contexts suggesting their connection with wealth, military or life-giving power (crimson or golden lock of hair ensuring victory and life to Nisos and Pterelaos, honey/gold colour of the Asvins' bodies). These remarks do not exhaust the subject of the meaning of colours in funeral rites. The subject calls for further study.

The cases of recording signs and drawings on burial chamber bottoms, mentioned earlier, were analysed by S.Z. Pustovalov in order to trace the development of a sign system in the Northern Pontic Area. According to the cited author, a sign system would be yet another argument in favour of the rise of a proto-state structure of a Middle East type in this area [Pustovalov 1998: 22-51]. Leaving the discussion of the hypothesis out of this monograph, I would like to focus only on the representations of feet made with ochre. In Indo-European mythology legs and feet, as elements of the cosmos, corresponded to the Underworld and chthonic powers, but they were also associated with the producing function. They were a source of life (a recurrent motif of killing by injuring a foot – Achilles or Krishna) and power. This aspect was transmitted to foot- and shoeprints. The greatest emphasis on the life-giving aspect of feet was laid in Kafir mythology, in the myths of goddess Disani, the mother of gods, being a patron of sexual love and death. She was depicted carrying a bow or a dagger, while her footprints filled with grain [cf. Kempiński 1993: 111]. Possibly, the depictions of feet together with a commonly used red colorant expressed the attempts at 'healing' the deceased and giving them back vital powers.

In catacomb graves, traces of fire are found in two forms: as traces of hearths in shafts or chambers and as objects identified as portable altars. Most commonly, the traces of hearths are recorded in the shaft or next to the entrance screen or at the deceased's feet. Similar locations were observed in the case of portable sources of fire or smoke. In the first case, traces of burning are borne by bottoms, linings,

skeleton bones and screens. This may suggest that fire was lit after the body had been placed in the grave. Hence, fire could have been an element of final rituals performed within the grave proper. The purifying valuation of fire could, in this case, apply to both the deceased and mourners.

Fire, in Indo-European mythology, carries ambivalent power; it has a positive aspect (good, wealth, victory, ritual purity) and a negative one (fire is to bring an end to the world). Hence, its role as purifier of a sacred space follows from both aspects. The literature devoted to the role of fire in cremation rituals refers it to two stages of the rite of passage. In the first, fire is taken to be a 'catalyst' facilitating separation whereby the body is reduced to ashes – a lasting form rid of its temporal aspect. In the second stage, when fire is used in the form of hearths, "... it plays the role of aggregation – it restores ritual participants to the world of the living and recreates their community" [Woźny 2000: 126 – see there for further literature]. In the Catacomb entity no cremation is recorded and the cases of scorched bodies are extremely rare. Moreover, there is no evidence of any traces of fire in the immediate surroundings of graves or within barrow mounds, although this may be a result of investigation methodology. Thus, the dual significance of fire use is not observable.

In the Catacomb entity, a tradition is recorded of placing masks over the deceased's faces. Graves with masks, however, do not form a compact chronological and territorial group, nor do masks belong to the set of basic traits characterizing the funeral rites of the culture. The form of the masks varies from full 'reconstructions' of faces to eye covers made of pottery fragments. In the literature on the subject, the presence of masks is explained by a reference to mummification or the cult of skulls and an indication of similar traditions found in the Middle East [Otroshchenko, Pustovalov 1991: 59-84]. From the region of Syria-Palestine, we know of burials of skulls alone with faces modelled in clay and callotes covered with asphalt. They are dated to the Natufian phase of the Neolithic (10 500-6000 BC), while their significance continues to be debated [Arensburg, Hershkovitz 1989: 131; Butler 1989: 141-145; Bienert 1995: 75-102]. The temporal and spatial distance between these phenomena and differences in contexts they occur (in the Catacomb entity, skulls with masks do not come from distinct concentrations) make one treat this hypothesis with considerable caution.

In the case of the Catacomb entity, graves with masks are encountered chiefly in the western branch – the Ingul Catacomb culture. Face 'reconstructions' were made of unburnt clay with admixtures of ochre, ash or ground bones. In the literature on the subject, the manner of applying modelling paste is discussed. There are two opposing views. According to one, the paste was applied to soft tissues or 'underlying' masks made of organic materials. This theory explains why there are no bone impressions on the inner side of clay layers [Evdokimov 1990: 18-20]. The other view holds that masks were made some time after death when the process of corpse mineralization and the decay of sinews joining bones had been completed (which explains why there are no traces of the mechanical removing of tissues on cervical vertebrae and skulls). The custom of placing masks could have been related

to commemorative ceremonies in honour of ancestors. According to S. Pustovalov, masks mark the burials of priests and warriors [Pustovalov 1994: 86-134]. However, masks were placed on both male and female skulls; we know also of some instances from child graves. What is also unclear is the question of grave goods. There are no standard sets of grave goods that could suggest specific trade or social groups. We know of graves containing weapons (axe-hammer/macehead, points, a knife) or tools and, by contrast, graves even without any pottery. The problem of interpreting the custom of making masks – face reconstructions – raises questions as to the meaning of this practice. Anthropologists, for instance, believe that mummification was undertaken with respect to the bodies of military leaders or other persons whose death could be particularly dangerous to the survival of the group. A leader cannot die. The preservation of his body in a way prolongs his existence and guarantees the survival of the group [Pawlik 2002: 29-40].

To compound the question, Indo-European vocabulary and mythology offer very equivocal symbols. Since the most common form of 'mask' is eye covers, it is worthwhile to have a look first on metaphors relating to eyesight. Death was believed to be a gradual loss of the senses, and blinding and blindness were almost tantamount to death (e.g. Hittite demon Illuyankas took away the eyes of Storm-god, Odysseus blinded Polyphem). There are also known metaphors referring to the 'internal eyesight' meaning the gift of prophecy. Another aspect of eyesight is related to superhuman, magic power and wisdom, but also to the ability to impose authority and avoid danger. Any ophthalmic anomalies were believed to have a clearly demonic aspect (e.g. the eyes of Medusa the Gorgon). However, in the case of Catacomb entity masks, the cases of covering mouths, ears and the nose are equally common. This may suggest that, apart from the desire to reconstruct the dead person's face, the aspect of the sensory contact with the world was also important. A dead person cannot see or hear or talk or smell odours but neither can he or she 'tie' a living person with a look or word. The custom of marking shut eyelids on clay lumps covering eye sockets may refer to the concept of death-sleep mentioned earlier.

Going back to the concept of death as sleep, one more image should be mentioned, specifically, the one of death as occurring in stages, and attempts to 'heal the deceased', which could have found expression in the making of masks. Both clay, as the principal material of which masks were made, and admixtures added to it (ochre, associated with the power of life, and bones as a lasting and indestructible element of the body) may be linked to the conception of telluric origin of man discussed earlier *.

An equally rare phenomenon, likewise the occurrence of masks, is the presence of wood pitch in Catacomb entity graves. Lumps of pitch (including remains of wood tar**) were most often found next to the head or on the calotte. There are also references to pitch remains on facial bones. Interpreted as masks, such remains have not been confirmed yet by any source publications.

* I would like to thank Prof. A.P. Kowalski for drawing my attention to this trope in interpreting Catacomb entity masks.

** I appreciate here kind oral communication from Dr. Sławomir Pietrzak.

The remains of wood pitch on skulls have been interpreted as a post-mortem fastening of hair-scalp to the heads of fallen warriors to make sure that they do not lack any body fragment in the afterlife [cf. Klein 1961: 105-109]. What is controversial here is a direct transposition of a situation observed among North American Indians (scalping of the defeated) onto prehistoric one. What should be considered, however, is the requirement, stressed by L. Klein, that a human being be 'complete' on its way to the beyond and a special role of hair. As it has been said earlier, elements of the human body were subject to a metamorphosis into the elements of the cosmos. Hair was identified with vegetation. Its reproductive aspect is related to chthonism, hence to death; on the other hand, long/luxuriant hair was characteristic of heroes or guaranteed them immortality [cf. Kempiński 1993: 454-455]. The association with reproduction symbols justifies identifying hair with a source of life-giving power, which may follow from indications in mythological messages, for instance, Medusa's hair guaranteed the safety of the town of Tegea. The motif of treacherous cutting hair off to deprive a person of power is a frequent trope found in the mythologies of non-Indo-European peoples as well. Known from literary tradition, funerary rites include the motif of cutting hair off and burning it by mourners. Possibly, the cases of fastening hair with wood tar were supposed to be healing treatments bringing back vital powers.

A funeral ceremony included also providing for the needs of the deceased for an indeterminate future, regardless of how it was imagined. The term 'grave inventories' used by archaeologists comprises all objects found in a grave. Such objects may be divided into two categories: grave goods, made up of objects belonging the deceased and used by him/her while alive (clothing, adornments, tools), and offerings. The latter category seems to be indeterminate and it may have included food [cf. recently Wawrzeniuk 2002: 75-82 – see there for further literature]. For the study of the funeral theory this distinction may be of key importance.

Further discussion is divided into sections corresponding to object categories found in graves.

a. Vessels. The presence of ceramic and wooden vessels in Catacomb entity graves seems to follow from the custom of giving offerings to the deceased. The offerings could be vessels themselves, but also food that they held. Traces of fat organic substances were relatively often recorded in vessels from the Donetsk-Luhansk test group; however, lack of any chemical analyses prevents us from determining, albeit roughly, their composition. Ceramic vessels of burned and unburned clay were found in almost a half of graves, predominantly next to the head of the deceased. Less common, wooden vessels have the form of trays-basins or bowls.

The presence of vessels in graves is laden with meaning. On the one hand, there is a spectrum of convictions related to food and its role in funeral ceremonies. On the other hand, there are notions referring to the broad semantic space related to the concept of vessel. The first set of meanings most often appears in archaeological interpretations as the metaphor of 'food for soul in afterlife'. The polysemantic structure of the concept of food offers other interpretations as well. Food is per-

ceived as a medium alleviating tensions, bringing gods and people closer together, settling disputes, cancelling the distinction into 'friends' or 'foes', abolishing the need of revenge, and, finally, uniting the living and the dead. It also becomes a sacrifice making any objects associated with food participate in the sphere of the sacred (a table is identified with an altar). Finally, food as such is subject to deification. Soma/haoma is a divine beverage, but Vedic mythology knows also a deity known as Soma – a guardian and defender, providing wealth, happiness, food, water, milk and vital powers [cf. Kempiński 1993: 386]. The relation of food and death is expressed not only in the power of uniting the living with the dead in wakes or festivities to honour ancestral spirits, etc. Another expression of this connection is the fate supposedly awaiting the blessed (feasts) and the damned (hunger and thirst, see the myth of Tantalus' torments). Another semantic platform is formed by the rituals of 'healing' or 'bringing back to life' mentioned earlier, where food preparation accompanied the use of ochre or the making of a mask.

The other semantic plane is made up of lexical material concerning vessels and organic containers whose origins are probably older dating back to pre-Indo-European (Nostratic) times. A complete review of notions created by these concepts can be found in the work by A.P. Kowalski [2000: 149-163]; here I shall discuss only several issues raised there. An inspiring argument is formed by the sequence: **kap-* 'vessel' – 'pate' – 'head' (cf. Latin *caput* – 'head', *capis* – 'sacrificial chalice') begging the question whether it refers to very archaic rituals involving the use of skull fragments as vessels or to the tendency, known from Indo-European mythology, of giving human features to the elements of the environment, including vessels. Another group of words coming from the Indo-European **nāus* ('ship', 'vessel') seems to refer to an older tradition of making wooden vessels and boats, which corresponds to the idea, borne out by myths, of a dead person travelling to the beyond by boat. Ideas of this type are not unique to Indo-European mythology [cf. Thomas 1991: 75-76]. It should be considered whether we deal here with a transformation of a boat into a vessel being a means allowing a dead person to move to afterlife.

Finally, let's go back to the concept of vessel that considers it both as an object and as a result of the process of making it. This approach can be seen also in the Polish word *naczynie* [vessel] coming from *činiti* meaning 'arrange, make, bewitch'. To quote A.P. Kowalski: "this example bears out a semasiological rule reflecting a culturally-determined tendency among the Indo-Europeans to consider vessels as objects endowed with the values that we find non-utilitarian" [2000: 153]. Viewed from this angle, a vessel in a grave, besides the obvious function of container, could have carried other meanings as well. Worth considering, the motif of a special mythological kinship of man and vessel, as both were made from clay, is recurrent in Indo-European mythology (cf. the myth of Prometheus who shaped humans out of clay and water). Coming back to the situation found in Catacomb entity graves, it has to be stressed that, in Ingul assemblages, cups of unburned clay are found to contain ground bones (osteoceramic body). Anthropological analyses show that the calotte bones of human skulls were also used for this purpose. There are also

cases known of making a vessel from the same body as a mask placed over the dead person's face.

b. Animal bones. Animal bones, likewise vessels, are not a mandatory element in the assemblage of objects accompanying the deceased. In the total number of 700 graves studied, animal bones were found in 140. In accordance with the findings made in section III.1.3.B, they were placed in a specific place (in the shaft or close to the entrance). Cattle bones dominated, but sheep or goat bones were also frequently recorded. Other species (the horse or the dog) were encountered only sporadically. It is worth discussing here the well-rooted view of a special valuation of the horse in steppe societies. The source of this view seems to be, in the first place, the school of M. Gimbutas and her disciples arguing in favour of the steppe origins of Indo-Europeans. The foundation of this theory lies in the assumption of the dominant position of invaders owing their supremacy to horse-riding skills [Gimbutas 1963; 1966; 1970; 1977; 1980; 1985; Mallory 1973; 1976; 1977; 1989; Anthony 1986; 1992]. The study of Catacomb entity grave contexts brings no evidence of the special role of the horse in funeral rites in the period in question.

The most common case is the placing of the remains of several animal species, both domesticated and wild, in a grave. Not a single instance has been recorded of a complete animal skeleton, which could suggest that a whole animal had been placed in a grave. A preference for selecting only fragments of domesticated animals (skull, limbs, hooves) seems to reflect the opposite. To a grave went inedible parts of a slaughtered animal. This observation seems to argue in favour of including animal remains in the category of offerings.

In Indo-European mythology, animals feature is many tropes. Occupations connected with animal breeding bring to mind the images of prestige, wealth and power, in contrast to land cultivation, which was associated with humble work, subordination, and often with slave labour. The most strongly marked in the mythology of the Indian subcontinent, this opposition served as a foundation for the conceptions of ur-cradle ('ur-description') of the Indo-European world. Such conceptions sharply contrasted the world of farmers (non-Indo-Europeans) with that of breeders-herders (Indo-Europeans) (see Chapter I.2). Originally, the binary opposition within Indo-European society was based on the division into magical-juridical activities (performed by priests-rulers) and production-military ones (carried out by farmers-breeders fulfilling also military functions). It has to be stressed that "...cultivation of cereals, legumes and their consumption became the basic source of subsistence for all the branches of Indo-Europeans, with the exception of Indo-Iranians who, with the domestication of the horse, had adopted another way of life close to that of herders-nomads, (...) but never did they (...) give up taking advantage of the benefits of agriculture" [Witczak 2003: 138]. Following the findings of the said author, the hypothesis about the predominantly nomadic way of life of the Aryans loses its explanatory potential when one thinks of a rich horse-riding vocabulary of Mongolian or Turkic peoples. The knowledge of the chariot and the use of the horse increased mobility but did not automati-

cally impose a way of life and a form of economy, e.g. giving up stationary and semi-stationary agriculture and breeding [Witczak 2003: 37]. It is worth considering what could have been a 'non-economic' origin of the archetype of herder. In my opinion, in this matter a hint is offered by his function of leader, guardian and defender of herds. Hence, he acquires significance as a medium between the worlds of humans and animals. The functions of guardian and warden bring closer together the concepts of herder and ruler (the appellation 'herder', Sanskrit *gopālá,* is connected to the names of Vishnu, Agni and Indra in particular, but similar connotations are borne by Greek names, e.g. Paris-Alexander, and nicknames, for instance, Agamemnon whom Homer called *poimēn laōn* – 'herder of nations' [cf. Kempiński 1993: 330-331]. The connection to cattle, valuated as the carrier of wealth and reproductive power, puts the herder in the sphere of chaos, thence his relation to the sphere of death (representations of the Underworld as a pasture or the concept of herder/guide of souls). One more thread should be considered – that of a herder's migration with his herds freely roaming the space of 'tamed' and 'untamed' cosmos, in the sphere of human order and natural 'chaos' stretching beyond it.

In Indo-European mythology, in the most general sense, animals are associated with the chthonic aspect, hence, with fertility (including sexuality), wealth, and military merits. This observation applies to cattle, sheep and goats. Following the Vedic tradition, a direct connection can be traced between the *varnas* and appropriate sacrificial animals assigned to each of them (priests – the goat, warriors – the horse, wealthy breeders (Vaisyas) – the cow, slaves (Shudras) – the sheep). However, I believe that the classes of sacrifices, likewise the distinction into precisely defined social groups, reflect a later development stage of Indo-European society. Referring to the observations by V.N. Danilenko, it can be claimed that in the development of the Indo-European vocabulary related to animal breeding a transfer (or rather joining) took place involving the meanings of cow-bull, goat/male goat, and sheep/ram [Danilenko 1974: 117]. Suffice it to mention the proximity of words meaning 'wealth' and 'cattle' in Indo-European languages. The Russian word *skot* refers in the first place to cattle, but also (with the adjective *melkiy*) to sheep and goats. Therefore, I assume that it is justified, while interpreting Catacomb entity funeral rites, to consider domestic animal bones found in graves as a single overall category without going into the detailed semantics of individual species. The common semantic plane associated with cattle/sheep/goat stresses the aspect of fertility and wealth. It is this semantic plane that comprises e.g. the Hittite motif of absolute abundance in the form of the *eja* tree with a sheepskin suspended from it, the golden fleece or the holding of cows (or waters) by the opponent of the Thunder-God. Another semantic plane is created by the association with military merits, although it seems that this refers not so much to animals in general as to their male representatives. In this set of tropes, next to a bull, male-goat, ram, a horse is included. These animals were associated with the Thunder-God (male goat being an animal form of lightning, Hittite Te-

shub was depicted accompanied by two bulls, a horse was sometimes a hypostasis of the hero himself).

Yet another interpretation plane is defined by the kind of sacrifices. In Greek mythology, bones, fat and intestines belonged to gods, while meat and skin could be kept by men (see the myth of Prometheus). This distinction reflects in a sense the opposition between the indestructible and destructible, lack of decay and decay. Another mythical trope is contained in the story of male-goats drawing Thor's chariot. They were an inexhaustible source of food provided that their skin and bones remained intact. These parts of the body were believed to carry power and (re-) vitalisation. A sacrifice of animals and food can be interpreted also as attempts to prevent decay related to death or as traces of healing practices [Witczak, Kowalski 2002: 62-67].

c. Grave goods. Tools, weapons, adornments and elements of clothing are not grave offerings. They are found in graves because they belonged to the dead person and remain in his/her possession and use while in the Underworld. Paucity of credible anthropological analyses prevents me from determining how grave goods were dependent on the sex. However, it can be claimed, relying on available data, that both weaponry and specialized tool kits (for making arrows, for working metals) are connected to male burials (in the case of collective graves – containing a male burial as well) (see Chapter III). Presented below, the analysis of grave goods from the point of view of Indo-European mythology is only a supplement to the discussion of the funeral theory but offers also a new interpretation plane of valuation of social functions such as production or military ones.

In Indo-European mythology, the most meaning seems to be attached to weapons. Especially informative in this respect is the analysis of images related to the cosmological struggle and its main hero – the Thunder-God, a deity associated with fertility, being also the maker and guarantor of order and the protector of military functions. In a struggle with a chthonic god, whose hypostasis was the Serpent, the Thunder-God, to free the life-giving element held captive (in subsequent versions of the myth: water, cows, women) used a thunder materialized as a stone. The further development cycle of the god's attribute included a stone disk, a mace-head, an axe-hammer and a sword (cf. Indra's vajra, Thor's hammer Mjöllinir, king Arthur's Excalibur) [cf. recently Kempiński 1993: 160]. In Catacomb entity grave contexts, two weapon types are used interchangeably, which is seen in the analogous valuation of the axe-hammer and mace-head. Both have stone, 'thunder' nature and are associated with the maker and guarantor of order. These observations justify, next to the military function, assigning them the role of prestige and power symbols having juridical and military character.

A more complex semantics in Indo-European mythology is enjoyed by the bow and arrows. The most obvious is their relationship to the gods of love. Shooting arrows or drawing a bow was an element of conjugal ceremonies. A well-known

connection exists between this weapon and the solar semantics – a drawn bow corresponded to the images of the sun's path across the sky while an arrow symbolized a ray or fire [cf. Kempiński 1993: 265]. Also, a bowshot delineated the borders of the cosmos. S.V. Ivanova quotes an Iranian (Sassanid) custom of making a bow and arrows by the ruler early every year, which was to ensure affluence and victory over enemies [Ivanova 2001: 76]. Reproductive connotations of the bow and arrows may justify valuating in this way not only the use but also the making of such objects.

VI. CATACOMB ENTITY FUNERAL THEORY – AN ATTEMPT AT A MODEL APPROACH

"No culture accepts death and the wealth of its products stems from the tension caused by the threat of death and a common struggle against it" [Pawlik 2002: 29]. One of the most fundamental manifestations of the social response to death is a funeral theory. In archaeological practice, the term 'funeral rituals' is used referring to relics of past events observable by us and being a record of decisions made and acts carried out. By this very fact, it reflects the last stage of all phenomena and events related to death. The concept of 'funeral theory' refers to a whole set of principles explaining attitudes, beliefs and rituals as well as setting the scope of competence, influence, knowledge and acts of individual social actors. There is no culture that could do without such a theory [Pawlik 2002: 38]. Past societies did not lack it, either.

The major objective I have set for this monograph was to analyse data from funeral contexts from different angles including the recording and interpreting a funeral theory, if any, prevailing among societies identified with the Catacomb entity. Following the observations made in the previous chapters, two planes of phenomena can be distinguished describing the funeral rituals of the CC. The first plane, deals with the scope of application of the concept of Catacomb entity in a taxonomic sense (VI.1). In prehistoric studies, funeral rituals supply input for the study of the complexity of a group, division of social roles, absence or presence of hierarchy, power and wealth etc. In this sense, a grave 'serves' also the living as a manifestation of social factors and relationships within groups. These questions are dealt with in the second section of this chapter (VI.2). The chapter is summed up by an attempt to build a model of the funeral theory (VI.3).

VI.1. CATACOMB ENTITY RANGE – AS IDENTIFIED BY FUNERAL DATA

The phenomena known as the Catacomb entity are a unifying factor with respect to the cultural environment of south-eastern European steppes in the middle period of the Bronze Age, specifically between 2800 and 2000/1600 BC. The unification may be studied on several planes. On the funeral one, it is manifested by the re-occurrence of certain burial characteristics that, following my observations, can be listed as follows:

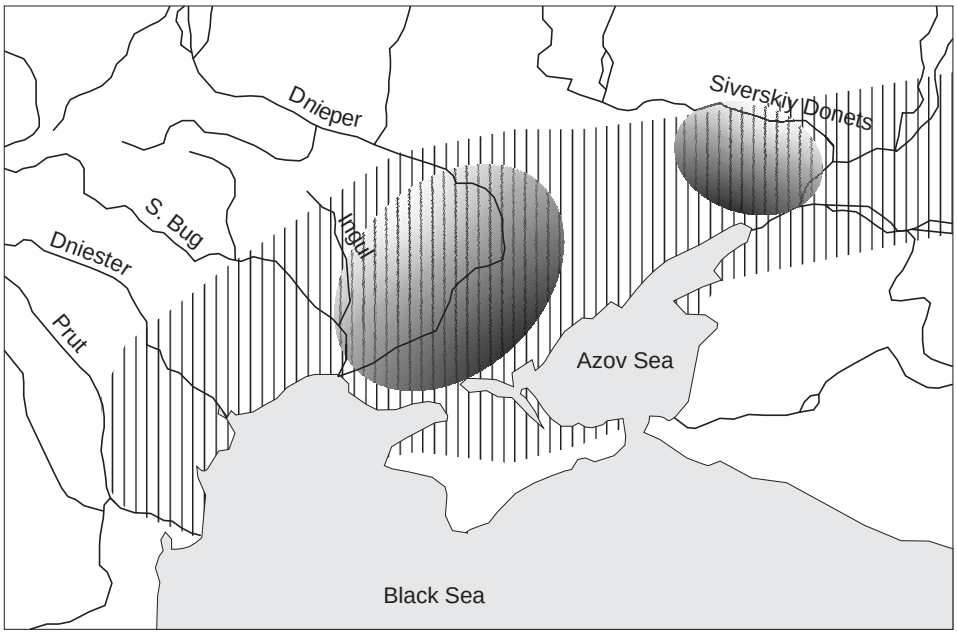


Fig. 35. Potential genetic centres of Catacomb entity

1. Grave location: circularly, along the outer edge of a mound;
2. Grave structure: a catacomb making use of earlier barrow mounds;
3. Burial type: inhumation in an extended position with the body lying on its back or right side and the head placed to the left of chamber entrance, without any differences in the ritual due to sex;
4. Grave preparation: presence of ochre, preparation of the bottom;
5. Relative paucity of grave inventories*: for the most part inventories include only ceramic containers of the vase type or cups without handles, few adornments, weaponry or tools.

This list of characteristics corresponds to the taxonomically distinguishable 'basic catacomb package'. Assemblages meeting the above criteria are recorded from the Prut River to the lower Volga and from the border between the forest-steppe and steppe in the north to the Crimean Mountains in the south. Regional differences are reflected in the changes of architectural details of catacomb graves and alternative body positions, with the rule that the head is placed to the left of the entrance being obeyed. Local varieties are the most readily observable in the assemblages of objects accompanying the dead (e.g. the incidence of axe-hammers-maceheads in the west and knives in the east). This is particularly true of pottery assemblages. The differences stay within the defined set of common traits. From this point of view, local variations observed in inventories may be treated as manifestations of

* Here: in a taxonomic and not functional sense.

local substrate development lines within the Catacomb entity. This monograph is not meant as a study in the origins of the Catacomb entity, however, relying on the observations made, an inspiring hypothesis can be put forward about its polygenetic origins in which an important role was played by the cultural environments of the Dnieper drainage and the Northern Donets-Don region in the transition period between the Eneolithic and the Bronze Age (cf. Fig. 22). Such bicentric origins of the CE seem to match a clear division into two provinces: a western and eastern one. To verify this hypothesis, it is necessary to conduct further studies of the chronology of cultural phenomena in the transition period between the Eneolithic and the Bronze Age (see Fig. 35).

In the discussion of the origins of Catacomb entity funeral rites, a crucial question concerns the origins of the catacomb. The question of the rise of this architectural form, being eponymous of the whole cultural group, has not been satisfactorily explained yet. Attempts to link Northern Pontic Area catacombs to structures found in the Mediterranean and the Levant (a.) central Europe (b.) and the Caucasus (c.) are frustrated by the distance in time and space separating these phenomena and considerable structural differences.

a. In the Mediterranean and the Levant, there were recorded constructions formally corresponding to a catacomb, however, due to reservations given above, I decide to leave the question of genetic relationships supposedly obtaining between such forms and Northern Pontic Area catacombs outside the scope of this monograph [cf. Klein 1966: 5-17; Zanotti, Rhine 1974: 333-359].

b. Catacombs were also recorded in Central Europe in the period corresponding to the lifetime of the Catacomb entity. Specifically, they were found in areas settled by the Kraków-Sandomierz group of the CWC and the Złota culture [Kempisty, Włodarczak 2000] (cf. Fig. 22). New radiocarbon dates made scholars revise the hypothesis about an earlier chronological position of catacombs in CWC contexts. In the light of recently obtained data, the rise of catacomb graves in the Northern Pontic Area and Małopolska seems to be contemporaneous. The similarity of Catacomb entity graves and those of the Kraków-Sandomierz group of the CWC does not go, in any material aspect, beyond architectural issues (bipartite structure and rare screens separating the shaft from the burial chamber). The other characteristics describing the funeral rites of the said CWC group differ from the package of fundamental characteristics defined by me: graves are laid out along the E-W (SE-NW) axis, with the shaft located on the E-SE side; body position depends on the sex of the deceased and its orientation remains constant (along the N-S axis, with the face always pointing E towards the catacomb entrance) [Kempisty, Włodarczak 2000].

c. The Caucasian origin of catacombs seems to be dubious as well, in particular, when one considers the question of dating bipartite grave layouts of the catacomb type [cf. Bertram 2003].

In the Northern Pontic Area, a catacomb as a grave form appeared earlier than phenomena related to the Catacomb entity. The decay of this structure coincided with the spread of Late Bronze patterns when the dominant grave form was a

simple pit. Catacomb graves revived on Black Sea steppes in the Scythian period. The factor linking these cases of catacomb occurrence, distant in time and space, is solely the idea of a bipartite structure in the form of a cave. The re-occurrence of this pattern may be considered a spreading of a certain idea on the deceased's posthumous fate. At this stage of research, any attempts to trace the origins of the grave form in the Catacomb entity seem premature to me. A more intensive study of Eneolithic catacomb grave contexts, which is highly desirable, may shed new light on the issue at hand.

VI.2. SOCIETY AS DEFINED BY FUNERAL CONTEXT DATA

The questions of funeral rites of past societies are often taken up by archaeologists for the purpose of reconstructing social systems. In the peculiarity of funeral behaviour we face purpose-oriented activities undertaken by past societies. The social aspect of funeral rites is also important because of the fact that a common system of beliefs shared by group members, although it refers to the supernatural, is inextricably tied to the order prevailing in a given society [cf. Renfrew 1994: 47-55]. Of crucial importance, in the study of social differentiation, is the assumption about the positive relationship obtaining between grave goods and the outlay of energy 'invested' in grave preparation, on the one part, and the status of the buried person on the other. Following this assumption, the development of hierarchical systems is manifested by records of complex behaviour.

Drawing any conclusions as to the complexity of Catacomb entity social systems is made difficult by the insufficient state of exploration of the settlement structure. As far as the funeral rites are concerned, we know little of age groups and the sex of the deceased. The state of our knowledge at this stage severely restricts the scope of research into the nature of social and political ties (as far as the development of competences, scope of authority and elites are concerned). My observations are, of necessity, rather research suggestions giving the possible range of future studies.

1. The apparent cultural uniformity that can be allegedly observed within the Catacomb entity has made some authors develop a conception of proto-state supposedly emerging within its structure. In such proto-states authority is based on strong individual leadership and exercised through compact territorial units. The Catacomb entity viewed from the angle of funeral rites is automatically taken to be a compact organism in which shared institutions, rituals, cult, and 'civilization level', as represented by grave goods, are tantamount to being aware of belonging to the same group. Regardless of the name given to it – 'Catacomb culture', 'Catacomb cultures' or 'Catacomb ethno-social organism' – behind the taxonomic aspect there

lies a conviction about the ethnic nature of the quality observed. A consequence of this approach was the emergence of the conception of two rivalling *ethnoses*: a pit and catacomb one. As the time gap is being closed by advances in the building of an absolute chronology, the conception makes the times look much more complex. It seems to me that in the early metal age we predominantly deal with local structures, of different degrees of organization, in which power is based on different authority figures. Between such local communities there could have existed all kinds of ties, either hostile or friendly, changing with time depending on the circumstances. A method to resolve this impasse is to embark on a thorough microregional study of settlement.

2. Groups of people are not sets of individuals having an identical status. Some basic ties and relationships follow from, for instance, kinship or membership in a sex or age group. The existence of such diverse relationship planes is reported by cultural anthropology. I assume that in the case of the Catacomb entity the development of ranked societies is under way within local structures. As an argument for this assumption I would give individualization seen in the domination of individual burials accompanied by grave goods being 'private objects' (adornments, tools, weapons). In this case, grave goods (in a functional sense) define the role played by the deceased when alive and not after death. This is not a novelty for the Northern Pontic Area. Burials become individualized there along with the development of the so-called steppe Eneolithic societies. Another argument for the growth of hierarchy in societies associated with the Catacomb entity may be a complex ritual behaviour witnessed in child graves (masks, complex ways of bottom preparation etc.). Making use of J. Czebreszuk's findings concerning the CWC, it can be claimed that ranked societies, featuring the institution of secret associations, functioned within the Catacomb entity. Members of such associations play a dual role in a society: on the one hand, they share in the assortment of the group's products, on the other, they use the assortment related to their membership in an association. Death disturbs both these reference systems and the passage to another life involves the transfer of ritual objects to which a dead person is entitled on both planes [cf. Czebreszuk 2001: 186-190]. In the case of graves identified as belonging to the Catacomb entity, the set of accompanying objects is not so strictly restricted as is the case with CWC societies. The objects include archer's kits (bow and arrows, as well as tools for manufacturing arrows), objects having the character of insignia (axe-hammers, in particular ornamented ones, and mace-heads), knives, kits of special purpose tools (e.g. related to metallurgy). The presence or absence of such objects in graves does not bear any relationship to the complexity of ritual behaviour within defined groups.

3. There is a group of graves deprived of any sign of even the most basic ritual behaviour. At the same time, in such graves, only rarely any grave goods were recorded. This situation may be a result of disturbances following post-deposition processes, damage done to the grave or investigation methodology. In this case,

it is hard to assess the 'contamination' of the data that reached us. In some of these graves, non-anatomic body positions were recorded. Whether we deal in such cases with a secondary treatment, a recycling of the grave or sanctions against the deceased remains to be seen.

VI.3. THE LIVING AND THE DEAD – A FUNERAL AS A FORETASTE OF INDIVIDUAL'S FUTURE FATE

Space – choice and organization. Following the observations made, as burial places were chosen barrow groups, dating to earlier periods, standing out against the landscape. It seems that behind such preferences lay a conviction that some areas were devoted to the dead, that they were ancestors' lands. A landscape surrounding a man is not without meaning. It is a peculiar record of individual and group history. Identification with a particular area, a homeland, is supported by true and mythical histories. The stabilizing aspect of a burial space is especially stressed in discussions of societies characterized by a mobile way of life. In the case of Catacomb entity, the preferences in choosing a burial place may have a double meaning. On the one hand, location inside an existing barrow group may have been a factor strengthening the ties of a group to a given area, on the other, by 'taking over' a burial space it may have attempted to stake out claims to settled areas [cf. Sanzharov, Britiuk 1996: 58-132]. This observation specifies another important aspect of burial space location – the centre or *axis mundi* of the cosmic mountain. Observed in the case of the Catacomb entity, the principle of locating a burial place at the foot of a barrow, as well as its form, may be related to the beliefs of bi- or tripartite, vertical organization of the world.

Grave – the abode of the deceased. In the process of creating a ritual place, it seems that special importance is attached to grave and dead person preparation for burial. At this junction, two opposing purposes collide: "... a desire to keep the dead person and another one to free oneself from him or her" [Tokariev 1969: 152]. A grave is a place where relationships are 're-oriented' – on the one hand, to protect the living, the hitherto existing relationships are severed, on the other, new relationships are built to ensure to the dead person, as member of the group of 'ancestors', continuing existence and to make sure that he or she looks at the living with favour [Wawrzeniuk 2002: 77]. Both desires are simultaneously present. To these desires one may relate some basic behaviour observable in Catacomb entity graves. Distinguished at the analytical stage, the ritual groups show differences in the complexity of behaviour recorded in graves. A common trait is an almost mandatory presence of traces of two rites: bottom preparation and attempts to restore vital powers. On the one hand, a symbolic 'bed' is prepared for the deceased in the form of special treatment of the bottom (the spreading of chalk/coal and/or lining of organic materials). On the

other hand, there is a distinct group of behaviour types that I have interpreted as attempts to 'restore life' to or heal the dead person. These attempts are manifested in the use of ochre and the making of offerings, particularly food. In this context, offerings may serve the purpose of finding favour with the deceased. The very concept of offering makes it necessary for the donee to reciprocate. An offering in early traditional societies is not a category of goods with a price on it. Making an offering serves several integrated purposes – together with an actual object all related notions and senses are transferred [cf. Mauss 1973: 211-415]. In this case, both these conceptions should be treated as complementary.

Interpretation possibilities offered by Indo-European mythology broaden the research into the funeral theory of the Catacomb entity. At the same time, the fact that the funeral rites of the Catacomb entity yield to interpretation along these lines provides arguments in favour of identifying Middle Bronze groups inhabiting the Northern Pontic Area with societies speaking an Indo-European language, possibly belonging to the Indo-Iranian group.

"Death is experienced as an *interruption* – both for the dead person who parts with life and for mourners who are detached from society for a time (...) funeral rites thus appear in the first place as a ritual of bidding farewell. It is through funeral rituals that a dead person does not cease to die. The living are not entirely on the side of life anymore so that the dead are not entirely on the side of death. To remedy the interruption a meeting has to be facilitated." [Thomas 1991: 5-7]. All participate in death – it is a terminating point disturbing the order of the universe. Even if prehistoric societies did not develop the concept of biological death as an element of life, if, in the cyclic concept of time, death was replaced by the metaphor of journey, sleep or a return to the state one was in before birth, it was necessary to return the balance in order to continue functioning. This was the purpose a funeral theory served. In the 'timelessness' of a funeral ceremony the world is created anew.

Conclusion

The attempt to reconstruct the funeral theory of the Catacomb community, made in this monograph, focused on several vital aspects.

First, I tried to present briefly the rich and multi-faceted history of research into the nature of the catacomb community in the Northern Pontic Area and put it against a broader background of the vast Indo-European studies (Chapter I). The next task was to place the catacomb community in the broad picture of changes taking place north of the Black Sea on the threshold of the early metal age, with a special attention being given to changes in mortuary practices. Part of the presentation is a tentative chronology of catacomb community groups and the community's internal variety, relying on available ^{14}C dates (Chapter II). Next, I tried to define a set of traits characteristic of the funeral rites of the catacomb community following a four-stage cycle of creating a ritual place. A comprehensive approach to funerary sources let me verify the picture of the discussed unit well-seated in the relevant literature and built using data coming from exceptionally complex and untypical grave complexes (Chapter III). The final stage of the narrative is an attempt at verification using mythological data and an attempt to build a model picture of funeral theory and practice (Chapters IV-VI). This procedure made it possible to re-define the concept of catacomb community. In the funeral sphere, the 'basic package', describing assemblages belonging to the unit in question, includes the following traits:

1. Grave location: circularly, along the outer edge of a mound;
2. Grave structure: a catacomb making use of earlier barrows mounds;
3. Burial type: inhumation in an extended position with the body lying on its back or right side and the head placed to the left of chamber entrance, without any differences in the ritual due to sex;
4. Grave preparation: presence of ochre, preparation of the bottom;
5. Relative paucity of grave inventories: for the most part inventories include only ceramic containers of the vase type or cups without handles, few adornments, weaponry or tools.

Besides the questions that could be touched upon in this monograph, there is a broad spectrum of issues, impossible to ignore, that could not be taken up for various reasons. Poor knowledge of the settlement structure prevents one from verifying some claims made in this monograph, in particular those relating to the valuation of space. A significant shortcoming of the study of funeral rites of the catacomb community is the unavailability of satisfactory anthropological examination results making me give up very promising issues of the relationship between the sex and age classes, and the ritual plane.

I am fully aware that these shortcomings are reflected in the quality of interpretation from the Indo-European point of view. However, I wish to stress that the discussion sets the direction for future research and does not end it. Any further study requires comprehensive interdisciplinary investigations accompanied by a logically designed and thorough programme of fieldwork on sites identified with the catacomb community.

ANNEX I. List of the Catacomb culture sites (see Map 1)

l.p.	Group	Site		Region	District	
1	2	3	4	5	6	7
1	B	Belolesye	Белолесье	Tatarbunary	Odessa	Subbotin L.V., Dzigovskiy A.N., Ostroverkhov A.S. 1995
2	B	Ciobruci	Ciobruci/ Чобручи	Shtefan Vode/ Moldova		Agulnikov S.M., 1999: 118-131
3	B	Nikolskoe	Nicolskoie/ Никольское	Slobozia/ Moldova		Agulnikov S.M., 1999: 118-13
4	B	Novoselitsa	Новоселица	Tatarbunary	Odessa	Subbotin L.V., Dzigovskiy A.N., Ostroverkhov A.S. 1995
5	B	Novye Raskaetsy	Новые Раскаецы	Shtefan Vode/ Moldova		Yarovoy E.V. 1990
6	B	Olaneshty	Оланешты	Shtefan Vode/ Moldova		Yarovoy E.V. 1990
7	B	Purkary	Purcari/ Пуркары	Shtefan Vode/ Moldova		Yarovoy E.V. 1990
8	B	Talmaz	Talmaz/ Талмаз	Shtefan Vode/ Moldova		Agulnikov S.M. 1999: 118-131
9	B	Trapovka	Траповка	Tatarbunary	Odessa	Subbotin L.V., Dzigovskiy A.N., Ostroverkhov A.S. 1995
10	B	Vishnevoye	Вишневое	Tatarbunary	Odessa	Subbotin L.V., Dzigovskiy A.N., Ostroverkhov A.S. 1995

1	2	3	4	5	6	7
11	DL	“Razdolovka” -Ivano-Darevka	“Раздоловка”- Ивано-Дарьевка	Artemovsk	Donetsk	Kravets D.P., Posrednikov V.A., Litvinienko R.A. 1990
12	DL	Artemovsk	Артемовск	Artemovsk	Donetsk	Kravets D.P., Tatarinov S.I. 1997: 77-115
13	DL	Bobrikove	Бобрикове	Antratsyt	Luhansk	Kliushev M.N. 1993
14	DL	Chernukhino	Чернухино	Antratsyt	Luhansk	Gershkovich Y.P. 1996: 133-167
15	DL	Ivano-Darevka	Ивано-Даревка	Artemovsk	Donetsk	Kravets D.P., Tatarinov S.I. 1997: 77-115
16	DL	Kindrativka	Кіндратівка/ Кондративка	Dobropillia	Donetsk	Kulbaka V., Kachur V. 1998
17	DL	Krasnaya Zarya	Красная Заря/ Кращна Зоря	Perevalsk	Luhansk	Sanzharov S.N., Britiuk A.A. 1996: 58-132
18	DL	Kripiaki	Крипяки	Antratsyt	Luhansk	Bratchenko S.N., Gershkovich Y.P., Kulbaka V.K. 1978 NA IA NANU: 1978
19	DL	Lisichansk LNPZ	Лисичанськ - Лисичанський Нефтепереработющий Завод	Popasna	Luhansk	Pisarliy I.A. 1973 NA IA NANU: 1973/9
20	DL	Nikolaivka	Николаевка (Миколаївка)	Stanichno-Luhanskoe	Luhansk	Cherednichenko N.N., Bratchenko S.N. 1971 NA IA NANU: 1971/3
21	DL	Novoamvrosyevka	Новоамвросиевка	Amvrosyevka	Donetsk	Kosikov V.A. 1996: 63-75
22	DL	Oleksandrivsk	Олександривск	Luhansk	Luhansk	Pisarliy I.A., Dubovskaya O.R., Samoilenko V.G. 1976 NA IA NANU: 1976/10
23	DL	Peredelsk	Переделък	Stanichno-Luhanskoe	Luhansk	Pisarliy I.A., Dubovskaya O.R., Samoilenko V.G. 1976 NA IA NANU: 1976/10

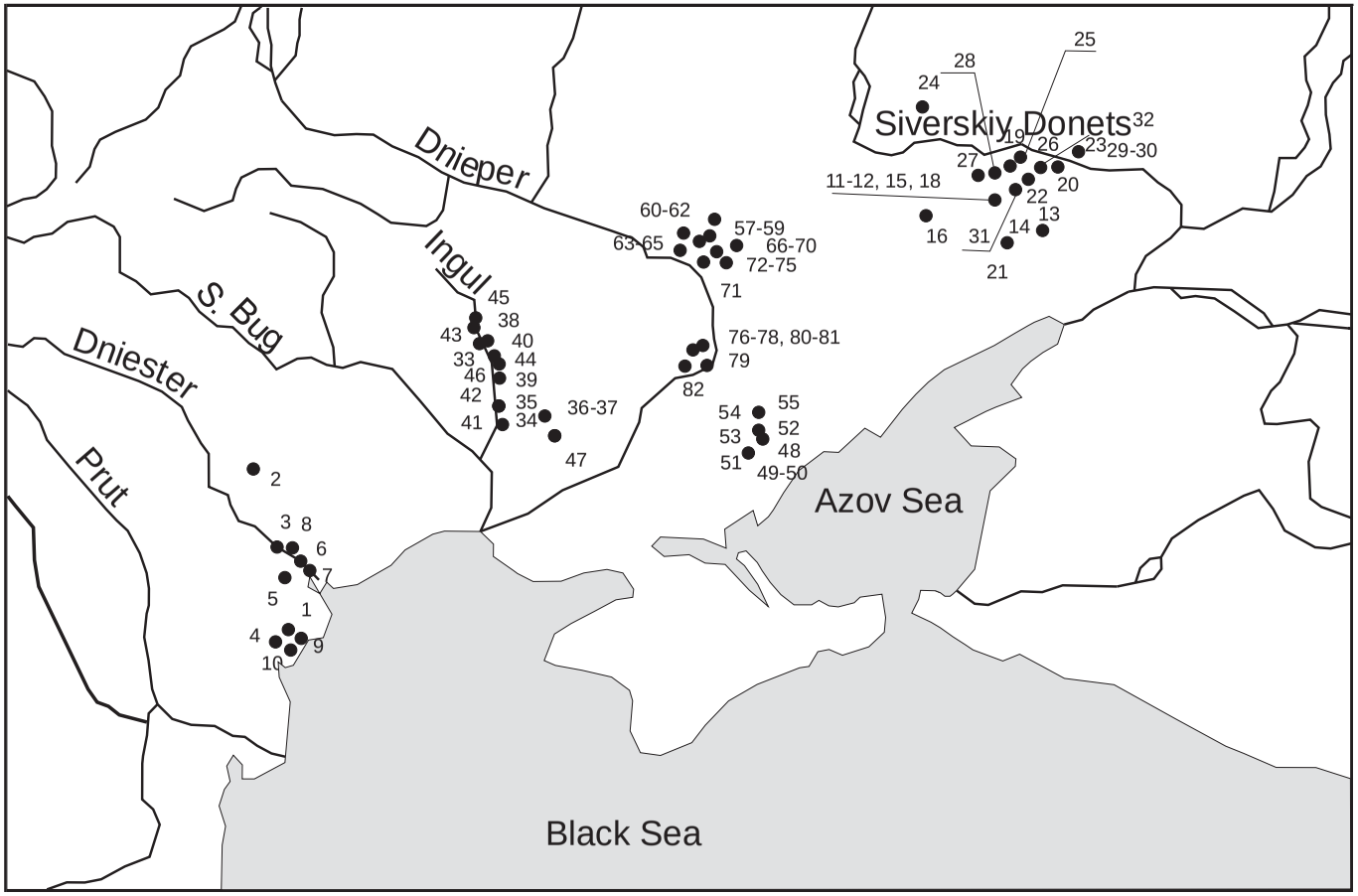
1	2	3	4	5	6	7
24	DL	Preobrazhennoe	Преображенное	Svatovo	Luhansk	Krasilnikov K.I., Telnova L.I. 1993: 91-125
25	DL	Prishib	Пришиб	Antratsyt	Luhansk	Bratchenko S.N., Gershkovich Y.P., Kulbaka V.K. 1978 NA IA NANU: 1978
26	DL	Sokolniki	Сокольники	Antratsyt	Luhansk	Bratchenko S.N., Gershkovich Y.P., Kulbaka V.K. 1978 NA IA NANU: 1978
27	DL	Stepnoy	Степной	Slaviansk	Donetsk	Posrednikov V.A., Privalov A.I., Zarayskaya N.P. 1996: 109-152
28	DL	Triokhizbenka	Трёхизбенка	Slovianoserbsk	Luhansk	Pisarliy I.A. 1973 NA IA NANU: 1973/9
29	DL	Voloshilovgrad Trikotazhnaya Fabrika	Волошиловград-Трикотажная Фабрика	Luhansk	Luhansk	Pisarliy I.A. 1973 NA IA NANU: 1973/9
30	DL	Voroshilovgrad VSHI	Волошиловград-Волошиловгадский Сельскохазяйственый Институт	Luhansk	Luhansk	Gladkiy N.I., Pisarliy I.A., Krotova I.A. 1974 NA IA NANU: 1974/13
31	DL	Zhitenko	Житенко	Amvrosyevka	Donetsk	Denisova A.A., Kravets D.P. 1993: 52-7
32	DL	Znamianka	Знамянка	Antratsyt	Luhansk	Bratchenko S.N., Gershkovich Y. P., Kulbaka V.K. 1978 NA IA NANU: 1978
33	I	Bilogradovka	Билоградовка	Bashtankiy	Mykolaiv	Shaposhnikowa O.G., Bochkarev V.S., Fomienko V.O., Grebennikov Y.S., Rychkov N.A., Rebedailo T.P., Kliushincev V.H. 1973 NA IN NANU: 1973/8
34	I	Khristoforovka I, kovkhoz Ognie Komunizma	Христофоровка	Bashtankiy	Mykolaiv	Shaposhnikowa O.G., Bochkarev V.S., Fomienko V.O, Grebennikov Y.S., Rychkov N.A., Rebedailo T.P., Kliushincev V.H. 1973 NA IN NANU: 1973/8

1	2	3	4	5	6	7
35	I	Konstantynovka I	Константиновка	Bashtankiy	Mykolaiv	Shaposhnikowa O.G., Bochkarev V.S., Fomienko V.O., Grebennikov Y.S., Rychkov N.A., Rebedailo T.P., Kliushincev V.H. 1973 NA IA NANU: 1973/8
36	I	Limantsy - Gorodska mogila	Лиманцы	Snigirevskiy	Mykolaiv	Shaposhnikowa O.G., Bochkarev V.S. 1972 NA IA NANU: 1972/3
37	I	Limantsy II, rej	Лиманцы	Snigirevskiy	Mykolaiv	Shaposhnikowa O.G., Bochkarev V.S., Fomienko V.O., Grebennikov Y.S., Rychkov N.A., Rebedailo T.P., Kliushincev V.H. 1973 NA IA NANU: 1973/8
38	I	Novorozanovka	Новорозановка	Novobugskiy	Mykolaiv	Shaposhnikova O.G., Rebedailo G.P. 1977: 66-78
39	I	Otradnoye	Отрадное	Bashtankiy	Mykolaiv	Shaposhnikowa O.G., Bochkarev V.S. 1971 NA IA NANU: 1971/28
40	I	Pelageevka	Пелагеевка	Novobugskiy	Mykolaiv	Sharafutdinova I.N. 1977 Kurgan u sela Pelageevka. In: *Drevnosti Poingula*. 79-98
41	I	Pieski	Пиески	Bashtankiy	Mykolaiv	Shaposhnikowa O.G., Bochkarev V.S. 1972 NA IA NANU: 1972/3
42	I	Privolnoie	Прволное	Bashtankiy	Mykolaiv	Shaposhnikowa O.G., Bochkarev V.S. 1970 NA IA NANU: 1970/8
43	I	Sofievka	Софиевка	Bashtankiy	Mykolaiv	Shaposhnikova O.G. 1980: 132-146
44	I	Sokolovka	Соколовка	Bashtankiy	Mykolaiv	Sharafutdinova I.N. 1980b: 71-124
45	I	Starorozanovka	Старорозановка	Novobugskiy	Mykolaiv	Shaposhnikowa O.G., Bochkarev V.S., Fomienko V.O., Grebennikov Y.S., Rychkov N.A., Rebedailo T.P., Kliushincev V.H. 1973 NA IA NANU: 1973/8

1	2	3	4	5	6	7
46	I	Starogorozheno	Старогорожено	Bashtankiy	Mykolaiv	Shaposhnikova O.G., Fomenko V.N., Balushkin A.M. 1977: 99-144
47	I	Timofeevka	Тимофеевка	Snigirevskiy	Mykolaiv	Vyazmitina M.I, Illinskaya V.A., Pokrovskaya E.F., Terenozhkin O.I., Kovanenko G.T. 1960: 22-135
48	M	"Iushanli"	"Юшанли"	Vasylievka	Zaporozhe	Vyazmitina M.I, Illinskaya V.A., Pokrovskaya E.F., Terenozhkin O.I., Kovanenko G.T. 1960: 22-135
49	M	Akkermen I	Аккермен	Vasylievka	Zaporozhe	Vyazmitina M.I, Illinskaya V.A., Pokrovskaya E.F., Terenozhkin O.I., Kovanenko G.T. 1960: 22-135
50	M	Akkermen II	Аккермен	Vasylievka	Zaporozhe	Vyazmitina M.I, Illinskaya V.A., Pokrovskaya E.F., Terenozhkin O.I., Kovanenko G.T. 1960: 22-135
51	M	Dolina	Долина	Vasylievka	Zaporozhe	Furmanska A.I. 1960: 136-140
52	M	Novo-Pilipivka	Новопилипивка	Vasylievka	Zaporozhe	Vyazmitina M.I, Illinskaya V.A., Pokrovskaya E.F., Terenozhkin O.I., Kovanenko G.T. 1960: 22-135
53	M	Troickie, obw. Zaporoże	Троиське	Vasylievka	Zaporozhe	Klein L. 1960: 141-163
54	M	Veliki Tokmak, hut.Sevchenka	Велики Токмак	Vasylievka	Zaporozhe	Smirnov K.F. 1960: 164- 189
55	M	Zamozhne	Заможне	Vasylievka	Zaporozhe	Smirnov K.F. 1960: 164- 189
56	OS	Aleksandrovka,	Александровка, учхоз "Самарсий"	Novomoskovsk	Dnepropetrovsk	Kovaleva I.F., Volkoboy S.S., Kostenko V.I. Shalabudov V.N. 1978: 4-3
57	OS	Blagodatnoe IV	Благодатное IV	Pavlograd	Dnepropetrovsk	Marina Z.P., Romashko V.A. Feshchenko E.L. 1986: 5-36

1	2	3	4	5	6	7
58	OS	Blagodatnoe V	Благодатное V	Pavlograd	Dnepropetrovsk	Marina Z.P., Romashko V.A., Feshchenko E.L. 1986: 5-36
59	OS	Buzovka	Бузовка	Charichanka	Dnepropetrovsk	Marina Z.P., Kostenko V.I., Nikitin S.V. 1981: 4-18
60	OS	Dmukhaylovka XI	Дмухайловка XI	Magdalinovka	Dnepropetrovsk	Kovaleva I.V., Romashko V.A., Cherniavskaya N.V., Khristan A.M. 1981: 19-44
61	OS	Dmukhaylovka XIII	Дмухайловка XIII	Magdalinovka	Dnepropetrovsk	Kovaleva I.V., Romashko V.A., Cherniavskaya N.V., Khristan A.M. 1981: 19-44
62	OS	Dmukhaylovka XIV	Дмухайловка XIV	Magdalinovka	Dnepropetrovsk	Kovaleva I.V., Romashko V.A., Cherniavskaya N.V., Khristan A.M. 1981: 19-44
63	OS	Ignatovka	Игнатовка	Pavlograd	Dnepropetrovsk	Marina Z.P., Morkovina I.V., Feshchenko E.L. 1984: 3-24
64	OS	Khashchevoe	Хащевое	Novomoskovsk	Dnepropetrovsk	Kovaleva I.F., Marina Z.P., Cherniakovskaya N.V., Nikitin S.S. 1979: 5-25
65	OS	Malaya Kozyrshchyna	Малая Козырщина	Pavlograd	Dnepropetrovsk	Marina Z.P., Morkovina I.V., Feshchenko E.L. 1984: 3-24
66	OS	Mykolaivka	Миколаивка	Petropavlovka	Dnepropetrovsk	Marina Z.P., Romashko V.A. 1999: 35-69
67	OS	Pryadovka	Прядовка	Charichanka	Dnepropetrovsk	Kovaleva I.V., Romashko V.A., Cherniavskaya N.V., Khristan A.M. 1981: 19-44
68	OS	Shandrovka I	Шандровка I	Pavlograd	Dnepropetrovsk	Kovaleva I.F., Andrusov A.V., Mukhopad S.E., Shalabudov V.N. 1985: 3-26
69	OS	Shandrovka III	Шандровка III	Pavlograd	Dnepropetrovsk	Kovaleva I.F., Andrusov A.V., Mukhopad S.E., Shalabudov V.N., 1985: 3-26
70	OS	Terny-Dolgaya Mogila II	Терны-Долгая Могила II	Pavlograd	Dnepropetrovsk	Kovaleva I.F., Andrusov A.V., Shalabudov V.N., Shakhrov G.I. 1987: 5-27

1	2	3	4	5	6	7
71	OS	Verbki	Вербки	Pavlograd	Dnepropetrovsk	Marina Z.P., Romashko V.A., Feshchenko E.L. 1986: 5-36
72	OS	Verkhnyaya Mayovka XII	Верхняя Маёвка	Dnepropetrovsk	Dnepropetrovsk	Kovaleva I.F., Volkoboy S.S., Marina Z.P., Likhachev V.A., Poptsov V.A. 1977: 8-133
73	OS	Verkhnyaya Mayovka XIII	Верхняя Маёвка	Dnepropetrovsk	Dnepropetrovsk	Kovaleva I.F., Volkoboy S.S., Marina Z.P., Likhachev V.A., Poptsov V.A. 1977: 8-133
74	OS	Verkhnyaya Mayovka XIV	Верхняя Маёвка	Dnepropetrovsk	Dnepropetrovsk	Kovaleva I.F., Volkoboy S.S., Marina Z.P., Likhachev V.A., Poptsov V.A. 1977: 8-133
75	OS	Verkhnyaya Mayovka XVIII	Верхняя Маёвка	Dnepropetrovsk	Dnepropetrovsk	Kovaleva I.F., Volkoboy S.S., Marina Z.P., Likhachev V.A., Poptsov V.A. 1977: 8-133
76	VT	Kislichuvata I	Киличувата I	Tomakivka	Dnepropetrovsk	Kovaleva I.F., Shalabudov V.N., Teslenko D.L. 1998: 4-18
77	VT	Kislichuvata II	Киличувата II	Tomakivka	Dnepropetrovsk	Kovaleva I.F., Shalabudov V.N., Teslenko D.L. 1998: 4-18
78	VT	Kislichuvata III	Киличувата III	Tomakivka	Dnepropetrovsk	Kovaleva I.F., Shalabudov V.N., Teslenko D.L. 1998: 4-18
79	VT	Novyi Mir “Rodina”	Новый Мир “Родина”	Tomakivka	Dnepropetrovsk	Androsov A.V. 1986: 67-77
80	VT	Pavlovka	Павловка	Tomakivka	Dnepropetrovsk	Kovaleva I.F., Shalabudov V.N., Teslenko D.L. 1999: 4-35
81	VT	Propashnoe	Пропашное	Tomakivka	Dnepropetrovsk	Kovaleva I.F., Shalabudov V.N., Teslenko D.L. 1999: 4-35
82	VT	Vekhnetarasovka	Верхнетарасовка	Tomakivka	Dnepropetrovsk	Evdokimov G.L. 1977: 5-55



Map 1. Location of Catacomb culture sites (see Annex I)

ANNEX II. Cataloque (see Annex I)

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
1	B	BELOLESYE	1	9	IIa	F	0	0	0	0	0	0	+	0	0	CH	0	0	3b	+	+	+
1	B	BELOLESYE	3	11	IIb	C	0	0	1	0	0	0	0	+	+	CH	+	0	3b	+	+	+
2	B	CIOBRUCI I	4	6	NA	C	0	0	1	0	0	0	0	FEET	+	0	H	0	3a	0	+	0
2	B	CIOBRUCI I	4	7	Ia/Ib	AA	0	0	0	0	0	0	0	+	+	0	0	0	1	0	+	0
2	B	CIOBRUCI I	4	29	Ia	A	0	0	0	0	0	0	+	+	+	0	0	0	?	0	0	0
2	B	CIOBRUCI I	4	34	Ib	A	0	0	0	0	0	0	0	+	+	0	H	0	3b	0	+	0
2	B	CIOBRUCI I	4	35	Ia/Ib	AA	0	0	0	0	0	0	0	+	0	CH	0	M	?	0	0	0
3	B	NIKOLSKOE	1	13	Ia	A	AH	0	0	0	0	0	0	+	0	CH	0	0	2a	+	0	0
3	B	NIKOLSKOE	1	15	IIb	A	0	GS/SP	0	0	0	0	0	+	0	CH	0	0	1	0	0	+
3	B	NIKOLSKOE	8	11	Ia	A	0	PP, GS/SP, AS	1	0	0	0	0	0	0	CH	0	0	1	0	0	0
3	B	NIKOLSKOE	11	6	Ib	A	0	0	0	0	0	0	0	0	0	CH	0	0	2a	0	+	+
3	B	NIKOLSKOE	13	7	Ib	A	0	0	0	0	0	0	0	+	0	CH	+	0	2a	0	+	+
4	B	NOVOSELITSA	19	20	IIb	A	0	0	1	0	0	0	+	+	0	CH	0	0	2a	0	+	+
4	B	NOVOSELITSA	19	21	Ib	M	0	GS/SP	0	0	0	0	0	0	0	CH	0	0	2a	0	0	+
4	B	NOVOSELITSA	19	22	Ia	A	0	0	0	0	0	0	0	0	0	CH	0	0	1	0	0	+
5	B	NOVYE RASKAETSY	1	7	Ia	A	0	0	1	0	0	0	0	+	0	CH	0	0	3b	0	+	+
5	B	NOVYE RASKAETSY	1	8	Ia/Ia/Ib	FMC	0	GS	F	0	0	0	0	+	0	CH	0	0	?	0	0	0
5	B	NOVYE RASKAETSY	1	12	Ia	A	AH	Sc	0	0	0	0	+	+	0	CH	0	0	2a	0	0	+
5	B	NOVYE RASKAETSY	1	21	IIb	A	0	0	0	0	0	0	0	+	0	CH	0	T	3b	0	0	+
5	B	NOVYE RASKAETSY	1	32	Ia	A	0	0	0	0	0	0	0	0	0	CH	0	0	3b	0	0	+
5	B	NOVYE RASKAETSY	2	3	Ia	C	0	0	0	0	0	0	0	+	0	CH	0	T	3a	0	+	0
6	B	OLANESHTY	6	9	Ia	A	0	0	0	0	0	0	0	+	+	CH	H	0	3b	0	0	+
6	B	OLANESHTY	14	2	Ia	M	0	0	0	0	UNIO SHELL	0	0	+	+	CH	0	0	3b	0	0	+
6	B	OLANESHTY	1	4	Ia	A	0	0	0	0	0	0	0	0	0	CH	0	0	2b	0	0	+
6	B	OLANESHTY	1	10	Ia	A	0	0	0	0	0	0	0	0	0	CH	0	0	?	0	0	0
6	B	OLANESHTY	1	30	Ib	A	0	0	0	0	0	0	0	+	+	+	CH	0	0	3b	+	0	0
6	B	OLANESHTY	1	31	Ib	A	0	0	0	0	0	0	0	+	+	CH	H	0	2b	0	+	+
6	B	OLANESHTY	1	2	Ia	A	0	0	0	0	0	0	0	+	0	CH	0	0	2b	0	+	+
7	B	PURKARY	1	3	Ia	A	0	0	2	0	0	0	0	+	0	CH	0	0	?	0	0	0
7	B	PURKARY	1	9	Ia	F	0	0	1	0	0	0	0	0	0	CH	0	0	2b	0	0	0
7	B	PURKARY	1	10	Ib	C	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
7	B	PURKARY	1	12	Ia	A	0	0	0	0	0	0	+	0	0	CH	0	0	2b	+	0	+
7	B	PURKARY	1	14	Ib	A	0	0	1	0	0	0	0	0	0	CH	0	MT	3b	0	+	+
7	B	PURKARY	1	32	Ib	M	0	0	0	0	0	0	0	0	+	CH	0	0	2b	0	0	+
7	B	PURKARY	1	35	Ia	A	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
7	B	PURKARY	1	36	Ia	A	0	0	0	0	0	0	0	+	0	CH	0	0	3a	0	+	+
7	B	PURKARY	1	37	Ia	A	0	0	0	0	0	0	0	0	0	CH	0	0	2a	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
7	B	PURKARY	1	38		cenotaph	AH, 4 A, SP-A	Sc, FK	0	0	0	0	0	+	0	CH	0	0	2a	0	0	+
7	B	PURKARY	2	16	Ia	A	0	GS/SP	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
7	B	PURKARY	5	8	Ia	C	0	0	1	0	0	0	0	0	0	CH	0	0	?	0	0	0
8	B	TALMAZ	3	13	Ia	A	0	0	0	0	0	0	0	0	0	CH	0	0	1	0	0	+
8	B	TALMAZ	3	15	Ib	AA	A	0	1	0	0	0	0	+	0	CH	0	MT	3b	0	+	+
8	B	TALMAZ	3	16	Ia	AA	0	0	0	0	0	0	0	0	0	CH	0	0	2a	0	0	+
9	B	TRAPOVKA	1	7	Ia	C	0	0	0	0	0	0	0	0	0	CH	+	0	2b	0	+	+
9	B	TRAPOVKA	1	13	NA	C	0	0	1	0	0	0	0	+	0	CH	0	0	2b	0	+	+
9	B	TRAPOVKA	1	14	Ia	K	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
9	B	TRAPOVKA	1	17	Ia	M	0	0	0	0	0	0	0	0	0	CH	0	0	3b	0	0	+
9	B	TRAPOVKA	1	18	Ib	M	0	0	0	0	0	0	+	0	0	CH	0	0	?	0	0	0
9	B	TRAPOVKA	4	14	Ia	MC	0	GS	0	0	0	0	0	0	+	CH	0	0	?	0	0	0
9	B	TRAPOVKA	6	11	NA	M	0	0	0	0	0	0	0	+	0	CH	0	0	2	0	+	+
9	B	TRAPOVKA	6	13	Ia	A	AH	0	0	0	0	0	0	+	0	CH	0	0	1	0	+	0
9	B	TRAPOVKA	10	1	Ia	A	0	0	1	0	0	0	0	0	0	0	0	0	1	0	+	0
9	B	TRAPOVKA	10	3	Ia	M	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
9	B	TRAPOVKA	10	5	Ia	A	0	0	0	0	0	0	0	+	0	CH	0	0	4	0	0	0
9	B	TRAPOVKA	10	7	NA	F	0	0	1	0	0	0	+	+	+	CK	+	0	3a	0	+	0
9	B	TRAPOVKA	10	8	Ia	M	0	0	0	0	0	0	+	FEET	+	0	0	0	3a	0	0	0
10	B	VISHNEVOYE	52	11	NA	A	0	0	0	0	0	0	+	+	0	0	B	0	3b	0	+	0
10	B	VISHNEVOYE	56	12	Ia	Y	0	0	0	0	0	0	+	+	0	CH	B	0	3b	0	+	0
10	B	VISHNEVOYE	56	14	Ia	A	0	0	0	0	0	0	0	0	0	0	B	0	?	0	0	0
10	B	VISHNEVOYE	54	3	0	0	0	0	0	0	0	0	+	+	+	0	0	0	3a	0	+	0
10	B	VISHNEVOYE	57	3	Ia	A	0	0	F	0	0	0	0	+	+	CK	B	0	3a	0	+	0
11	DL	"RAZDOLOVKA"	2	1	IIb	A	K	AI, Pfr-AI	1	0	0	1	+	+	0	0	0	0	3a	0	+	0
11	DL	"RAZDOLOVKA"	2	2	IIb	A	0	GS/SP	1	0	0	1	0	+	0	CH	0	0	?	0	+	0
11	DL	"RAZDOLOVKA"	2	3	Ia	A	0	0	0	0	0	0	0	0	+	CH	0	0	1	0	0	0
11	DL	"RAZDOLOVKA"	2	4	IIb	A	0	AI	1	0	0	0	0	0	0	CH	0	0	1	0	0	0
12	DL	ARTEMOVSK	1	1	?	A	K	AS, AI, Pn, GS/SP	1	0	0	1	0	+	0	CH	0	0	1	0	0	0
12	DL	ARTEMOVSK	2	1	NA	AAAAA AAAA	A	0	10	0	0	1	0	+	+	CH	0	0	1	0	+	0
12	DL	ARTEMOVSK	2	3	IIb	A	K	AS, PP, AI, Pn, GS/SP	1	0	0	1	0	0	+	0	0	0	1	0	+	+
12	DL	ARTEMOVSK	2	4	IIb	A	0	0	1	0	BEADS: 50 STONE, 70 BRONZE, 2 PENDANTS-MEDALLIONS	0	0	+	+	0	0	0	?	0	0	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
12	DL	ARTEMOVSK	2	6	IIb	AACCC	0	0	4	0	BRONZE BARREL-SHAPED, BEADS FIGURE-OF-EIGHT, PENDANTS PENDANTS-MEDALLIONS	1	0	0	0	0	0	0	1	0	+	+
12	DL	ARTEMOVSK	4	1	Ib	A	S	AS, Al, Pn, HS, GS/SP	1	JAWELIN-STICK	0	0	0	+	+	0	0	0	1	0	+	+
12	DL	ARTEMOVSK	4	2	IIb	A	0	0	1	0	BRONZE BEAD	1	0	+	+	CK	0	0	1	0	+	0
12	DL	ARTEMOVSK	4	3	IIb	A	0	0	0	0	19 BRONZE BEADS	0	0	+	0	CH	0	0	2	0	0	0
13	DL	BOBRIKOVE	1	3	IIb	C	0	Sc, PP	2	+	0	1	0	+	0	CH	0	0	2	0	+	+
13	DL	BOBRIKOVE	1	4	NA	A	0	0	0	0	0	0	0	+	+	CK/CH	0	0	?	0	+	+
14	DL	CHERNUKHINO	1	4	NA	A	AH	0	1	0	0	0	0	+	0	CH	0	0	1	0	+	+
14	DL	CHERNUKHINO	1	6	Ia	M	S	0	0	0	0	0	0	+	0	CH	0	0	2	+	+	+
14	DL	CHERNUKHINO	1	7	IIb	A	0	0	1	0	TEMPLE RING, OCHRE OBJECT	1	0	0	+	CH	0	0	1	0	+	+
14	DL	CHERNUKHINO	1	9	IIb	M		0	1		OCHRE OBJECT	0	0	+	0	CH	0	0	2	0	0	0
14	DL	CHERNUKHINO	1	10	NA	A	0	0	1	0	0	0	0	+	0	CH	0	0	?	0	0	0
15	DL	IVANO-DAREVKA	1	3	NA	C	0	GS/SP	F	0	0	0	0	+	+	CH	0	M	1	0	+	+
15	DL	IVANO-DAREVKA	1	6	?/IIb	CC	0	Al	2	+	BOX, 2 ARCHED PINS, 12 BEADS, SHEET METAL, 5 BRONZE PENDANTS	1	0	+	0	CK/CH	0	M	1	0	+	0
15	DL	IVANO-DAREVKA	1	8	IIb	A	SP-AH, K, MH	Sc, Al	1	+	0	1	0	+	0	CH	0	0	1	0	+	+
15	DL	IVANO-DAREVKA	1	9	IIb	A	0	0	0	0	0	1	0	0	0	CK/CH	0	0	2	0	+	+
15	DL	IVANO-DAREVKA	1	10	IIb	A	B?	0	1	0	0	1	+	0	0	CH	0	0	1	0	0	0
15	DL	IVANO-DAREVKA	1	11	IIb	A	0	0	1	0	0	1	0	+	+	CK/CH	0	M	?	0	+	+
15	DL	IVANO-DAREVKA	1	12	IIb	AC	0	Al	2	+	0	1	0	+	+	CH	0	M	1	0	+	0
15	DL	IVANO-DAREVKA	1	14	IIb	A	0	0	1	0	0	0	0	+	0	CK/CH	0	0	1	0	+	+
15	DL	IVANO-DAREVKA	1	17	IIb	Y	0	0	1	0	0	1	+	+	0	CH	0	0	1	0	+	0
15	DL	IVANO-DAREVKA	1	18	IIb	Y	0	0	1	0	15 BONE RINGS	1	0	0	0	0	0	0	?	0	0	0
15	DL	IVANO-DAREVKA	1	19	IIb	C	0	0	1	0	BRONZE OBJECT	0	0	+	+	0	0	0	3b	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
15	DL	IVANO-DAREVKA	2	2	Ib	A	K	0	1	JAVELIN-STICK	0	1	+	0	+	CK	0	0	?	0	0	0
15	DL	IVANO-DAREVKA	2	3	IIb	A	0	0	0	0	0	0	0	0	0	CK/CH	0	0	2b	0	+	+
15	DL	IVANO-DAREVKA	2	5	Ib	CC	0	0	2	0	0	1	0	+	+	CH	0	0	1	0	+	+
15	DL	IVANO-DAREVKA	2	6	IIb/NA/ IIb	CCA	0	0	3	0	0	1	0	0	0	0	0	0	3	0	+	+
15	DL	IVANO-DAREVKA	4	1	NA	A	0	0	1	0	0	0	0	0	+	CK/CH	0	0	?	0	0	0
15	DL	IVANO-DAREVKA	4	2	0	cenotaph	0	GS	1	0	0	1	0	+	+	CK/CH	0	0	1	0	+	+
16	DL	KINDRATIVKA	1	6	IIb	A	0	GS/SP	1	0	3 BONE RINGS	0	+	+	+	CH	0	0	1	0	+	0
16	DL	KINDRATIVKA	1	9	IIb	A	MH,A	0	1	0	90 BRONZE PENDANTS, 3 FAÏENCE BEADS, 3 BRONZE BEADS	0	0	+	+	CH	0	0	1	0	+	0
16	DL	KINDRATIVKA	1	10	IIb	A	B,A	0	1	0	0	1	0	+	0	CH	0	0	2	0	+	+
16	DL	KINDRATIVKA	2	8	0	cenotaph	0	HS	1	0	0	1	0	0	0	0	0	0	?	0	0	0
16	DL	KINDRATIVKA	3	4	IIb	A	K	Al, HS	2	TRAY	0	1	0	0	0	0	0	0	?	0	0	0
16	DL	KINDRATIVKA	3	7	IIb	A	0	0	1	0	2 DICE,	1	0	+	+	CK/CH	0	0	3b	0	+	+
16	DL	KINDRATIVKA	3	10	IIb	A	K	Al	1	0	PAINTED LEATHER RUG	1	0	+	0	CH	0	0	?	0	0	0
16	DL	KINDRATIVKA	3	14	IIb	AA	0	0	0	0	0	1	0	+	0	CH	0	0	?	0	0	0
16	DL	KINDRATIVKA	4	4	IIb	Y	0	HS, GS/SP	1F	0	0	0	0	+	0	CH	0	0	1	0	+	0
17	DL	KRASNAYA ZARYA	1	1	IIb	A	0	0	1	0	0	0	0	+	+	CH	0	0	?	0	0	0
17	DL	KRASNAYA ZARYA	1	3	Ib	A	K	Al, GS/SP	0	0	0	1	0	0	0	CK/CH	0	0	2b	0	+	+
17	DL	KRASNAYA ZARYA	2	4	NA	A	0	0	0	0	0	1	0	+	0	CK/CH	0	0	2	0	+	+
17	DL	KRASNAYA ZARYA	2	5	IIb	A	0	0	0	BOWL	0	0	0	0	0	0	0	0	2	0	+	0
17	DL	KRASNAYA ZARYA	2	6	NA	A	0	0	0	0	0	1	+	+	+	CH	B	0	?	0	0	0
17	DL	KRASNAYA ZARYA	2	8	NA	A	0	0	F	0	0	1	0	+	+	0	0	0	?	0	0	0
17	DL	KRASNAYA ZARYA	2	9	sculls	AAC	K	Al	F	0	2 ARCHED BRONZE SHEET, 11 PIECE OF BRONZE SHEETS, 2 MULTITURN WIRE PENDANTS, OCHRE OBJECT	1	0	+	+	0	0	0	3b	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
17	DL	KRASNAYA ZARYA	3	2	Ib	Y	B	0	2	0	0	0	+	+	+	0	B	0	?	0	0	0
17	DL	KRASNAYA ZARYA	3	4	NA	AAAC	0	Al	1F	0	BRONZE BEADS, HAMMER-HEAD PIN, CAUCASIAN PENDANTS, 2 SILVER METAL SHEETS, FAÏENCE BEADS, OCHRE OBJECT	1	0	0	0	0	0	0	?	0	0	0
17	DL	KRASNAYA ZARYA	4	1	NA	C	0	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
17	DL	KRASNAYA ZARYA	4	2	Ib	A	K	Al	0	0	OCHRE OBJECT	1	+	+	+	CH	0	0	?	0	0	0
17	DL	KRASNAYA ZARYA	5	2	0	?	0	0	0	0	0	1	0	0	+	CH	0	0	?	0	0	0
17	DL	KRASNAYA ZARYA	6	1	IIb	A	0	0	F	0	0	0	0	0	+	CH	0	0	2	0	+	0
17	DL	KRASNAYA ZARYA	6	2	IIb	Y	0	0	1	0	0	0	+	0	+	CH	0	0	?	0	0	0
17	DL	KRASNAYA ZARYA	6	3	IIb	A	0	0	1	0	ANTLER RING, OCHRE OBJECT	0	0	+	0	CH	0	0	?	0	0	0
17	DL	KRASNAYA ZARYA	6	6	Ib	AA	2 K	Al	0	0	3 SILVER MULTI-TURNTEMPE RING, OCHRE OBJECT	1	+	0	0	CH	0	0	1	0	+	0
17	DL	KRASNAYA ZARYA	6	7	Ia	A	0	Al	0	0	0	0	0	0	0	0	0	0	2	0	0	0
17	DL	KRASNAYA ZARYA	6	8	IIb	A	0	0	0	0	0	1	0	+	0	CH	0	0	1	0	+	+
17	DL	KRASNAYA ZARYA	6	10	Ib	A	0	0	1	0	0	0	0	+	0	CH	0	0	1	0	+	0
17	DL	KRASNAYA ZARYA	6	11	IIa	A	0	0	0	0	0	0	0	0	+	CH	+	0	3b	0	+	0
17	DL	KRASNAYA ZARYA	7	2	IIb	A	0	0	1	0	0	0	+	0	0	CH	0	0	2	0	0	0
17	DL	KRASNAYA ZARYA	7	3	IIb	A	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
17	DL	KRASNAYA ZARYA	7	4	Ib	A	0	0	1	0	0	0	0	+	0	CH	0	0	2a	0	0	0
17	DL	KRASNAYA ZARYA	7	5	Ia	AA	0	Al	0	0	0	1	0	0	+	CH	0	0	3b	0	+	+

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
18	DL	KRIPIAKI	2	5	IIb	A	0	0	F	0	0	0	0	0	0	0	0	0	3a	0	+	+
19	DL	LISICHANSK LNPZ	2	1	IIb	AAA	K	Al	1	+	0	1	0	0	+	CH	0	0	1	0	+	+
19	DL	LISICHANSK LNPZ	2	2	IIb	C	0	0	0	0	0	1	0	+	+	CH	0	0	3a	0	0	0
19	DL	LISICHANSK LNPZ	2	3	IIb	A	0	Pfr	0	0	0	1	0	0	+	CH	0	0	1	0	+	+
19	DL	LISICHANSK LNPZ	2	4	IIb	AA	0	0	1	2 CUPS	0	1	0	0	0	0	0	0	2	0	0	+
19	DL	LISICHANSK LNPZ	2	5	IIb	A	0	0	1	0	0	1	0	+	+	CH	0	0	2	0	+	0
19	DL	LISICHANSK LNPZ	2	6		cenotaph	0	0	1	0	0	0	0	0	0	0	0	0	1	0	+	0
19	DL	LISICHANSK LNPZ	2	7	0	0	0	0	0	0	0	0	+	+	+	CH	0	0	3	+	+	+
19	DL	LISICHANSK LNPZ	2	8	IIb	A	0	0	0	0	UNIO SHELL PENDANT	0	0	0	0	CH	B	0	2	0	0	0
19	DL	LISICHANSK LNPZ	2	11	IIb	A	0	0	0	0	0	1	+	+	+	0	0	0	3	0	0	0
20	DL	NIKOLAIVKA	1	2	IIb	A	0	0	1	0	0	1	+	+	+	0	0	0	3a	0	+	0
20	DL	NIKOLAIVKA	1	3	Ib	A	K	0	0	0	0	0	+	0	+	CH	0	0	2a	0	+	0
20	DL	NIKOLAIVKA	1	5	IIb	A	0	0	1	0	UNIO SHELL	1	+	FEET	+	0	B	0	3a	0	0	0
20	DL	NIKOLAIVKA	1	7	IIb	AC	0	0	2	0	OCHRE OBJECT	0	0	+	0	0	0	0	1	0	+	0
20	DL	NIKOLAIVKA	1	8	0	0	0	0	0	0	0	0	+	+	+	0	B	0	3b	0	+	0
20	DL	NIKOLAIVKA	1	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
20	DL	NIKOLAIVKA	2	4	IIb	F	0	0	1	0	0	0	+	+	0	0	0	0	?	0	+	0
20	DL	NIKOLAIVKA	2	6	IIa	C	0	0	1	0	0	0	+	+	0	0	B	0	3a	0	0	0
20	DL	NIKOLAIVKA	2	9	IIa/IIb	AC	0	0	1	0	0	0	+	0	+	0	0	0	?	0	0	0
20	DL	NIKOLAIVKA	2	10	IIb	C	0	0	1	0	0	0	+	FEET	+	0	B	0	3a	0	0	0
20	DL	NIKOLAIVKA	6	2	Ib	A	K	Al, GS/SP	1F	0	BONE SEPARATOR, CLAY BALL, OCHRE OBJECT	1	0	+	0	0	0	0	?	0	0	0
20	DL	NIKOLAIVKA	6	4A	IIb	F	0	0	0	0	0	1	+	+	+	0	0	0	3a	0	+	0
20	DL	NIKOLAIVKA	6	4B	NA	CF	0	0	1	0	0	1	+	+	+	0	0	0	1	0	+	0
20	DL	NIKOLAIVKA	6	6	IIb	M	0	0	0	0	0	0	0	+	+	0	0	0	?	0	0	0
20	DL	NIKOLAIVKA	8	1	IIb	M	K	0	0	0	0	1	+	+	0	0	B	0	4	0	+	0
20	DL	NIKOLAIVKA	8	2	IIb	FC	0	0	1	0	0	0	0	0	0	0	0	0	2	0	+	+
20	DL	NIKOLAIVKA	8	4	IIa	C	0	0	0	0	0	0	0	0	0	0	0	0	2	+	0	+
20	DL	NIKOLAIVKA	8	5	IIb	Y	0	0	1	0	0	0	0	0	0	0	0	0	2	0	+	0
20	DL	NIKOLAIVKA	11	4	IIb	A	0	0	0	0	0	0	0	+	+	CH	0	0	1	0	+	0
20	DL	NIKOLAIVKA	11	5	2	Y	0	0	0	0	0	0	+	0	0	CH	0	0	3	+	+	+
20	DL	NIKOLAIVKA	11	6	IIb/NA	AC	0	0	2	0	0	0	0	0	+	CH	0	0	3	0	+	+
20	DL	NIKOLAIVKA	11	7	IIb/IIb/ IIa	CCC	K	0	2	0	7 BONE RINGS, TEMPLE RINGS, 2 PENDANTS	0	0	+	0	CH	0	0	3	0	0	0
21	DL	NOVOAMVROSIEVKA	4	2	NA	A	0	0	1	0	0	0	0	0	0	0	0	0	2	+	+	0
21	DL	NOVOAMVROSIEVKA	4	6	IIb	CC	0	0	1	0	0	0	0	0	0	CH	0	0	?	0	0	0
22	DL	OLEKSANDRIVSK	1	6	NA	A	0	0	1	0	0	0	0	+	+	CH	0	0	1	0	0	+
22	DL	OLEKSANDRIVSK	1	7	IIb	YY	0	0	1	0	0	0	0	+	0	CH	0	0	1	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
22	DL	OLEKSANDRIVSK	1	8	IIb	C	AH	0	1	0	2 BRONZE BEADS, TEMPLE RING WITH FLATTENED ENDS	0	0	0	0	0	0	0	1	+	+	+
22	DL	OLEKSANDRIVSK	1	12	IIb	A	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	+
22	DL	OLEKSANDRIVSK	1	15	IIb	C	0	AI	1	+	0	1	0	0	0	0	0	0	3b	0	0	0
22	DL	OLEKSANDRIVSK	1	17	IIb	C	0	GS/SP	1	0	0	0	+	0	+	CH	0	0	?	0	0	0
22	DL	OLEKSANDRIVSK	1	19	IIb	A	0	0	0	0	0	0	0	0	+	CK/CH	0	0	?	0	0	0
22	DL	OLEKSANDRIVSK	1	20	IIb	C	0	0	1	0	35 BONE BEADS, 138 FAÏENCE BEADS	0	0	+	+	CH	0	0	?	0	0	0
22	DL	OLEKSANDRIVSK	1	21	IIb	Y	0	0	1	0	0	0	0	+	+	CH	0	0	2	0	+	0
22	DL	OLEKSANDRIVSK	1	29	IIa	A	0	Pfr, GS/SP	1	0	0	0	0	+	+	CH	0	0	?	0	0	0
22	DL	OLEKSANDRIVSK	1	30	IIb	CC	0	0	1	+	3 BRONZE PENDANTS	0	0	+	0	CH	0	0	1	0	0	0
22	DL	OLEKSANDRIVSK	1	31	IIb	C	0	0	1	0	2 TEMPLE RING	0	0	+	+	CH	0	M	?	0	0	0
22	DL	OLEKSANDRIVSK	1	32	IIb	YYCC	0	0	2	0	0	0	0	+	+	CK/CH	0	0	2b	0	+	+
22	DL	OLEKSANDRIVSK	1	33	IIb	Y	0	0	2	0	0	1	0	+	+	CH	0	0	1	0	0	0
22	DL	OLEKSANDRIVSK	1	34	0	cenotaph	0	0	0	0	0	1	0	+	+	CH	0	0	1	0	0	0
22	DL	OLEKSANDRIVSK	1	35	IIb	A	0	0	0	0	0	1	0	+	0	CH	0	0	1	0	+	0
22	DL	OLEKSANDRIVSK	1	37	IIb	YY	0	0	0	0	7 BRONZE BEADS	0	0	+	+	CH	0	0	1	0	0	0
22	DL	OLEKSANDRIVSK	1	38	IIb	Y	K	0	0	0	0	1	0	+	0	CK/CH	0	0	?	0	0	0
22	DL	OLEKSANDRIVSK	1	41	IIb	A	0	0	1	0	0	1	0	0	+	CH	0	0	?	0	0	0
22	DL	OLEKSANDRIVSK	1	42	IIb	A	0	0	0	+	0	0	0	+	0	CH	0	0	1	0	0	+
22	DL	OLEKSANDRIVSK	1	43	IIa	Y	0	0	0	0	0	0	0	+	+	0	0	0	2a	0	0	0
22	DL	OLEKSANDRIVSK	1	44	IIb	C	0	AI	2	+	0	1	0	0	0	CH	0	0	?	0	0	0
23	DL	PEREDELSK	1	1	IIb	C	0	0	0	0	0	1	0	0	0	0	0	0	1	0	+	0
23	DL	PEREDELSK	1	2	IIb	C	0	0	1	0	OCHRE OBJECT	1	0	FEET	0	CH	0	0	1	0	0	0
23	DL	PEREDELSK	1	4	Ia	A	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	+
23	DL	PEREDELSK	1	6	IIb	C	0	0	F	F	0	0	0	0	0	0	0	0	1	0	+	0
23	DL	PEREDELSK	1	9	IIb	A	0	0	F	F	0	1	0	0	0	0	0	0	1	0	+	0
23	DL	PEREDELSK	1	10	IIb	CC	0	0	1	+	10 BONE RINGS	1	0	+	0	0	0	0	1	0	+	0
23	DL	PEREDELSK	1	11	IIb	A	0	AS	1	PILLOW	OCHRE OBJECT	1	+	+	+	0	0	T	?	0	+	0
23	DL	PEREDELSK	1	12	Ia	A	0	0	3	0	0	1	+	+	+	0	C	0	3	0	+	0
23	DL	PEREDELSK	1	13	0	cenotaph	0	0	0	0	0	0	+	0	+	0	B	0	2a	0	+	0
23	DL	PEREDELSK	2	1	IIb	C	0	0	1	0	OCHRE OBJECT	0	+	+	+	0	0	0	3a	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
23	DL	PEREDELSK	2	3	IIb	A	0	0	1	0	0	0	+	FEET	+	CH	B	0	3a	0	+	0
24	DL	PREOBRAZHENNOE	1	2	Ib	A	0	0	1	0	0	1	+	+	+	0	0	0	3a	0	+	0
24	DL	PREOBRAZHENNOE	1	3	IIb	CC	0	HS	1	BOWL	3 TEMPLE RINGS, 2 STONE BEADS	0	+	+	+	0	B	0	3a	0	+	0
24	DL	PREOBRAZHENNOE	1	5	feet	A	A, AH, S	0	1	JAVELIN	0	0	+	+	+	0	0	M	3	+	+	+
24	DL	PREOBRAZHENNOE	1	6	Ib	A	K	0	2	0	0	1	+	+	+	0	B	0	2b	0	+	0
24	DL	PREOBRAZHENNOE	1	7	IIb	A	0	0	1	0	0	1	0	0	+	CK/CH	0	0	1	0	+	0
24	DL	PREOBRAZHENNOE	1	8	IIb	M	0	0	1	0	0	1	0	0	0	0	0	0	?	0	0	0
24	DL	PREOBRAZHENNOE	1	9	0	cenotaph	0	0	2	0	0	0	0	FEET	0	CK/CH	0	0	1	0	+	0
24	DL	PREOBRAZHENNOE	1	10	Ib	A	0	0	0	BOWL	OCHRE OBJECT	1	0	+	+	CH	0	0	2	0	+	+
24	DL	PREOBRAZHENNOE	1	12	IIb	C	0	HS	2	0	BONE RING	1	0	+	0	CH	0	0	1	0	+	0
24	DL	PREOBRAZHENNOE	1	13	IIb	A	0	0	1	BOWL	0	1	0	+	+	CH	0	0	1	0	+	+
24	DL	PREOBRAZHENNOE	1	14	?	A	K	PP, Al, GS/SP	0	0	0	1	+	0	0	CH	0	0	2	0	+	+
24	DL	PREOBRAZHENNOE	1	15	IIb	A	0	0	1	0	OCHRE OBJECT	1	0	0	+	CK/CH	0	0	1	0	+	0
24	DL	PREOBRAZHENNOE	1	16	IIb	C	0	0	1	0	2 COPPER BRACELET	1	0	+	0	CK/CH	0	0	?	0	0	0
24	DL	PREOBRAZHENNOE	1	17	IIb	A	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
24	DL	PREOBRAZHENNOE	1	18	NA	C	0	0	0	0	0	1	0	+	0	CH	0	0	1	0	0	0
25	DL	PRISHIB	1	9	NA	AA	0	2 CM, T, GS/SP	F	+	0	1	0	0	0	0	0	0	1	0	0	0
25	DL	PRISHIB	1	10	Ib	A	0	0	0	0	0	1	0	+	0	CH	0	0	1	0	0	0
25	DL	PRISHIB	1	11	IIb	A	0	0	2	0	0	1	0	+	+	CH	+	0	1	0	0	0
25	DL	PRISHIB	1	12	IIb	A	0	0	2	0	0	0	0	0	0	CH	0	0	1	0	+	0
25	DL	PRISHIB	1	13	IIb	A	0	0	1	0	0	0	0	+	+	CH	0	0	1	0	0	+
26	DL	SOKOLNIKI	2	1	0	cenotaph	0	0	F	0	0	1	0	0	0	0	0	0	?	0	0	0
26	DL	SOKOLNIKI	2	2	NA	C	0	0	1	0	TEMPLE RING, SHELL	1	0	0	0	CH	0	0	1	0	0	0
26	DL	SOKOLNIKI	2	3	0	0	0	0	0	0	0	0	0	+	0	0	0	0	1	0	0	0
26	DL	SOKOLNIKI	2	4	IIb	A	0	Ad	1	0	0	1	0	0	0	0	0	0	1	0	0	+
26	DL	SOKOLNIKI	2	6	0	cenotaph	0	0	0	0	0	0	0	+	0	0	0	0	1	0	0	0
26	DL	SOKOLNIKI	2	8	NA	YA	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
26	DL	SOKOLNIKI	5	6	Ia	A	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	+
26	DL	SOKOLNIKI	5	8	NA	A	0	0	0	0	0	0	0	+	0	CH	0	0	1	0	0	0
27	DL	STEPNOY	1	3	IIb	C	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
27	DL	STEPNOY	1	4	IIb	C	0	0	1	0	0	1	0	+	+	0	0	0	1	0	0	0
27	DL	STEPNOY	2	5	IIb	CCC	0	0	1	0	7 BRONZE BEADS	0	0	0	0	0	0	0	3b	0	0	+

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
27	DL	STEPNOY	2	6	IIb	A	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
28	DL	TRIOKHIZBENKA	3	3	IIb	A	0	0	1	0	0	1	0	+	0	CH	0	0	1	0	0	+
28	DL	TRIOKHIZBENKA	3	4	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	+	0
28	DL	TRIOKHIZBENKA	3	6	IIb	A	0	0	1	F	0	0	0	0	0	0	0	0	1	0	0	0
28	DL	TRIOKHIZBENKA	3	8	IIb	A	0	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
28	DL	TRIOKHIZBENKA	3	9	IIb	A	0	0	1	0	0	0	0	+	0	CH	0	0	1	0	0	+
28	DL	TRIOKHIZBENKA	3	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
28	DL	TRIOKHIZBENKA	3	11	0	0	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	+
28	DL	TRIOKHIZBENKA	3	12	IIa	A	0	0	0	0	0	0	0	+	+	0	0	0	2b	0	+	0
28	DL	TRIOKHIZBENKA	3	13	IIb	A	0	0	0	0	0	0	0	+	+	CH	0	0	?	0	+	0
29	DL	VOROSHILOVGRAD TRIKORAZHNAIA FABRIKA	2	1	IIb	Y	0	0	F	0	0	1	0	+	+	0	0	0	2a	+	+	+
30	DL	VOROSHILOVGRAD VSHI	1	2	IIb	A	0	0	0	CUP	0	1	0	+	+	CH	B	0	3a	0	+	0
30	DL	VOROSHILOVGRAD VSHI	1	4	Ib	A	0	0	0	0	0	0	0	0	0	0	0	0	3a	0	+	0
30	DL	VOROSHILOVGRAD VSHI	1	5	IIb	A	0	0	F	0	0	0	0	0	0	0	0	0	3a	0	+	+
30	DL	VOROSHILOVGRAD VSHI	2B	3	IIb	A	0	0	1	0	2 PENDANTS, TEMPLE RING, BONE BEADS NECKLACE	1	0	0	0	0	B	0	3b	+	+	+
30	DL	VOROSHILOVGRAD VSHI	2B	4	IIb	A	0	0	0	0	3 BRONZE AND SILVER BEADS	1	0	+	+	CH	B	0	?	0	+	0
30	DL	VOROSHILOVGRAD VSHI	2B	5	IIb	A	0	0	1	0	0	1	+	+	+	0	B	0	3a	0	+	0
30	DL	VOROSHILOVGRAD VSHI	2B	7	Ia	A	0	0	0	0	0	0	0	+	0	0	0	0	3b	0	+	+
30	DL	VOROSHILOVGRAD VSHI	2B	9	IIb	A	0	0	0	0	0	1	0	+	+	CH	0	0	3b	+	+	+
30	DL	VOROSHILOVGRAD VSHI	2B	10	IIb	A	0	0	1	0	8 SHELL BUTTONS, TEMPLE RING	0	0	+	0	0	0	0	2b	0	+	0
30	DL	VOROSHILOVGRAD VSHI	2B	11	Ib	A	0	0	2	0	2 ORGANIC CONTAINERS	1	0	0	0	0	B	0	3a	0	+	0
30	DL	VOROSHILOVGRAD VSHI	3	2	IIb	A	0	0	1	0	0	1	0	+	+	0	0	0	?	0	0	0
30	DL	VOROSHILOVGRAD VSHI	3	3	IIb	A	0	Pfr	2	0	0	0	0	+	+	0	0	0	?	0	0	0
30	DL	VOROSHILOVGRAD VSHI	3	4	Ib	A	0	0	1	0	0	1	0	+	+	0	0	0	3b	0	+	0
30	DL	VOROSHILOVGRAD VSHI	3	7	Ia	A	0	0	1	0	0	1	0	0	+	0	0	0	1	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
30	DL	VOROSHILOVGRAD VSHI	3	11	IIb	A	0	0	1	0	0	1	+	0	0	CH	0	0	3a	0	+	0
30	DL	VOROSHILOVGRAD VSHI	3	13	IIb	C	0	0	1	0	2 TEMPLE RINGS; 2 BEADS	1	0	0	+	0	0	0	?	0	0	0
30	DL	VOROSHILOVGRAD VSHI	3	14	IIb	A	0	0	F	0	0	1	0	0	+	0	0	0	1	0	+	0
30	DL	VOROSHILOVGRAD VSHI	3	15	IIb	A	0	0	0	CUP	0	1	0	0	+	0	0	0	?	0	0	0
30	DL	VOROSHILOVGRAD VSHI	3	16	0	cenotaph	0	2 CM, 2 T, MP	1	CUP	UNIO SHELL	1	0	0	0	0	0	0	?	0	0	0
30	DL	VOROSHILOVGRAD VSHI	3	18	NA	C	0	0	F	0	0	0	0	0	+	0	0	0	1	0	+	0
30	DL	VOROSHILOVGRAD VSHI	3	19	IIb	AA	3 K	Sc	2	0	AMBER AND FAÏENCE BEADS, 2 CAUCASIAN PENDANTS	0	0	+	+	CH	0	0	3b	0	+	0
30	DL	VOROSHILOVGRAD VSHI	5	2	IIb	A	0	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
30	DL	VOROSHILOVGRAD VSHI	5	4	IIb	A	K	AI	0	0	0	0	0	0	0	0	0	0	?	0	0	0
31	DL	ZHITENKO	2	3	IIb	A	0	0	1	0	0	1	0	0	0	0	0	0	?	0	0	0
31	DL	ZHITENKO	4	2	IIb	A	0	0	1	0	0	0	0	0	0	0	0	0	1	0	+	0
32	DL	ZNAMIANKA	1	5	Ia	A	0	0	0	0	0	0	0	+	+	CK	0	M	1	0	+	+
32	DL	ZNAMIANKA	1	9	IIb	A	0	0	0	0	0	0	0	+	0	CK	0	0	1	0	0	0
32	DL	ZNAMIANKA	2	3	Ia	C	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
32	DL	ZNAMIANKA	2	7	0	?	0	0	0	0	0	0	0	0	0	0	0	0	2	0	+	+
33	I	BILOGRADOVKA	*	7	Ia	A	0	FK, GS/SP	0	0	CHIP	0	0	+	0	CH	0	0	?	0	0	0
33	I	BILOGRADOVKA	*	9	NA	A	BO	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0
33	I	BILOGRADOVKA	*	10	Ia	AA	0	0	0	0	3 BONE BEADS	0	0	0	0	0	0	0	2	0	+	+
33	I	BILOGRADOVKA	*	13	Ia	A	0	0	0	0	0	1	0	+	+	CH	B	0	1	0	0	0
33	I	BILOGRADOVKA	*	17	Ia	A	0	0	0	0	0	0	0	+	+	0	0	0	3	+	+	+
33	I	BILOGRADOVKA	*	20	Ia/NA	AAAC	0	0	F	0	0	1	0	+	+	0	0	0	2	0	0	0
33	I	BILOGRADOVKA	*	23	Ib	A	0	0	0	0	0	0	0	+	0	0	0	0	3	+	+	+
33	I	BILOGRADOVKA	*	28	Ia	A	0	0	0	0	0	1	+	+	0	0	0	0	3a	0	+	0
34	I	KHRISTOFOROVKA	1	3	Ia	A	0	0	2	+	0	0	0	+	+	0	B	0	2	0	0	0
34	I	KHRISTOFOROVKA	1	4	Ia	AAA	0	0	0	0	0	0	0	+	+	0	0	0	?	0	0	0
34	I	KHRISTOFOROVKA	1	5	Ia	A	0	AS	0	2 BOWLS	NECKLACE: BONE PENDANTS, BEADS, BRONZE TUBE	0	0	0	0	0	0	0	3	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
34	I	KHRISTOFOROVKA	1	6	Ia	Y	0	0	2	0	0	0	+	0	0	0	0	0	3	0	+	0
34	I	KHRISTOFOROVKA	1	7	?/?/Ia	AAA	0	AI	2	2 BOWLS	0	1	+	+	0	CH	0	0	2	0	+	0
34	I	KHRISTOFOROVKA	1	8	Ia	AA	0	0	1	0	0	1	+	+	+	CH	0	0	2	0	+	0
34	I	KHRISTOFOROVKA	1	9	Ia	A	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0
34	I	KHRISTOFOROVKA	1	10	Ia	A	A,B	0	1	0	0	0	0	+	0	0	0	0	1	0	+	0
34	I	KHRISTOFOROVKA	1	12	3	A	0	0	0	0	0	0	+	0	0	0	0	0	2a	0	+	0
34	I	KHRISTOFOROVKA	1	18	0	cenotaph	0	0	0	0	0	0	0	+	0	0	0	0	?	0	0	0
34	I	KHRISTOFOROVKA	3	3	Ia	A	0	0	0	0	0	0	0	0	0	0	0	0	3a	0	+	0
34	I	KHRISTOFOROVKA	6	7	Ia	A	0	0	0	0	0	0	0	0	0	0	0	0	3a	0	+	0
34	I	KHRISTOFOROVKA	6	16	Ia	A	K	0	3	0	0	0	0	+	0	0	0	0	1	0	+	0
34	I	KHRISTOFOROVKA	7	4	Ia	A	0	0	1	0	0	0	+	+	0	0	0	0	2	0	0	0
34	I	KHRISTOFOROVKA	7	8	0	0	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
34	I	KHRISTOFOROVKA	7	13	Ia	A	AH	0	1	0	0	0	0	+	0	0	0	0	1	0	+	+
34	I	KHRISTOFOROVKA	8	3	IIb	Y	0	0	1	0	0	0	+	+	+	0	C	0	3	0	+	0
34	I	KHRISTOFOROVKA	8	4	Ib	A	0	0	1	0	0	0	0	+	+	0	0	0	?	0	+	+
34	I	KHRISTOFOROVKA	8	5	Ia	ACC	0	0	2	0	0	0	0	0	0	0	0	0	3a	0	0	0
34	I	KHRISTOFOROVKA	8	6	Ia	C	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	0
35	I	KONSTANTYNOVKA I	1	8	NA/Ia	AAAA	0	0	0	0	0	1	+	+	+	0	0	0	3	0	+	0
35	I	KONSTANTYNOVKA I	1	9.10	IIb	A	0	0	1	0	0	1	0	+	0	0	0	0	1	0	+	0
35	I	KONSTANTYNOVKA I	1	10	NA	A	0	0	0	0	0	1	+	0	0	0	B	0	1	0	0	0
35	I	KONSTANTYNOVKA I	2	2	IIb	A	K?	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
35	I	KONSTANTYNOVKA I	8	1	IIb	A	MH,S	0	1	0	0	0	+	+	0	0	B	0	3	0	0	0
35	I	KONSTANTYNOVKA I	8	4	Ia	AA	0	0	1	0	0	0	0	0	0	0	0	0	3	0	0	0
35	I	KONSTANTYNOVKA I	8	5	Ia	A	K	AI	1	0	0	0	0	0	0	0	0	0	3	0	0	0
35	I	KONSTANTYNOVKA I	8	7	Ib	A	0	0	0	0	0	0	+	+	0	0	0	0	3	0	+	0
35	I	KONSTANTYNOVKA I	8	25	IIb	A	0	0	1	0	0	0	+	+	CH	0	0	2b	0	+	+	
35	I	KONSTANTYNOVKA I	8	26	IIb	A	0	0	1	0	0	0	0	0	0	CH	0	T	3	0	+	0
35	I	KONSTANTYNOVKA I	9	3	0	cenotaph	0	T	0	0	0	0	0	0	+	CH	0	0	?	0	0	0
35	I	KONSTANTYNOVKA I	9	4	Ia/Ib	AA	0	0	1	0	0	0	0	0	0	CH	0	0	1	0	+	0
35	I	KONSTANTYNOVKA I	9	6	Ib	AY	0	0	0	0	0	0	0	+	+	CH	0	0	?	0	0	0
35	I	KONSTANTYNOVKA I	12	8	Ia/NA	FC	0	0	0	0	0	0	0	+	+	CH	0	0	?	0	0	0
35	I	KONSTANTYNOVKA I	12	9	0	0	0	0	0	0	0	0	0	+	+	+	CH	0	0	?	0	0	0
35	I	KONSTANTYNOVKA I	12	10	No data	?	MH, K, A	GS/SP	0	0	2 BONE BEADS	1	0	0	0	0	0	0	?	0	0	0
35	I	KONSTANTYNOVKA I	12	14	NA	AAAAA AAAAA	0	GS	2	0	0	0	0	0	+	CH	0	0	1	0	+	0
35	I	KONSTANTYNOVKA I	12	17	Ia	YF	0	0	1	0	0	0	0	+	0	CH	0	0	1	0	0	0
35	I	KONSTANTYNOVKA I	12	20	NA	AC	0	GS/SP	0	0	NECKLACE: TEETH AND SHELLS	1	0	+	0	CH	0	0	2a	0	0	+
35	I	KONSTANTYNOVKA I	13	6	Ia	AA	0	0	3	0	0	0	0	0	0	CH	0	0	?	0	0	+
35	I	KONSTANTYNOVKA I	13	8,9	Ia	A	0	PP, GS	0	0	0	0	0	+	0	CH	0	T	3a	0	0	0
35	I	KONSTANTYNOVKA I	13	9	0	0	0	0	0	0	0	0	0	0	0	0	0	0	3a	0	+	0
35	I	KONSTANTYNOVKA I	13	12	SCULL	C	0	0	1	0	0	1	0	+	0	0	0	0	3b	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
35	I	KONSTANTYNOVKA I	13	14	Ia	A	0	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
35	I	KONSTANTYNOVKA I	15	4	NA	C	0	GS/SP	0	0	0	0	0	+	0	CH	0	0	1	0	+	0
35	I	KONSTANTYNOVKA I	15	5	Ia/3	AA	0	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
35	I	KONSTANTYNOVKA I	15	6	Ia	A	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
36	I	LIMANTSY - GORODSKA MOGILA	1	5	0	0	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
36	I	LIMANTSY - GORODSKA MOGILA	1	15	Ia/IIb	AC	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
36	I	LIMANTSY - GORODSKA MOGILA	1	17	IIb	A	0	0	1	0	0	1	0	0	0	0	0	0	1	0	0	0
36	I	LIMANTSY - GORODSKA MOGILA	1	19	Ia/Ia/ Ia/IIb	CCCA	0	0	3	0	0	0	+	0	0	CH	0	0	1	0	+	+
36	I	LIMANTSY - GORODSKA MOGILA	1	20	Ia	A	0	0	1	CUP	0	1	0	0	+	CH	0	0	1	0	+	+
36	I	LIMANTSY - GORODSKA MOGILA	1	21	Ia	A	0	GS/SP, GS, Pn	2	0	0	0	0	0	0	0	0	0	4	0	0	0
36	I	LIMANTSY - GORODSKA MOGILA	1	26	Ib/IIb	AC	0	0	1	0	STELAE	1	0	0	+	CH	0	0	2	0	+	0
37	I	LIMANTSY II	7	5	Ib	A	0	0	1	0	0	0	0	0	+	CH	0	0	1	0	+	0
37	I	LIMANTSY II	7	9	Ia	A	0	0	2	0	0	1	0	FEET	+	CH	0	0	1	0	+	0
37	I	LIMANTSY II	7	10	Ia	AA	0	0	2	0	0	1	0	+	+	CH	0	0	2b	0	+	+
37	I	LIMANTSY II	7	11	Ia	A	AH	0	0	0	0	1	+	0	+	CH	0	0	2a	0	+	+
38	I	NOVOROZANOVKA	2	8	Ia	A	0	0	0	F	0	0	0	+	+	CH	0	0	?	0	0	0
38	I	NOVOROZANOVKA	2	12	0	cenotaph	0	0	0	0	0	0	0	+	+	CH	0	0	?	0	0	0
38	I	NOVOROZANOVKA	2	14	Ia	A	0	0	1	0	0	0	0	+	+	CH	0	0	?	0	0	0
38	I	NOVOROZANOVKA	2	15	Ia	A	0	0	1	0	0	0	0	+	0	CH	0	0	?	0	0	0
38	I	NOVOROZANOVKA	2	16	Ia	A	0	0	1	0	0	0	0	+	+	CH	0	0	?	0	0	0
38	I	NOVOROZANOVKA	2	17	IIb	AA	0	0	0	0	STONE PENDANT	0	0	0	0	0	0	0	?	0	0	0
38	I	NOVOROZANOVKA	2	18	NA	A	0	0	1	0	0	1	0	+	+	CH	0	0	?	0	0	0
39	I	OTRADNOYE	1	15	Ia	A	MH, K	AI	1	0	0	0	+	+	+	CK/CH	0	0	?	0	0	0
39	I	OTRADNOYE	1	16	Ia	A	0	GS	0	0	0	1	+	+	+	CH	0	0	?	0	0	0
39	I	OTRADNOYE	1	18	Ib	A	0	0	0	0	0	1	0	+	+	CH	0	0	?	0	0	0
39	I	OTRADNOYE	22	13	Ib	A	0	0	0	0	0	0	0	+	+	CH	0	0	?	0	0	0
39	I	OTRADNOYE	22	19	Ia	M	0	0	0	0	0	1	0	+	+	CH	0	0	?	0	0	0
39	I	OTRADNOYE	22	20	Ia	A	0	0	1	0	0	1	+	+	+	CH	0	0	?	0	0	0
39	I	OTRADNOYE	22	24	Ia	A	0	0	0	0	0	0	0	0	0	CH	B	0	2	0	0	+
39	I	OTRADNOYE	25	8	Ib	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	+	0
39	I	OTRADNOYE	25	9	Ia	AA	0	0	1	0	0	0	0	+	0	0	C	0	?	0	0	0
39	I	OTRADNOYE	25	10	NA	A	0	GS	2	0	0	1	0	0	0	0	0	0	?	0	0	0
39	I	OTRADNOYE	25	11	Ia	A	0	0	1	0	0	1	+	+	+	CH	0	0	3a	0	+	0
39	I	OTRADNOYE	26	7	Ia	AY	AH	0	2	0	0	1	0	+	0	0	B	0	?	0	0	0
39	I	OTRADNOYE	26	8	Ib	A	0	0	0	0	PILLOW	1	+	+	0	0	0	0	3	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
39	I	OTRADNOYE	26	10	Ib	A	0	0	0	0	BRONZE OBJECT	STELA	0	0	0	0	0	0	?	0	0	0
39	I	OTRADNOYE	28	6	Ia/NA	AA	0	0	0	0	0	0	+	0	+	0	0	0	3	0	+	0
39	I	OTRADNOYE	28	7	Ia	A	0	0	0	0	OCHRE OBJECT	0	+	+	0	0	0	0	?	0	0	0
39	I	OTRADNOYE	28	8	Ib	A	SP-AH	AI	0	0	0	1	0	0	0	CH	0	0	2	0	0	0
39	I	OTRADNOYE	28	9	?	A	0	0	2	0	0	1	+	0	+	0	0	0	3	0	+	0
39	I	OTRADNOYE	28	10	Ia	A	0	0	1	0	0	0	+	+	+	0	0	0	3	0	+	+
39	I	OTRADNOYE	28	11	Ia	M	0	0	0	0	0	0	+	+	0	0	BC	0	3	0	0	0
39	I	OTRADNOYE	28	12	0	A	0	0	0	0	0	0	+	+	+	0	B	0	2	0	+	0
39	I	OTRADNOYE	28	15	IIb	Y	0	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
39	I	OTRADNOYE	28	17	Ia	Y	0	0	0	0	0	0	+	+	0	0	0	0	2	0	+	0
39	I	OTRADNOYE	36	8	NA	A	0	0	1	0	0	1	+	0	+	0	0	0	3	+	0	+
39	I	OTRADNOYE	36	18	Ia	A	0	GS	1	0	0	0	0	0	+	0	C+	0	2	0	0	+
39	I	OTRADNOYE	36	23	Ia	AA	0	0	1	0	0	0	+	+	+	0	0	0	3	0	+	0
39	I	OTRADNOYE	36	24	Ia	A	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0
39	I	OTRADNOYE	36	26	Ib	A	0	0	1	0	0	0	1	+	+	+	0	B	0	3	0	+	0
39	I	OTRADNOYE	1	4	Ia	A	0	0	F	0	0	0	0	0	+	0	CK/CH	0	0	?	0	0	0
39	I	OTRADNOYE	1	12	Ia	A	0	0	3	0	0	0	1	0	0	0	0	0	0	2	0	0	+
39	I	OTRADNOYE	1	15	Ia	A	0	AI	1	+	0	0	0	+	0	CK	H	0	3	0	+	0
39	I	OTRADNOYE	1	19	Ib	A	0	Sc, GS, Pfr, GS/SP	2	0	2 STONE BALLS	0	0	0	0	0	0	0	1	0	0	0
40	I	PELAGEEVKA	1	4	Ia	A	0	0	F	0	0	0	0	+	0	CK/CH	0	0	?	0	0	0
40	I	PELAGEEVKA	1	12	Ia	A	0	0	3	0	0	1	0	0	0	0	0	0	2	0	0	+
40	I	PELAGEEVKA	1	15	Ia	A	0	AI	1	+	0	0	0	+	0	CK	H	0	3	0	+	0
40	I	PELAGEEVKA	1	19	Ib	0	A	Sc, GS, Pfr, GS/SP	2	0	2 STONE BALLS	0	0	0	0	0	0	0	1	0	0	0
41	I	PIESKI	1	3	Ia	A	0	0	1	0	0	0	0	0	0	+	CH	0	0	?	0	0	0
41	I	PIESKI	1	4	Ia	A	0	0	0	0	0	1	0	0	0	+	CH	0	0	?	0	0	0
41	I	PIESKI	4	8	Ib	A	AH	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
41	I	PIESKI	6	6	NA	AA	0	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
41	I	PIESKI	6	10	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	+	+
41	I	PIESKI	6	12	NA	AA	0	0	2	0	0	0	0	0	+	0	CK/CH	0	0	3	0	0	0
41	I	PIESKI	6	15	3	A	0	0	1	0	0	0	0	0	0	0	0	0	0	1	0	0	+
41	I	PIESKI	7	4	NA/Ia	AAA	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
41	I	PIESKI	8	6	0	cenotaph	0	0	1	0	0	0	0	0	0	+	CK/CH	0	0	1	0	0	+
42	I	PRIVOLNOIE	1	2	Ia/NA	ACYM	0	0	1	0	0	0	0	0	+	0	CK/CH	0	0	1	0	0	+
42	I	PRIVOLNOIE	1	3	IIb	AC	0	0	1	0	0	0	0	0	+	0	CH	0	0	1	0	+	+
42	I	PRIVOLNOIE	1	16(18)	Ia/NA	AYC	0	0	F	0	CAUCASIAN PENDANT, SHELL	0	0	0	+	0	CH	0	0	1	0	0	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
42	I	PRIVOLNOIE	1	21(23)	0	cenotaph	0	0	0	0	BONE OBJECT, BRONZE OBJECT	0	0	0	0	0	0	0	1	0	+	+
42	I	PRIVOLNOIE	1	24(26)	IIb	C	0	0	0	0	0	0	+	+	0	CH	0	0	1	0	0	+
42	I	PRIVOLNOIE	1	28(30)	Ia	F	0	GS/SP	F	0	0	0	0	+	+	CH	0	0	1	0	+	+
42	I	PRIVOLNOIE	2	10	Ia/NA	AA	0	0	0	0	0	0	0	+	+	CH	0	0	1	0	+	+
42	I	PRIVOLNOIE	2	26	IIb	M	MH	0	0	0	BRONZE PENDANT	0	0	0	0	0	0	0	4	0	0	0
42	I	PRIVOLNOIE	2	27	IIb/Ia	AC	0	0	2	0	0	STELAE	0	+	+	CH	0	0	1	0	0	0
42	I	PRIVOLNOIE	4	8	Ia	A	0	0	1	0	0	0	0	+	0	CH	0	0	4	0	0	0
42	I	PRIVOLNOIE	4	25	Ia	A	0	0	0	0	2 BRONZE PENDANTS, 2 TUBES	0	0	0	0	0	0	0	?	0	0	0
42	I	PRIVOLNOIE	4	29	IIb	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
43	I	SOFIEVKA	1	10	Ia	A	0	AI	0	0	0	1	0	0	0	CK/CH	0	0	?	0	0	0
43	I	SOFIEVKA	1	12	Ia	MF	0	0	0	F	0	0	0	0	0	0	0	0	2	0	0	0
44	I	SOKOLOVKA	1	23	Ib/NA	AC	0	0	2	0	0	0	0	0	0	0	0	0	1	0	0	+
44	I	SOKOLOVKA	1	24	Ia	A	0	0	1	0	0	0	0	+	0	CK/CH	0	0	?	0	0	0
44	I	SOKOLOVKA	1	28	Ia	A	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
44	I	SOKOLOVKA	2	6	0	cenotaph	0	GS/SP	1	0	0	0	+	+	0	CK/CH	0	0	3	0	+	+
44	I	SOKOLOVKA	2	14	Ia/NA	AA	0	0	1	0	0	0	0	0	0	0	0	0	2	0	+	0
44	I	SOKOLOVKA	2	17	Ia	A	0	GS/SP	0	0	0	1	+	+	+	CK/CH	0	0	3	0	+	0
44	I	SOKOLOVKA	2	20	NA	A	0	0	1	0	0	0	0	0	0	CH	0	0	?	0	0	0
44	I	SOKOLOVKA	2	27	NA	AC	0	0	0	0	COPPER TEMPLE RING	1	0	0	0	0	0	0	3a	0	+	0
44	I	SOKOLOVKA	3	4	Ia	A	0	0	0	0	0	1	0	+	0	CH	0	0	3b	0	0	+
44	I	SOKOLOVKA	3	14	NA	AC	0	0	2	0	0	1	+	+	+	CH	0	0	?	0	0	0
44	I	SOKOLOVKA	3	21	Ia	A	0	0	0	0	0	0	+	0	0	0	0	0	?	0	0	0
45	I	STAROROZANOVKA	1	5	Ia	A	0	0	0	0	0	1	0	0	+	0	+	0	?	0	0	0
45	I	STAROROZANOVKA	1	9	Ia	AA	AH, K?	AS, Sc, Pfr, GS/SP	F	F	4 SHELLS	0	0	0	0	CH	0	0	3	0	+	0
46	I	STAROGOROZHENO	1	10	IIa/ IIa/Ib/ Ia/Ib	AAACC	0	0	0	VESSEL	NECKLACE: DEER TEETH, CHERRY STONES	STELA	+	+	+	0	0	0	?	0	0	0
46	I	STAROGOROZHENO	1	23	Ib	A	0	0	0	0	0	1	0	0	+	0	B	0	3	0	+	0
46	I	STAROGOROZHENO	2	8	Ia	Y	0	0	1	0	0	0	+	0	+	0	0	0	?	0	+	+
46	I	STAROGOROZHENO	2	19	Ia	C	0	0	1	0	0	0	+	+	+	0	0	0	?	0	+	0
46	I	STAROGOROZHENO	2	22	Ia	C	0	0	1	0	0	0	0	0	0	0	0	0	?	0	+	0
46	I	STAROGOROZHENO	2	23	Ia	A	0	0	0	0	0	0	0	0	0	0	+	0	3b	0	0	0
46	I	STAROGOROZHENO	2	24	Ia	A	0	0	2	0	0	0	+	0	0	0	0	0	3	0	+	0
46	I	STAROGOROZHENO	3	4	Ib/NA	AC	0	0	0	0	0	1	+	0	+	0	B	0	2	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
46	I	STAROGOROZHENO	3	14	2b/2b	AC	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
47	I	TIMOFEEVKA	4	9	Ia	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
47	I	TIMOFEEVKA	4	12	NA	AA	0	0	1	0	0	0	0	+	0	CH	0	0	2	0	+	0
47	I	TIMOFEEVKA	4	14	Ia	AC	0	0	1	0	STONE	0	0	0	0	0	0	0	?	0	0	0
47	I	TIMOFEEVKA	4	16	Ia	A	0	0	2	0	0	0	0	0	0	0	0	0	3	0	0	0
47	I	TIMOFEEVKA	4	17	IIb	A	0	0	0	0	0	0	0	+	0	CH	0	0	3	0	0	0
47	I	TIMOFEEVKA	4	18	Ia	AA	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0
47	I	TIMOFEEVKA	4	25	Ia	AAC	0	0	2	0	5 STONE BALLS	0	0	0	0	CH	0	0	2	0	0	0
47	I	TIMOFEEVKA	5	6	Ia/NA	AA	0	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
48	M	"IUSHANLI"	1	*	Ib	A	0	0	1	0	0	0	0	0	0	+	0	0	1	0	+	+
48	M	"IUSHANLI"	8	2	NA	AACM	0	0	0	0	0	0	+	0	+	0	0	0	3a	0	+	0
49	M	AKKERMEN I	1	4	Ia	A	0	0	F	0	0	0	0	+	+	0	0	0	3b	0	+	0
49	M	AKKERMEN I	1	6	Ib	F	0	0	0	0	6 BONE TUBE-SHAPED PENDANTS, STONE PENDANT, PIN	0	+	0	+	0	0	0	2a	0	+	+
49	M	AKKERMEN I	1	7	Ib	A	0	0	0	0	0	1	+	0	0	0	B	0	3a	0	+	0
49	M	AKKERMEN I	3	1	Ia	C	0	0	1	0	0	0	+	0	+	0	B	0	3b	0	+	0
49	M	AKKERMEN I	3	1'	Ia	C	0	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
49	M	AKKERMEN I	2	3	Ib	A	B	0	0	0	0	1	+	0	+	0	0	0	1	0	0	0
49	M	AKKERMEN I	4	1	Ib	A	0	0	0	0	0	1	0	0	+	0	B	0	3a	0	+	0
49	M	AKKERMEN I	4	2	IIb	C	0	0	0	0	63 ROD PENDANTS	0	+	+	+	0	0	0	3a	0	+	0
49	M	AKKERMEN I	4	3	Ib	MFC	0	0	0	0	0	0	0	+	0	0	0	0	?	0	+	0
49	M	AKKERMEN I	4	5	NA/IIb/ NA	CAA	0	0	1	0	0	1	+	+	+	0	B	0	3a	0	+	0
49	M	AKKERMEN I	5	3	Ia	A	0	0	0	0	0	0	0	+	+	0	0	0	3a	0	+	0
49	M	AKKERMEN I	6	1	Ib	Y	0	0	0	0	0	1	0	0	+	CK	0	0	3a	0	+	0
49	M	AKKERMEN I	6	3	Ib	M	A,B,MH	0	0	CUP	0	1	0	+	+	0	0	0	3a	0	+	0
49	M	AKKERMEN I	6	4	NA	A	0	0	0	0	0	1	0	0	0	0	0	0	2	0	0	0
49	M	AKKERMEN I	7	1	IIb/Ib	CA	K	AI, HS	1	F	0	1	0	+	0	CH	0	0	?	0	0	0
49	M	AKKERMEN I	7	2	Ib	A	0	0	1	0	0	0	0	0	0	0	B	0	3b	0	+	+
49	M	AKKERMEN I	7	7	Ib/IIb	CC	0	0	0	0	0	0	0	0	+	0	0	0	3b	0	+	0
49	M	AKKERMEN I	9	4	Ia	M	0	0	0	0	0	0	+	+	+	0	+	0	3	0	+	0
49	M	AKKERMEN I	9	6	Ib	M	A	0	0	CUP?	RAW FLINT	1	0	+	+	0	B	0	?	0	+	0
49	M	AKKERMEN I	11	1	Ib	MC	0	Sc	0	F	0	1	0	+	0	0	B	0	?	0	0	0
49	M	AKKERMEN I	11	2	Ib/IIb	CM	0	0	0	0	0	1	0	0	+	0	0	0	3	0	0	0
49	M	AKKERMEN I	12	1	Ib	M	B	0	1	0	0	1	+	0	+	0	0	0	?	0	0	0
49	M	AKKERMEN I	12	3	Ia	A	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
49	M	AKKERMEN I	12	5	Ib	A	0	0	0	0	0	0	+	+	+	CH	0	0	2	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
49	M	AKKERMEN I	14	4	Ia	Y	0	0	1	0	0	0	0	0	0	0	0	0	2a	0	0	0
49	M	AKKERMEN I	14	6	NA	C	0	0	0	0	0	0	0	0	+	CH	0	0	1	0	0	+
49	M	AKKERMEN I	14	7	III	M	0	0	0	0	0	1	0	0	0	0	0	0	1	0	0	0
49	M	AKKERMEN I	14	10	IIb	F	0	0	1	0	0	1	0	0	0	0	0	0	?	0	0	0
49	M	AKKERMEN I	17	1	Ia	M	0	0	0	0	BONE RING	0	0	0	0	0	0	0	1	0	0	+
49	M	AKKERMEN I	17	2	No data/ Ib	AA	S	FK	0	0	0	0	0	0	0	0	0	0	?	0	0	0
49	M	AKKERMEN I	17	3	IIb	M	0	0	1	BOWL	0	1	0	0	0	0	0	0	?	0	0	0
49	M	AKKERMEN I	17	4	Ia	M	B,K	HS, GS/SP	0	BOWL	0	1	0	0	0	0	0	0	4	0	+	0
49	M	AKKERMEN I	18	2	Ia	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
49	M	AKKERMEN I	18	3	Ia/NA	CC	0	0	1	0	0	0	0	+	+	CK/CH	0	0	3	0	+	+
49	M	AKKERMEN I	19	1	NA/Ib/ NA	AAA	0	0	2	0	NECKLACE: TEETH AND BONE PENDANTS	1	0	0	+	CK/CH	0	0	2	0	+	+
49	M	AKKERMEN I	20	1	Ib	AC	0	0	1	0	SILVER TEMPE RING	1	0	+	+	CH	0	0	?	0	0	0
49	M	AKKERMEN I	20	2	IIb	CC	0	0	1	0	0	1	0	+	+	CH	0	0	?	0	0	0
49	M	AKKERMEN I	20	5	IIb	M	0	0	0	2 OBJECTS	0	1	0	+	+	CH	0	0	?	0	0	0
50	M	AKKERMEN II	2	1	IIb	FA	0	0	0	0	0	1	0	+	+	CH	0	0	?	0	0	0
50	M	AKKERMEN II	2	2	NA	C	0	0	0	0	0	0	+	+	+	CH	0	0	?	0	0	0
50	M	AKKERMEN II	2	4	NA	A	0	0	0	0	0	0	0	0	+	CH	0	0	?	0	0	0
50	M	AKKERMEN II	3	6	NA	C	0	GS/SP	0	0	0	0	0	+	+	CH	0	0	?	0	0	0
50	M	AKKERMEN II	4	1	Ib	A	S	AI	1	0	3 SHEETS, TEETH PENDANTS	0	0	+	+	CH	0	0	?	0	0	0
51	M	DOLINA	*	5	NA	AC	0	0	0	0	0	0	0	+	+	CH	0	0	?	0	0	0
52	M	NOVO-PILIPIVKA	1	5	Ia	A	0	0	1	F	0	0	0	+	+	CH	0	0	?	0	0	0
52	M	NOVO-PILIPIVKA	1	17	Ib	A	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
52	M	NOVO-PILIPIVKA	3	11	Ib	MFC	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
52	M	NOVO-PILIPIVKA	4	3	Ib	A	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
53	M	TROICKIE	2	3	IIb	F	0	0	0	0	3 BONE BEADS, TOOTH, HAMMER-HEAD PIN	1	0	0	0	0	0	0	2	0	+	+
53	M	TROICKIE	2	26	IIb	M	0	0	0	0	0	1	0	+	0	CK/CH	0	0	3a	+	+	+
53	M	TROICKIE	3	1	IIb	M	0	0	0	0	0	0	0	+	+	CK/CH	0	0	2a	+	+	+
53	M	TROICKIE	3	9	Ib/Ia/ IIb/IIb/ Ia	MFMFC	0	GS/SP	1F	0	BRONZE TEMPLE RING	0	0	+	+	CK/CH	0	0	2a	0	0	+
53	M	TROICKIE	3	11	IIb/NA	ACC	0	0	0	0	0	1	0	+	+	CH	+	0	2a	0	+	+
53	M	TROICKIE	3	28	IIb/NA	AC	0	0	0	0	0	0	+	0	0	CH	0	0	2	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
53	M	TROICKIE	4	20	IIb	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	+	0
53	M	TROICKIE	4	22	IIb	M	0	0	0	0	0	0	0	+	0	CH	0	0	1	0	+	+
53	M	TROICKIE	4	24	NA	M	0	0	0	0	0	1	0	0	0	0	0	0	4	0	0	0
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	1	1	IIa	F	0	0	F	F	BONE RING	0	0	+	+	CH	0	0	3b	+	+	+
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	1	2,3	NA	AAA	0	0	0	0	0	0	0	+	+	CH	0	0	1	0	0	0
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	1	6	IIa	A	0	0	1	0	0	0	0	0	0	CH	0	0	1	0	0	0
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	1	9	Ib	M	MH	0	0	0	0	0	0	+	+	0	0	0	1	0	0	0
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	1	10	Ia	M	0	0	0	0	0	0	0	+	0	0	+	0	3a	0	+	0
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	1	18	Ia	A	0	0	0	0	0	0	0	0	+	CH	0	0	1	0	+	0
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	2	1	Ia	A	0	0	1	0	0	0	0	0	0	0	0	0	2	0	0	0
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	2	2	Ib	A	0	0	0	0	0	0	0	+	+	0	0	0	2	0	0	0
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	2	5	Ia	M	0	0	1	0	0	0	0	+	+	0	0	0	3b	0	0	+
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	2	10	IIb	Y	0	0	0	0	0	0	0	+	0	0	0	0	3b	0	0	+
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	2	13	Ib	M	MH,A	0	1	0	0	0	0	+	0	0	0	0	3b	0	+	+
54	M	VELIKI TOKMAK, HUT.SEVCHENKA	2	21	IIa	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	+	+
55	M	ZAMOZHNE	1	3	Ib	AY	0	0	0	0	0	0	0	+	0	0	0	0	?	0	0	0
55	M	ZAMOZHNE	2	7	Ib	A	0	Pfr	0	0	0	1	+	+	0	0	0	0	2	0	0	0
55	M	ZAMOZHNE	2	8	NA	A	0	0	0	0	0	0	0	+	0	0	0	0	?	0	0	0
55	M	ZAMOZHNE	2	9	Ia	A	AH	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
55	M	ZAMOZHNE	3	3	NA	A	0	0	0	0	0	0	0	+	0	0	0	0	3	0	0	0
55	M	ZAMOZHNE	3	4	Ib	MF	0	GS/SP	1	0	0	0	0	0	0	0	0	0	?	0	+	0
55	M	ZAMOZHNE	4	1	NA	C	0	Pfr	1	0	1 CLAY BALL-BEAD, 3-SHELL	0	0	0	0	0	0	0	?	0	0	0
55	M	ZAMOZHNE	4	5	NA	A	BO	0	0	0	0	0	0	0	0	0	0	0	3a	0	+	+
55	M	ZAMOZHNE	4	6	IIb	C	0	0	0	0	0	0	0	+	0	0	0	0	1	0	+	0
55	M	ZAMOZHNE	4	7	IIb/Ib	AC	S	0	0	0	0	0	+	0	0	CH	0	0	3a	0	+	+
55	M	ZAMOZHNE	5	1	NA	A	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
55	M	ZAMOZHNE	5	2	Ib	M	AH, 2 G, K	Al	1	CUP	0	WHEEL	0	0	+	0	0	0	1	0	0	0
55	M	ZAMOZHNE	5	4	IIb/?	MC	8 A	Al	1	0	0	0	0	+	0	CH	0	0	1	0	0	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
55	M	ZAMOZHNE	5	5	Ia	M	0	0	0	0	0	WHEEL	+	0	+	CH	0	0	3a	0	+	0
55	M	ZAMOZHNE	5	6	NA	A	0	0	0	0	0	0	0	0	0	0	0	0	3b	0	0	0
55	M	ZAMOZHNE	5	7	Ia	M	AH, K	AI, GS	1	CUP	0	WHEEL	0	0	0	0	0	0	?	0	0	0
55	M	ZAMOZHNE	6	2	NA	F	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
55	M	ZAMOZHNE	6	3	Ia	M	K	AI, GS, Pfr	1	+	0	WHEEL	+	+	0	CH	0	0	?	0	0	0
55	M	ZAMOZHNE	7	1	NA	C	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
55	M	ZAMOZHNE	7	2	Ia	A	0	AI	0	CUP	0	0	0	+	0	CH	0	0	?	0	0	0
55	M	ZAMOZHNE	7	3	NA	Y	0	0	0	0	0	WHEEL	0	+	0	0	0	0	1	0	0	+
55	M	ZAMOZHNE	7	5	Ia	MF	0	0	0	0	0	WHEEL	0	0	+	CH	+	0	4	0	0	0
55	M	ZAMOZHNE	8	0	Ia	A	AH	0	1	0	UNIO SHELL	1	+	0	+	0	0	0	1	0	+	0
56	OS	ALEKSANDROVKA "SAMARSKIY"	2	3	Ib	A	0	0	1	0	0	0	+	+	+	0	0	0	3a	0	+	0
56	OS	ALEKSANDROVKA "SAMARSKIY"	2	4	Ia	A	0	0	0	0	0	0	+	+	+	0	B	0	3a	0	+	0
56	OS	ALEKSANDROVKA "SAMARSKIY"	2	6	Ia	A	0	0	1	0	0	0	+	+	+	0	0	0	3a	0	+	0
56	OS	ALEKSANDROVKA "SAMARSKIY"	2	7	Ib	C	0	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
56	OS	ALEKSANDROVKA "SAMARSKIY"	9	4	Ia	C	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
57	OS	BLAGODATNOE IV	3	6	Ia	C	0	0	1	0	0	0	0	+	+	CH	0	0	2	0	+	0
57	OS	BLAGODATNOE IV	3	10	Ia	A	0	0	0	0	0	0	0	+	0	CH	0	0	1	0	+	0
57	OS	BLAGODATNOE IV	4	4	Ib	A	0	DT	0	0	0	0	0	0	+	CH	0	0	3a	0	+	0
57	OS	BLAGODATNOE IV	5	6	Ib	A	MH	FK	0	0	0	0	0	+	0	CH	0	0	1	0	+	0
57	OS	BLAGODATNOE IV	10	2	Ib	A	0	0	1	BOWL	0	0	+	+	0	CK/CH	H	0	2	0	0	0
57	OS	BLAGODATNOE IV	10	5	Ia	AA	0	0	0	0	0	0	0	+	+	CH	0	0	?	0	0	0
57	OS	BLAGODATNOE IV	12	1	Ia	A	0	GS/SP	0	0	0	0	0	FEET	+	CH	0	0	1	0	0	0
57	OS	BLAGODATNOE IV	13	4	Ib	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
57	OS	BLAGODATNOE IV	13	6	Ia/Ia/Ia/Ib	ACCC	0	GS/SP	2	0	0	0	0	+	+	CK/CH	0	0	3b	0	+	+
57	OS	BLAGODATNOE IV	13	7	Ia	A	0	0	1	0	0	0	+	+	0	CK/CH	0	0	2	0	+	0
57	OS	BLAGODATNOE IV	13	11	Ia	A	0	Pfr	1	BOWL	0	0	0	FEET	0	CH	0	0	1	0	+	0
57	OS	BLAGODATNOE IV	13	12	Ia	A	0	0	0	0	STELAE	1	+	+	0	CK/CH	H	0	3	0	+	0
57	OS	BLAGODATNOE IV	13	14	0	cenotaph	0	0	1	0	0	0	+	+	0	CH	0	0	1	0	+	0
57	OS	BLAGODATNOE IV	13	15	Ia	A	0	GS/SP	2	+	0	WHEEL	0	0	0	0	0	0	?	0	0	0
57	OS	BLAGODATNOE IV	13	16	Ia	A	MH	0	2	0	0	0	0	+	0	0	0	0	1	0	+	+
58	OS	BLAGODATNOE V	3	3	Ia	A	0	0	0	0	0	0	0	+	0	0	0	0	?	0	0	0
58	OS	BLAGODATNOE V	7	6	0	cenotaph	0	0	1	0	0	0	0	+	+	0	0	0	1	0	0	+
58	OS	BLAGODATNOE V	10	4	Ia	C	0	0	1	0	0	0	0	0	0	0	0	0	1	0	+	+
59	OS	BUZOVKA	1	1	Ib	A	0	0	0	0	0	0	0	+	0	0	0	0	1	0	0	+
59	OS	BUZOVKA	1	2	Ia	A	0	0	0	0	0	0	0	+	0	0	0	0	1	0	0	+
59	OS	BUZOVKA	1	3	0	0	0	0	0	0	0	0	0	0	+	0	0	0	1	0	+	+
59	OS	BUZOVKA	1	4	Ib	A	0	0	0	0	0	0	0	0	+	CH	0	0	?	0	0	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
59	OS	BUZOVKA	1	5	IIb	A	0	0	0	0	BRONZE BEAD	0	+	0	0	CH	0	0	1	0	0	+
59	OS	BUZOVKA	1	7	Ia	A	0	GS/SP	1	+	0	0	0	+	0	CH	0	0	?	0	0	0
59	OS	BUZOVKA	2	4	0	cenotaph	0	0	0	0	0	0	+	0	0	CH	0	0	?	0	0	0
59	OS	BUZOVKA	2	5	NA	C	0	0	0	0	NECKLACE: TEETH AND PENDANTS	0	0	+	0	CH	0	0	1	0	+	+
59	OS	BUZOVKA	2	10	Ia	C	0	0	0	0	0	0	0	0	0	0	0	0	1	0	+	+
59	OS	BUZOVKA	2	11	Ia	A	0	0	0	0	0	0	0	0	+	CH	0	0	1	0	+	0
59	OS	BUZOVKA	2	16	IIb	AA	0	0	0	0	2 BONE PENDANTS AND BRONZE SHEET	0	0	0	0	0	0	0	?	0	0	0
59	OS	BUZOVKA	6	1	Ia	A	0	0	0	0	OCHRE OBJECT	0	0	0	0	0	0	0	?	0	0	0
59	OS	BUZOVKA	6	3	Ia	Y	0	0	0	0	0	0	0	0	+	CK/CH	0	0	?	0	0	0
59	OS	BUZOVKA	6	6	NA	A	0	0	0	0	0	0	0	0	+	CH	0	0	1	0	+	0
59	OS	BUZOVKA	6	7	Ia	A	0	0	0	0	0	0	0	0	+	CH	0	0	1	0	+	+
59	OS	BUZOVKA	8	1	NA	A	0	0	0	0	0	0	0	0	+	CH	0	0	1	0	+	+
59	OS	BUZOVKA	8	2	Ia	AAC	0	0	0	0	0	0	0	0	0	0	0	0	1	0	+	0
59	OS	BUZOVKA	8	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	?	0	0	0
60	OS	DMUKHAYLOVKA XI	1	6	NA	A	0	0	0	0	0	0	0	0	+	0	0	0	1	0	0	0
60	OS	DMUKHAYLOVKA XI	1	9	0	cenotaph	0	0	0	0	0	0	0	0	0	0	0	0	B	0	2	0	0
60	OS	DMUKHAYLOVKA XI	1	11	0	0	0	PP	0	0	0	0	0	0	0	0	0	B	0	2	0	+	0
61	OS	DMUKHAYLOVKA XIII	3	7	Ia	A	0	GS/SP	0	0	0	0	0	0	0	0	0	0	0	2	0	0	0
62	OS	DMUKHAYLOVKA XIV	2	10	Ia	C	0	0	1	0	0	0	0	0	0	0	0	0	0	?	0	0	0
63	OS	IGNATOVKA	2	4	0	cenotaph	0	0	F	0	0	0	0	0	0	0	0	0	0	1	0	+	0
63	OS	IGNATOVKA	2	5	Ia	A	0	0	0	0	0	0	0	0	0	+	0	0	0	2	0	+	0
63	OS	IGNATOVKA	2	7	NA	A	0	0	0	0	0	0	0	0	0	0	CH	0	0	2b	0	0	+
63	OS	IGNATOVKA	2	8	Ib	A	0	0	1	0	0	0	0	0	+	0	CH	0	0	?	+	0	+
63	OS	IGNATOVKA	2	9	NA	Y	0	0	0	0	0	0	0	+	+	0	CH	0	0	2a	+	0	0
63	OS	IGNATOVKA	6	3	Ib	A	0	0	0	0	0	0	0	0	+	0	CH	0	0	2b	0	0	+
63	OS	IGNATOVKA	6	5	Ib	A	0	0	0	0	0	0	0	0	+	0	CH	+	0	2a	0	0	+
63	OS	IGNATOVKA	6	8	Ib	A	0	0	0	0	0	0	1	0	+	0	CH	0	0	3b	0	+	0
63	OS	IGNATOVKA	6	9	0	0	0	0	0	0	0	0	0	0	0	0	CH	0	0	3b	0	+	+
63	OS	IGNATOVKA	6	10	Ib	A	0	0	0	0	0	0	0	0	0	0	CH	0	0	3a	0	+	0
63	OS	IGNATOVKA	6	13	0	0	0	0	0	0	0	0	0	0	0	0	CH	H	0	?	0	0	0
63	OS	IGNATOVKA	6	14	Ia/Ib	AC	0	0	0	0	0	0	0	0	+	0	CK/CH	0	0	3	0	+	0
64	OS	KHASZCZEVOE	2	1	0	0	0	0	0	0	0	0	0	0	+	0	CH	0	0	3	0	+	+
64	OS	KHASZCZEVOE	2	6	NA	C	0	0	0	0	0	0	0	0	+	0	CK/CH	0	0	1	0	+	0
64	OS	KHASZCZEVOE	2	7	0	0	0	DT	0	0	0	0	0	0	+	0	CH	0	0	3	0	+	0
64	OS	KHASZCZEVOE	2	9	Ia	A	0	0	0	0	0	0	0	0	+	0	CK/CH	0	0	2	0	+	+
64	OS	KHASZCZEVOE	3	7	Ib	A	0	0	F	0	0	0	0	0	0	0	CK/CH	0	0	2a	+	+	+
64	OS	KHASZCZEVOE	3	8	NA	A	0	0	0	0	0	0	1	0	+	0	CK/CH	0	0	1	0	+	+
64	OS	KHASZCZEVOE	5	7	NA	A	0	0	0	0	0	0	0	0	0	0	CK/CH	0	0	1	0	+	+

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
64	OS	KHASZCZEVOE	5	8	0	0	0	0	0	0	0	0	0	+	0	CH	+	0	3b	0	+	+
64	OS	KHASZCZEVOE	5	11	Ia	A	0	0	0	0	0	0	0	+	0	CH	+	0	1	0	+	+
64	OS	KHASZCZEVOE	5	16	Ib	A	0	0	0	0	0	0	+	+	0	CH	0	0	1	+	+	+
64	OS	KHASZCZEVOE	5	17	0	cenotaph	0	0	0	0	0	1	+	+	0	CH	0	0	3b	0	+	+
64	OS	KHASZCZEVOE	5	28	NA	A	0	0	1	0	0	0	+	+	0	CH	0	0	1	0	+	+
64	OS	KHASZCZEVOE	6	6	NA	AA	0	0	0	0	0	0	+	0	0	CK/CH	0	0	2a	0	+	+
64	OS	KHASZCZEVOE	6	9	NA	A	0	0	0	0	0	0	0	0	0	0	0	0	2b	0	+	+
64	OS	KHASZCZEVOE	6	11	IIb/NA	FY	0	0	0	0	BRACELET: STRAP AND PIECES OF COPPER	0	0	0	0	CK/CH	0	0	1	0	+	+
64	OS	KHASZCZEVOE	6	20	IIb	A	0	0	1	0	0	0	0	+	0	CK/CH	0	0	2	+	+	+
64	OS	KHASZCZEVOE	6	22	Ib	AA	0	0	0	0	0	0	0	+	+	CH	0	0	3b	0	0	0
65	OS	MALAYA KOZYRSHCHYNA	7	2	Ia	A	0	0	0	0	0	0	0	0	0	CK/CH	0	0	?	+	+	+
66	OS	MIKOLAIVKA	1	5	NA	A	0	0	0	0	0	0	0	0	0	0	0	0	2	0	+	0
66	OS	MIKOLAIVKA	1	7	Ib	A	0	0	2	0	0	0	0	+	0	CK/CH	0	0	1	0	+	+
66	OS	MIKOLAIVKA	4	2	NA	A	0	0	0	0	0	0	0	0	0	0	0	0	2b	0	+	+
66	OS	MIKOLAIVKA	4	4	Ib	A	0	0	0	0	0	0	0	0	0	CK/CH	0	0	3a	0	+	+
67	OS	PRYADOVKA VII	4	6	0	0	0	GS	0	0	0	0	0	+	+	CK/CH	B	0	3b	0	+	+
67	OS	PRYADOVKA VII	4	8	NA	A	0	0	0	0	0	0	0	0	0	CK/CH	0	0	3	+	+	+
68	OS	SHANDROVKA I	1	6	Ia	A	0	0	1	0	0	0	0	0	+	CK/CH	0	0	2a	0	+	0
68	OS	SHANDROVKA I	1	7	0	cenotaph	0	Ad	1	0	0	1	0	+	0	CK/CH	0	0	3	0	+	0
68	OS	SHANDROVKA I	1	8	Ib	A	0	0	0	0	0	0	0	+	0	CH	0	0	2	0	0	0
68	OS	SHANDROVKA I	1	10	IIb	A	0	Sc	0	0	0	0	+	0	0	CH	+	0	?	0	0	0
69	OS	SHANDROVKA III	1	1	Ia	A	0	Sc	1	+	LEATHER BAG	1	0	+	0	CH	0	0	?	0	0	0
69	OS	SHANDROVKA III	1	4	Ib	MCFF	0	0	0	0	0	0	0	+	0	CH	0	0	2a	0	+	0
69	OS	SHANDROVKA III	1	5	NA	Y	0	0	0	0	0	0	1	0	+	0	CH	0	0	4	0	0	0
69	OS	SHANDROVKA III	1	6	NA	A	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
69	OS	SHANDROVKA III	1	8	Ia	A	0	0	1	0	0	0	1	0	+	0	CH	0	0	?	0	0	0
69	OS	SHANDROVKA III	1	9	NA	A	0	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
69	OS	SHANDROVKA III	1	10	Ia	A	0	0	0	0	0	0	1	0	0	0	CH	0	0	4	0	0	0
69	OS	SHANDROVKA III	1	11	Ia	A	0	0	0	0	0	0	0	0	+	0	CH	0	0	4	0	0	0
70	OS	TERNY- DOLGAYA MOGILA II	1	5	Ia	A	0	0	0	0	0	0	0	+	0	CH	0	0	4	0	0	0
70	OS	TERNY- DOLGAYA MOGILA II	1	7	IIb	A	0	0	1	0	0	0	0	+	0	CH	0	0	4	0	+	0
70	OS	TERNY- DOLGAYA MOGILA II	4.1	3	Ib/Ia	YY	0	0	0	BOWL	0	0	+	+	0	CH	0	0	?	0	0	0
70	OS	TERNY- DOLGAYA MOGILA II	4.1	4	Ib	C	0	DT	1	+	0	1	0	0	0	CH	0	0	1	0	+	0
70	OS	TERNY- DOLGAYA MOGILA II	4.1	5	Ia	A	0	0	1	0	0	0	0	+	+	CH/CK	+	0	3	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
70	OS	TERNY- DOLGAYA MOGILA II	4.1	6	Ia/NA	AA	0	0	0	0	0	WHEEL	0	+	0	CH	0	0	1	0	+	0
70	OS	TERNY- DOLGAYA MOGILA II	4.1	7	0	0	0	0	0	0	0	0	0	+	0	CH	0	0	3	0	+	0
70	OS	TERNY- DOLGAYA MOGILA II	4.1	8	Ib	MF	0	Sc	0	0	NECKLACE: SHELLS, TEETH, HAMMER-HEAD PIN	0	0	+	0	CH	0	0	3	0	+	0
70	OS	TERNY- DOLGAYA MOGILA II	4.1	10	IIb	M	0	PP	1	+	ORGANIC OBJECT	1	0	0	0	0	0	0	1	0	+	0
70	OS	TERNY- DOLGAYA MOGILA II	4.1	11	Ib	F	0	0	0	0	0	0	0	+	0	CH	0	0	2	0	+	+
70	OS	TERNY- DOLGAYA MOGILA II	4.2	22	IIb	MF	0	FK	1	+	0	0	0	0	+	CK/CH	0	0	2	0	+	0
70	OS	TERNY- DOLGAYA MOGILA II	4.2	23	Ia	A	0	0	0	0	0	0	0	0	0	0	0	0	2b	0	+	0
71	OS	VERBKI II	3	9	Ib	A	0	0	0	0	0	0	0	0	+	CH	0	0	2b	0	+	+
72	OS	VERKHNYAYA MAYOVKA XII	1	3	Ia	A	0	0	2	BOARDS OVER SKELETON	0	1	0	0	+	CH	0	0	2	0	0	0
72	OS	VERKHNYAYA MAYOVKA XII	1	4	Ib	A	0	Sc	0	+	0	1	0	+	0	CH	0	0	3	0	+	0
72	OS	VERKHNYAYA MAYOVKA XII	1	20	Ia	C	0	GS	1	0	0	0	0	0	0	0	0	0	1	0	+	0
72	OS	VERKHNYAYA MAYOVKA XII	1	22	Ia	A	0	0	2	0	0	0	0	0	0	0	0	0	3	0	+	+
72	OS	VERKHNYAYA MAYOVKA XII	1	23	Ia	Y	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
72	OS	VERKHNYAYA MAYOVKA XII	2	13	Ia	A	0	0	0	0	0	0	0	+	0	CH	0	0	4	0	0	0
73	OS	VERKHNYAYA MAYOVKA XIII	1	12	Ib	A	0	AS, GS, AI, GS/SP	0	0	UNIO SHELL	0	0	0	0	0	0	0	1	0	0	0
73	OS	VERKHNYAYA MAYOVKA XIII	1	13	Ia	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	+	+
74	OS	VERKHNYAYA MAYOVKA XIV	1	4	NA	ACC	0	GS	0	0	0	0	0	0	0	0	0	0	3a	0	+	+
74	OS	VERKHNYAYA MAYOVKA XIV	1	7	Ib	A	0	0	0	0	0	1	0	0	0	0	0	0	3	0	+	0
74	OS	VERKHNYAYA MAYOVKA XIV	1	12	NA	A	0	0	0	0	0	0	0	0	0	0	0	0	4	0	+	0
74	OS	VERKHNYAYA MAYOVKA XIV	7	6	Ib	A	0	FK	0	0	0	0	0	+	0	CH	0	0	1	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
74	OS	VERKHNYAYA MAYOVKA XIV	7	7	3	Y	0	0	0	0	0	0	0	+	0	CH	0	0	2	0	+	0
74	OS	VERKHNYAYA MAYOVKA XIV	7	9	Ib	A	0	0	1	0	0	0	0	0	0	0	0	0	1	0	0	0
74	OS	VERKHNYAYA MAYOVKA XIV	7	10	Ia	A	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	0
74	OS	VERKHNYAYA MAYOVKA XIV	7	11	Ib	A	0	0	0	0	0	0	0	0	+	CH	0	0	?	0	0	0
74	OS	VERKHNYAYA MAYOVKA XIV	10	2	Ib	A	0	0	0	0	BONE BEADS	0	0	0	0	0	0	0	1	0	0	0
74	OS	VERKHNYAYA MAYOVKA XIV	10	4	Ib	A	0	0	0	0	0	0	+	0	0	CH	0	0	?	0	0	0
74	OS	VERKHNYAYA MAYOVKA XVIII	1	8	Ib	A	0	0	1	0	0	0	+	+	+	0	B	0	1	0	+	0
75	OS	VERKHNYAYA MAYOVKA XVIII	1	16	0	0	0	0	0	0	0	0	+	+	0	0	B	0	3a	0	+	0
75	OS	VERKHNYAYA MAYOVKA XVIII	2	4	Ia	CC	0	0	0	0	0	0	0	+	+	0	B	0	3a	0	+	0
75	OS	VERKHNYAYA MAYOVKA XVIII	4	11	Ia	A	0	0	0	0	0	0	0	0	0	0	B	0	?	0	+	0
75	OS	VERKHNYAYA MAYOVKA XVIII	4	12	Ia	A	0	0	1	0	0	0	+	0	+	0	0	0	3	0	0	0
76	VT	KISLICHUVATA	1	3	IIb	A	0	0	0	0	0	0	0	+	+	0	0	0	1	0	+	0
76	VT	KISLICHUVATA	13	5	Ia	Y	0	0	0	0	0	0	+	+	+	0	0	0	3	0	+	+
77	VT	KISLICHUVATA II	1	4	Ia	A	0	0	2	0	BRONZE PENDANTS	0	+	0	0	0	0	0	1	0	+	0
77	VT	KISLICHUVATA II	4	5	Ib/NA/IIb	FCCC	0	0	1	0	0	0	+	0	+	0	+	0	2	0	+	0
77	VT	KISLICHUVATA II	4	8	Ib	A	0	GS/SP	1	0	0	0	+	0	0	CH	B	0	1	0	+	0
77	VT	KISLICHUVATA II	4	13	Ia	A	0	GS/SP	0	0	0	0	+	0	CK	+	0	1	0	+	0
77	VT	KISLICHUVATA II	4	14	0	cenotaph	0	0	0	0	0	0	0	+	0	0	B	0	2	0	+	0
78	VT	KISLICHUVATA III	2	3	Ia	A	B	0	1	0	0	0	0	+	0	0	B	0	2	0	+	0
78	VT	KISLICHUVATA III	2	4	Ib	A	0	0	0	0	0	0	+	+	0	0	B	0	3b	0	+	0
79	VT	NOVYI MIR "RODINA" II	2	3	Ia/IIb	MC	AH	GS/SP	2	0	0	0	+	+	+	0	0	0	3	0	+	0
79	VT	NOVYI MIR "RODINA" II	2	6	IIb	Y	AH	0	0	0	0	0	+	+	+	0	B	0	2	0	+	0
79	VT	NOVYI MIR "RODINA" II	2	7	Ia	M	0	0	0	0	BRONZE NAIL	0	+	+	+	0	B	0	3	0	+	0
79	VT	NOVYI MIR "RODINA" II	2	8	Ib	F	0	0	1	0	0	1	+	+	0	0	B	0	2	0	+	0
79	VT	NOVYI MIR "RODINA" II	2	13		cenotaph	0	0	1	0	0	0	0	+	+	0	0	0	3	0	+	0
80	VT	PAVLOVKA	*	2	IIa	F	0	0	1	0	LEATHER BAG, 2 BONE BEADS	0	0	+	+	0	0	0	2	0	+	0
80	VT	PAVLOVKA	*	5	IIb/NA	FC	0	0	F	0	0	0	0	+	+	0	0	0	?	0	0	0
80	VT	PAVLOVKA	*	8	IIb	FCMCC	0	0	4	0	TEETH	0	+	+	0	0	0	T	3	+	+	0
80	VT	PAVLOVKA	*	11	IIb	A	0	0	0	0	0	0	0	0	0	0	B	0	3	0	+	0

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23
80	VT	PAVLOVKA	*	12	Ib/Ib/ Ia	MYA	0	0	0	0	BIRD BONE PENDANT	0	0	+	+	0	0	0	3	0	+	0
81	VT	PROPASHNOE	*	13	NA	A	0	0	0	0	0	0	0	0	0	CH	0	0	3b	0	+	+
81	VT	PROPASHNOE	*	15	Ib	M	S	2 FK	0	0	0	0	0	0	0	CH	0	0	3a	0	0	+
81	VT	PROPASHNOE	*	16	IIa	A	0	0	0	0	0	1	0	0	0	CH	0	0	3b	0	+	0
82	VT	VEKHNETARASOVKA	18	7	Ib	A	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
82	VT	VEKHNETARASOVKA	19	1	Ia	M	0	0	1	0	0	0	0	+	+	0	CH	0	0	4	0	0	0
82	VT	VEKHNETARASOVKA	19	4	Ib	Y	0	Pfr	1	0	0	0	0	+	0	CH	0	0	?	0	+	+
82	VT	VEKHNETARASOVKA	19	5	Ia	A	0	0	1	0	0	0	0	+	0	CH	0	0	2b	0	0	0
82	VT	VEKHNETARASOVKA	19	8	IIa	A	0	0	0	0	0	0	+	+	0	CH	0	0	3	0	+	0
82	VT	VEKHNETARASOVKA	19	9	IIa	A	0	0	0	0	0	0	0	+	0	CH	0	0	?	0	0	0
82	VT	VEKHNETARASOVKA	19	10	IIb	A	0	0	0	0	0	0	0	0	0	CH	0	0	2	0	0	0
82	VT	VEKHNETARASOVKA	22	3	IIa/IIb	AC	0	0	1	0	0	0	0	0	+	CK/CH	0	0	?	0	0	0
82	VT	VEKHNETARASOVKA	22	5	Ia	M	0	0	0	0	0	0	0	+	+	CK/CH	0	0	1	0	+	0
82	VT	VEKHNETARASOVKA	22	7	Ia	A	0	0	0	0	0	0	0	+	0	CK/CH	0	M	1	0	+	0
82	VT	VEKHNETARASOVKA	22	13	IIa	AA	0	0	0	0	0	0	0	+	0	CK/CH	0	M	1	0	+	0
82	VT	VEKHNETARASOVKA	26	1	IIa/NA/ NA	CCC	0	0	1	0	0	0	+	0	0	CK/CH	0	0	1	0	+	0
82	VT	VEKHNETARASOVKA	26	3	IIb	A	0	0	1	0	0	0	0	+	0	CK/CH	0	M	1	0	+	0
82	VT	VEKHNETARASOVKA	52	8	IIa	A	0	0	1	0	NECKLACE: BIRD BONES PENDANTS, TEETH	0	0	+	+	CK/CH	0	0	?	0	0	0
82	VT	VEKHNETARASOVKA	52	10	Ia	M	0	0	0	0	0	0	0	+	+	CK/CH	0	M	1	0	+	0
82	VT	VEKHNETARASOVKA	52	11	NA/IIa/ NA	CFC	0	0	1	0	0	0	0	+	0	CK/CH	0	0	1	0	0	0
82	VT	VEKHNETARASOVKA	52	13	IIb	Y	0	0	1	0	0	0	0	0	0	CH	0	M	?	0	0	0
82	VT	VEKHNETARASOVKA	52	14	0	cenotaph	0	0	0	0	0	0	0	0	0	CH	0	M	?	0	0	0
82	VT	VEKHNETARASOVKA	52	16	IIa/IIb	CC	0	0	1	0	NECKLACE: BONE TUBES, TEETH	0	0	0	+	CK/CH	0	M	?	0	0	0
82	VT	VEKHNETARASOVKA	57	6	III	M	0	0	0	0	0	0	0	+	+	CH	0	M	1	0	+	0
82	VT	VEKHNETARASOVKA	57	7	IIb	A	0	0	1	0	NECKLACE: 2 TEETH, 12 BONE BEADS	0	0	+	0	0	B	0	2a	0	+	0
82	VT	VEKHNETARASOVKA	57	8	0	0	0	0	0	0	0	0	0	0	+	0	B	0	3a	0	+	0
82	VT	VEKHNETARASOVKA	57	10	Ib/NA	AC	0	GS	0	0	NECKLACE: BONE TUBES, TEETH	0	0	+	0	0	0	0	3b	0	0	+
82	VT	VEKHNETARASOVKA	57	13	IIa	A	0	0	2	0	0	0	0	+	+	0	0	0	1	0	+	0
82	VT	VEKHNETARASOVKA	57	14	IIb	A	0	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0
82	VT	VEKHNETARASOVKA	57	15	IIb	A	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	0
82	VT	VEKHNETARASOVKA	57	18	Ia	M	0	0	1	0	0	0	0	0	0	0	0	0	?	0	0	0

Legend.

1. Number of site (according to Annex I).
2. Test group.
3. Site.
4. Kurgan.
5. Grave.
6. Corpse position.
7. Age/sex
8. Weaponry:
   - AH – axe-hammer
   - MH – macehead
   - A – arrowhead
   - S – spearhead
   - B – bow
   - K – bronze knife
   - BO – bola
   - SP – semi-product
9. Tools:
   - R/SP – raw flint/semi-product
   - PP – polishing plate
   - AS – arrow straightener
   - Al – awl
   - GS – grindstone
   - Sc – scraper
   - Pn – punch
   - HS – hammerstone
   - Pfr – perforator
   - CM – casting mould
   - T – tuyères
   - DT – bone digging tool
   - Ad – adze
   - MP – melting pot
10. Pottery
11. Wood
12. Adornments
13. Entrance screen
14. Animal bones
15. Lining
16. Ochre
17. Charcoal (CH)/chalk (CK)
18. Traces of fire: H - HEARTH, C - CENSER, B - BURNER
19. Masc/tar: M - MASC, T: TAR
20. Catacomb type
21. Gangway
22. Steps in shaft
23. Dromos

ABBREVIATIONS

AP URSR	–	Arkheologicheskie Pamiatki URSR. Kiev.
ASGE	–	Arkheologicheskiy Sbornik Gosudarstvennogo Ermitazha. Leningrad.
BAR	–	British Archaeological Reports. International Series.
BPS	–	Baltic-Pontic Studies. Poznań
DAS	–	Donetskiy Arkheologichniy Sbirnik. Donetsk.
NA IA NANU	–	Nauchniy Arhkiv Instytuta Arkheologii Natsionalnoy Akademii Nauk Ukrainy. Kiev.
JIES	–	Journal of Indo-European Studies. Washington D.C.
MIA	–	Materiały i Issledovaniya po Archeologii SSSR. Moskva.
SA/RA	–	Sovetska Arkheologyia/Rossiyska Arkheologiya. Moskva.
Trudy GIM	–	Trudy Gosudarstvennogo Istoricheoskogo Muzeya. Moskva.

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Funds supplied by the Ministry of Science and Higher Education (grant No. N10901431/0900) and the AMU Foundation have been used.

ISBN 83-86094-12-5
ISSN 1231-0344