

VARNA:
The Interpretation of the Evidence
from the Necropolis

David G. Zanotti

Introduction

Since its discovery in 1972, the Varna necropolis has gained worldwide notoriety because of the large quantities of gold found in a few burials and the early date which has been attached to the site by some scholars.¹ Since I have described the site and gold finds elsewhere,² I shall confine myself here to a discussion of other factors which relate to the dating of the Varna necropolis and its relationship to other regions during its period of use. The relevant material has been divided into two sections: one, dealing with the burial practices and the second, concerned with certain definitive artifacts. In each case points will be considered as to whether they are indicative of a dating contemporary to the "classical" Karanovo VI or of a later date. Emphasis will also be given to external connections which these separate traits and artifacts may exhibit.

Burial Ritual

1. *Extramural Burial in Cemeteries*

Extramural cemeteries by their very nature are alien to the

1. M. Gimbutas, "Varna: A Sensationally Rich Cemetery of the Karanovo Civilization About 4500 B.C.," *Expedition* (summer, 1977) 39-48. Also C. Renfrew, "Ancient Bulgaria's Golden Treasures," *National Geographic* (July, 1980) 112-129 and C. Renfrew, "Varna and the Social Context of Early Metallurgy," *Antiquity* 52 (1978) 199-203. Gimbutas and Renfrew are the two major proponents of a date for the Varna necropolis in the middle of the fifth millennium B.C. and their view is widely quoted by other prehistorians.

2. D. Zanotti, "Varna: The Necropolis and the Gold Finds," *Talanta* 16-17 (1984-1985) 53-75.

Karanovo VI culture as a whole. Todorova³ lists eight necropoli in northeastern Bulgaria, but only two, Rouse and Koubrat, appear in the major cluster of 225 Karanovo VI/Gumelnița sites just south of the Danube. No mention is made of the burials at Janka⁴ which may also be considered a necropolis. Two, Varna and Devnya, are located near the Varna lake and are definitely extramural. The last four, Goljamo Delchevo, Vinitsa, Polynitsa and Ovcharovo, are located along the Luda Kamçila river south of Varna and leading directly from the Black Sea to the region of the Aibunar mine. This group may be considered chronologically earlier than Varna.

The natural antecedents to Varna could be found in the Hamangia culture where extramural burial was common as evidenced by the large cemeteries at Çerņiça, Çernavoda and Hamangia. Better comparisons are to be found, I believe, farther to the north in the Dnieper-Donets region.⁵ Cemeteries with analogies begin with the Surskii culture and continue down through the Dnieper-Donets and Srednij-Stog cultures, the second phase of which Todorova⁶ places contemporary with Varna. Sites most often mentioned include Vilnyi, Mykilske-Nikolskoe, Sobachy and Mariupol (Map I).

Stated simply, the concept of extramural cemeteries is alien to the Karanovo VI/Gumelnița culture, but has good, continuous parallels in the North Pontic where they can be dated from c. 4400-3400 B.C.

2. *Mixed Nature of Cemetery*

Although Varna is considered to be a Chalcolithic or Late Eneolithic necropolis, it must be kept in mind that it is also, to some degree, mixed. Tomb 33, containing two flexed burials, is considered by Ivanov to be from the Late Bronze Age, but he admits, "this type of tomb does not represent a noticeable difference as far as the offerings. In the most part they resemble those of type A."⁷ Other *later* finds from within the necropolis

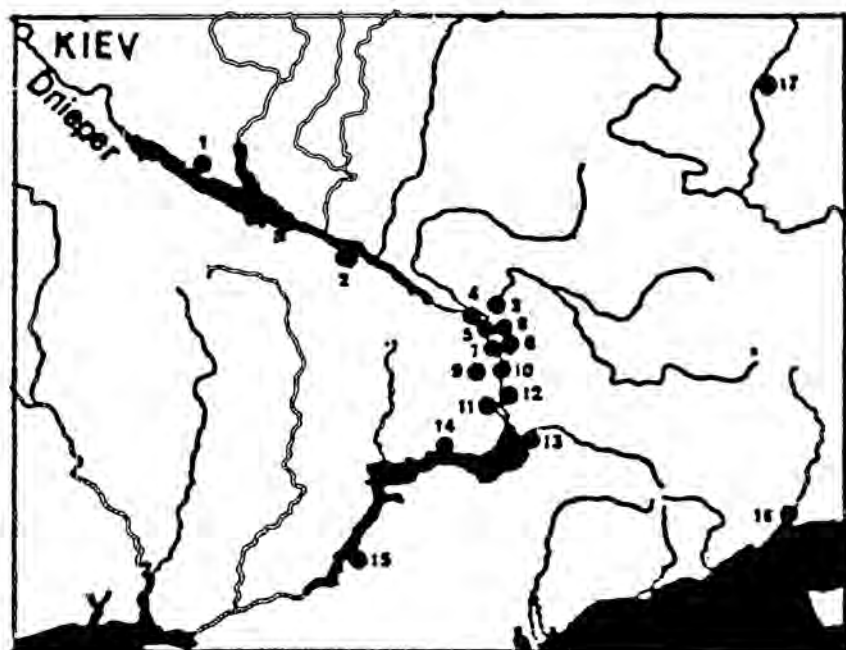
3. H. Todorova, *The Eneolithic in Bulgaria* (Oxford, 1978) map 5.

4. J. Gaul, *The Neolithic Period in Bulgaria* (BASPR 16, 1948) 114. It is not clear if this was a true extramural necropolis. Gaul describes it as a cemetery of 25 burials found near the Karanovo VI houses excavated from the lowest level of the mound.

5. T. Sulimirski, *Prehistoric Russia* (London, 1970) 80.

6. Todorova (supra n. 3) 37, map 9.

7. I.S. Ivanov, "Les fouilles archéologiques de la nécropole chalcolithique à Varna (1972-75)," *Studia Praehistorica* 1-2 (1978) 18.



- | | |
|-----------------------|------------------|
| 3. Chapli | 11. Sobachy |
| 7. Mykilske-Nikolskoe | 15. Kaury |
| 8. Marievka | 16. Mariupol |
| 9. Vovnykhy | 17. Aleksandriya |

include two pits containing "Early Bronze Age" material, Grave 69 where a double-spiral gold ornament of an Early or Middle Bronze type was found, a number of isolated finds of gold and other artifacts not directly related to any burial and a pit containing the remains of a sacrificed female sheep.

Such a mixture of burials and material deposits over a proposed span of 2000 years within a defined area is unusual given the fact that the overlapping of pits and burials is not mentioned. Part of the problem in determining exactly how mixed the cemetery is, may lie in the method of excavation. Ivanov used a systematic, but arbitrary, grid rather than the excavation of individually discerned burials. He admits that often the grave con-

tours were impossible to define because of the assimilation of the packing into the surrounding earth. This may be a result of the submergence of parts of the necropolis into the coastal waters at some time between the initial use of the cemetery and the present day. Lastly, the variation in depth of various tombs from 60 cm to 3.10 m below the present surface and placement of tombs in different materials (clay vs. a sandy bed) are arguments for the mixture of burials from different periods.

3. *Burial Position*

The normal position of Karanovo VI/Gumelnița burials is flexed or contracted lying on the left side. The head orientation is normally east or northeast and there is no variation between sexes in terms of position or in proportion present within a burial group. The burials at Varna differ markedly from the norm. Supine burials are the most common, followed by "hoker" or flexed burials and cenotephs. The flexed burials are laid on their right side only. Sexual dichotomy appears with males far outnumbering females. Male burials were predominantly supine while the majority of females were interred in the flexed position. Table 1 shows the difference in burial position through time and distance from the Black Sea coast.

TABLE 1. *Neolithic Necropolis from Bulgaria* (adapted from Todorova, 1978, table 23, Ivanov, 1978 and Egami, 1982).

site	number of burials	— cenotephs	burial position (%)	
			supine	flexed
Vinitsa	41	14.6	0.0	85.4
Goljamo Delchevo	28	10.7	0.0	89.5
Devnya	16	25.0	56.3	18.7
Varna (1976)	60	39.6	41.5	18.9
Varna (1982)	204	25.9	43.7	30.4

Burials with an undetermined position are omitted from the group used to determine percentages.

Supine, extended burials are the rule in the Dnieper region beginning with the Surskii culture and continuing through the Dnieper-Donets culture. They are found sporadically in the Srednij-Stog II cemeteries, but the predominant position changes to supine with the knees bent. The poor preservation of many of the skeletons recovered from Varna makes it difficult to ascertain if any had once been buried in the Srednij-Stog II position with

their having fallen during the backfilling. It should be remembered that in 1/3 of the burials, the position of the body could not be determined. An interesting example of this position appearing, but not being recognized by the excavator, comes from Vinitsa, Graves 30 and 31 which was a double burial.⁸ While the upper torso and arms are turned to the side, the pelvis is flat when broken and the legs are not situated as if the body was laying on its side. All of the other flexed burials have the upper leg overlapping the lower one. Graves 30 and 31 do not. In the normal flexed burials, the pelvis cracks and the upper half is laying more or less on the lower half. In this burial the pelvises are cracked and laying side by side with no hint of the legs overlapping. The only conclusion can be that these two people were interred on their backs, knees bent in the air and upper torso slightly turned; the Srednij-Stog II position.

The view that the increase in supine, extended burials and the introduction of cenotephs may be due to the addition of new population elements is strengthened by the comparison of physical types from Goljamo Delchevo and Devnya. At the former site almost 60% of the burials were of the Mediterranean type, 20% were Proto-Europoid and 20% Nordic. At the latter, the figures are almost reversed. The Nordic component remains stable at 18.5%, but now 48% are Proto-Europoid and only 33.5% are Mediterranean.

Direct evidence is not yet available from Varna, but the changes in burial position and physical types at neighboring sites do not support a date contemporary with the Karanovo VI/Gumelnița culture at its maturity, but rather a much later one bordering on the period of transition and steppe influx. Keep in mind that the predominant physical type of the Dnieper-Donets and Srednij-Stog II cultures was the Proto-Europoid (Cro-Magnon) type.

4. Use of Ochre in Burials

Likewise the use of ochre is a trait not normally associated with Karanovo VI/Gumelnița burials and may be considered intrusive. Beginning inland, only 1 ochre burial (flexed) was found at Vinitsa. At Goljamo Delchevo, 7 of 28 burials (all flexed), had ochre. At Devnya, again 25% of the burials had ochre, but 2 were

8. A. Raduncheva, *Vinița, Village Enéolithique et nécropole* (Sofia, 1976) plate 83.

flexed and 2 were supine. Finally at Varna, Ivanov states that the majority of burials were covered with ochre, both red and yellow, but exact numbers are not available.

There is a hint of geographic and possibly temporal variation with the greatest use of ochre being closest to the Black Sea and later in time. An ochre grave from the vicinity of Varna, but not from the necropolis, has been C-14 dated with calibration to c. 2950 B.C. (KI-89, 4120 ± 60 B.P.). It would be interesting to know if this was taken from the single burial at Reka Devnia, Varna district, excavated in 1958 and associated with the Varna necropolis.⁹

Ochre occurs in burials in Southeastern Europe only rarely from the Neolithic period onwards. It is common in the Dnieper valley beginning with the Surskii culture and continuing through the cultural sequence to the Srednij-Stog II culture and its successors, the Jamna and Catacomb-Grave cultures.

5. *The Ritual of Suttee*

According to Ivanov¹⁰ 3 of the 60 burials excavated through 1976 contained multiple interments. A fourth may be added, Grave 66. He assigns one tentatively to the Late Bronze Age, but the other three apparently belong to the Chalcolithic. Given the other evidence of male dominance and social stratification, it is possible that these examples may be interpreted as evidence of the practice of suttee or the ritual sacrifice of another person to be buried with the deceased in the role of a retainer or companion. The concept of sacrifice at burial may have been extended to the cenotephs. Four, Graves 27, 35, 63 and 71, contained fragments of male or female companions to the empty primary burial.

If this interpretation is correct, then it is clearly an intrusive trait which has its origins within the Pontic steppes. Multiple burials occur in the Surskii culture, but the application of the term "suttee" cannot really be applied until we speak of the cultures of the "Kurgan tradition": Srednij-Stog IIB, Jamna and the Catacomb-Grave culture.¹¹

9. A. Margos, "Les sites lacustres dans les lacs de Varna et la nécropole de Varna," *Studia Praehistorica* 1-2 (1978) 146-8.

10. Ivanov (supra n. 7) 23.

11. M. Gimbutas, "Proto-Indo-European Culture; The Kurgan culture during the Fifth, Fourth and Third Millennia B.C.," in: *Indo-European and Indo-Europeans* (1970) 155-97. Also M. Gimbutas, "The three waves of Kurgan people into Old Europe, 4500-2500 B.C.," *Archives suisses d'anthropologie générale* 43, 2 (1979) 113-37.

6. *Tomb Construction*

A minor point which must be reconciled is the exact type or types of graves excavated at Varna. In his symposium paper, Ivanov¹² refers to the burials in two different terms: fosse (pit) and fossé (ditch or trench). The latter term is used specifically in connection with the "symbolic" tombs or cenotephs, but one cannot tell if this was an error in translation, of which there are several, or an important point: the fact that some burials were found in long trenches or ditches while others were buried in individual pits. If the latter assumption is true, then comparisons are possible with North Pontic cemeteries such as Mariupol and Mykilske of the Sobachy phase of the Dnieper-Donets culture.¹³

Summary

To briefly summarize at this point, the necropolis at Varna by its very nature is a new development in the Karanovo VI/Gumelnița culture in being extramural, incorporating the use of cenotephs and possibly new tomb construction or burial methods. It coincides with an increase in, or development of, social stratification as seen in the disparity of grave goods between burials, the predominance of the male and the probable appearance of the ritual of suttee. A new population mixing with indigenous elements is seen in the changes in burial position, use of ochre and the appearance of a new physical type chiefly among the male population. Although not conclusive, the evidence points to the region of the lower Dnieper as the probable source particularly during the period of the Srednij-Stog culture.

Material Artifacts

The gold finds from Varna are the most impressive and numerous of the grave goods recovered. As stated above, these have been discussed at length elsewhere,¹⁴ so I shall limit myself here to the other types of artifacts, particularly those of shell, clay and copper. Petrological analysis of the marble would be useful in determining whether the source was local, Aegean or possibly from within the territory of the Vinča culture. Finds in-

12. Ivanov (supra n. 7) 23.

13. Sulimírski (supra n. 5) and M. Gimbutas, *The Prehistory of Eastern Europe, Part I* (BASPR 20, 1956).

14. Zanotti (supra n. 2).

clude a hairpin, bowls, cups, spindle whorls or loom weights, beads and figurines, one solid and one large hollow example.¹⁵ Obsidian was found in one burial and should likewise be analyzed for provenience. Makkay¹⁶ makes mention of a large number of stones used for beads at Varna. They include quartz, fired clay, a green mineral (malachite), a black mineral and other unspecified stones and minerals. Identification and analysis could likewise reveal probable sources. Since different sources were used in different periods, their identification may provide a general range of dating for some burials.

1. *Shell*

While snail shells were found in two burials, the focus here is on the finds of *Spondylus* and *Dentalium* shells. *Spondylus* is found in shallow, coastal waters where it could be harvested in situ. Its geographical distribution does not include the Black Sea; a fact reinforced by oxygen-isotope analysis.¹⁷ *Dentalium* on the other hand is a deep water shell native to the Black Sea. The only method of obtaining them would be by foraging through the debris washed ashore. *Spondylus* could only be obtained via long-distance trade and thus was rare and highly valued. *Dentalium* was a local product and obtainable in large quantities.

This leads us to the question of the relative mutual exclusiveness of each shell and their relationship to the richest gold finds. Before going further, I should note that I am dealing only with finds from Necropolis I. Grave 3 from Necropolis II, a much earlier burial, contained 4 *Spondylus* bracelets, 170 tubules, 150 beads and 120 appliques along with 120 *Dentalium* shells.

Spondylus was found in 17 burials; 7 cenotephs and 10 with human remains (7 supine, 1 flexed, 2?). The large bracelets were found in 12 burials; 4 cenotephs and 8 with human remains. Only beads were found in the remaining cenotephs and interments. In two cases a bracelet(s) is accompanied by a second item. Grave 97, a cenoteph, contained a bracelet and 1 ornament. Grave 110 had 1 bracelet and a cup. Below I list some pertinent percentages:

15. K. Kanchev, "Microwear Studies of Weapons and Tools from the Chalcolithic Necropolis at the city of Varna," *Studia Praehistorica* 1-2; 46-9.

16. J. Makkay, "The Earliest Use of Helmets in S.E. Europe," *Acta Archaeologica Hungarica* 34 (1982) 3-22.

17. C. Renfrew and N. Shackleton, "Neolithic Trade Routes Realigned by Oxygen Isotope Analysis," *Nature* 228 (1970) 1062-5.

Burials with Spondylus finds-17		Burials with Spondylus bracelet-12	
cenoteph-7	41%	cenoteph-4	33%
burials with human remains-10	59%	burials with human remains-8	67%
Spondylus bracelet, total no. of occurrences-29			
cenoteph-10	34.5%		
burials with human remains-19	65.5%		

As an item of value, due to its importation, it is surprising that Spondylus bracelets are found in only 4 of the 35 cenotephs (11.4%).

Dentalium, the locally derived shell, was found in 15 burials; 12 cenotephs and 3 with human remains (2?, 1 flexed). A total of 18,389 shells were recovered. There is a curious correlation between Dentalium and gold. Elsewhere,¹⁸ I have identified two major groups of cenotephs, Group I (Graves 1, 2, 3, 4, 5) and Group II (Graves 35, 36, 39, 40, 41, 43), as the foci of the gold wealth. Taken together they account for 5.4% of the total number of excavated burials, but yielded 90% of the total gold finds. Group I contained 623 gold objects, and Group II, 1969. 4793 Dentalium shells were recovered from Group I and 9600 from Group II. Together they accounted for 78% of the total Dentalium finds.

Of the total number of cenotephs, 34.3% (12 of 35) contained Dentalium. Four contained Dentalium and Spondylus, in three cases the latter being a bracelet. Only one of these cenotephs though, is part of Group I or II. The total amount of Spondylus connected with these groups is 1 bracelet and 10 beads. Put another way, only 3.4% of the Spondylus bracelets were found in these enormously rich burial groups.

The most logical explanation for this dichotomy is temporal. By the time gold was becoming more plentiful and the wealth of the region increasing, the trade routes which had brought the Spondylus northward had been disrupted and Dentalium was substituted locally. It is hard to believe that people who were amassing such wealth from trade would pass by an exotic, imported shell for one washed up on a nearby beach unless the

18. Zanotti (supra n. 2).

former was no longer available. To be able to date this disruption in Aegean trade may be helpful in determining the relative dating of parts of the necropolis and is a point to which we shall return below.

2. Ceramics

The pottery was another form of grave good present in large quantities. 156 vessels or their sherds were recovered from the first 60 burials excavated. Each grave contained 2-3 vessels on the average, but some contained up to 6. Factors to be discussed here include the pair of gold painted vessels, clay preparation and firing method and the forms of decoration.

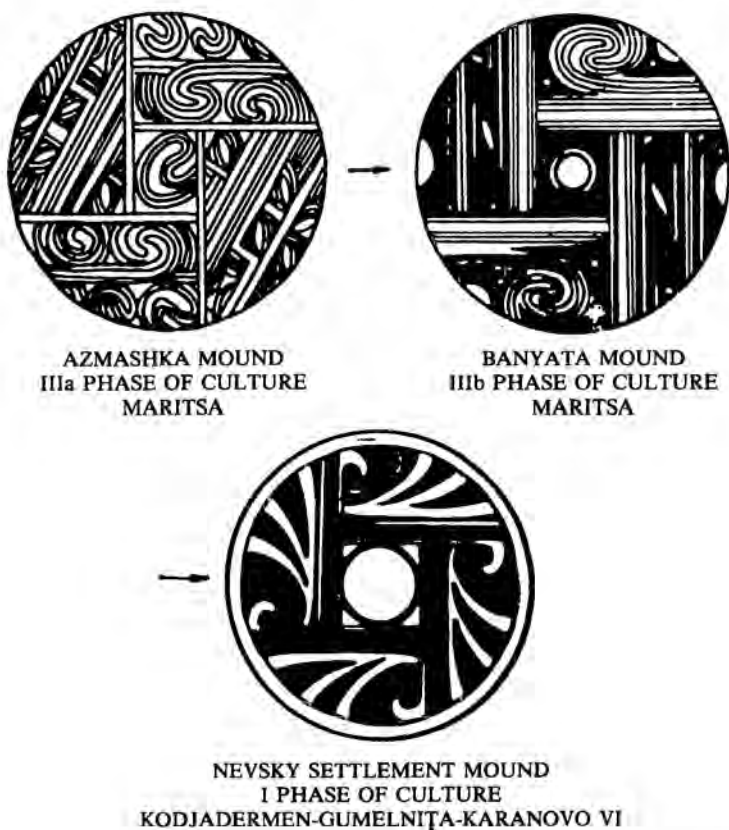


Fig. 1 Stylistic Development of Graphite Painted Ornamentation (after Todorova, 1978, Table 17).

Two gold painted vessels were recovered from Grave 4, a cenoteph. Although the exact technique was not discussed, the gold apparently was applied in the same manner as graphite. One vessel is a small biconical jar and lid, decorated with complex geometric motifs. The second is the well-known bowl with a diameter of 57 cm. As can be seen from the illustrations (Figs. 1 & 2), the design is a very late development in the evolution of

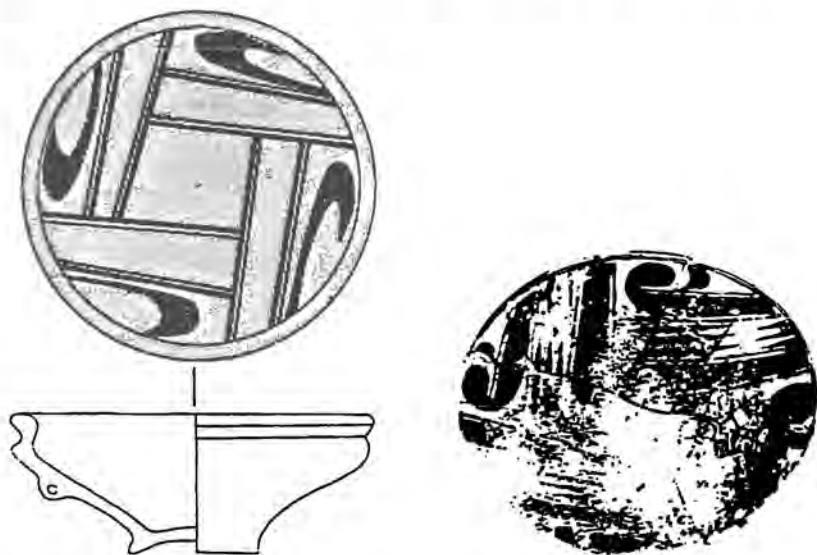


Fig. 2 Gold painted dish from Varna (after Gimbutas, 1977; fig. 7).

Karanovo VI/Gumelnița painted ornamentation and should be dated thusly. The reader is warned that the reconstruction published by Gimbutas¹⁹ and seen here is totally inaccurate in cross-section. As far as the author can determine, it is a drawing made of a bowl recovered from Grave 2. The actual bowl is a broad, low profile, conical bowl with no foot and a simple inverted rim. Ivanov refers to it as a tray. It is presented because the reconstructed interior design, although lacking some detail, is the best available pending publication by the excavator. The key points are that they best dated to the very end of the Eneolithic

19. Gimbutas (supra n. 1) fig. 7.

and are an aberration at Varna when considered alongside the majority of the ceramics. It is not unlikely that they may be an imported copy of Karanovo VI/Gumelnița design, hence the degeneration of the pattern.

The fine quality of the gold painted ware is in marked contrast to the majority of the Varna pottery. Ivanov²⁰ stresses the poor condition of the recovered ceramics attributing it to soil conditions and poor firing, a point of interest on a site where gold purification and high temperature oxidation/reduction firing is apparently attested to. At a later date,²¹ he suggests that they might have been only sun-baked as they were simple funerary gifts. This assumption seems squarely at odds with the evidence. Why would one place gold, marble vessels, copper axes and other assorted objects of prestige in a burial with pottery deemed not important enough to fire? I have alluded to the fact that parts of the necropolis may have been submerged in the past which would account for the poor state, not only of the ceramics, but also the human remains. The chemical composition of the soil may have also contributed, but it must be remembered that the burials are deposited in a layer of clay and sand, not soil, so any chemical reactions could only be the result of leaching from the thin soil layer above.

The problem most likely lies in the manner in which the clay was prepared and fired. Typical Gumelnița/Karanovo VI pottery utilizes sand or gravel for tempering,²² an ingredient not affected by firing temperatures. The Varna pottery contained sand, but *also* vegetable and organic matter. At normal kiln temperatures this would disintegrate from within the clay matrix leaving it brittle.²³ This change in technique would appear to be intrusive, brought by people with a limited knowledge of firing techniques. Cucuteni-Tripolye ceramics were tempered with bits of fired pottery that had been crushed (grog). With time, this was eliminated as their ability to control firing temperatures increased.²⁴ The steppe cultures, Srednij-Stog and later Jamna, utilized crushed

20. Ivanov (supra n. 7) 22.

21. I.S. Ivanov, "The Chalcolithic Varna Necropolis," in: *The Oldest Civilization in Europe and the Oldest Gold in the World — Varna, Bulgaria*, N. Egami (ed.) (1982) 21-4.

22. Gaul (supra n. 4) 96-101. He refers to the pottery as grit-tempered, which is the equivalent of sand and/or small particles of gravel.

23. G.C. Nelson, *Ceramics, A Potter's Handbook* (New York, 1971) 144.

24. L. Ellis, *The Cucuteni-Tripolye Culture; A Study in Technology and the Origins of Complex Society* (Oxford, 1984) 93.

shell as temper, but the Dnieper-Donetz culture did temper their pottery with vegetable matter!²⁵ That this trend may have spread around the Black Sea in a single temporal horizon may be indicated by the finds from İkiztepe, near Bafra in northern Anatolia.

The initial excavators, U.B. Alkim and J. Yakar,²⁶ have drawn numerous parallels between the ceramic finds and figurines from İkiztepe and those of the Karanovo VI/Gumelnița culture. These analogies from the Late Chalcolithic period extend to a number of other sites within the region and into central Anatolia.²⁷ He notes that the earliest pottery found was tempered with organic matter and minerals, followed by a brief period in which this tempering technique was supplanted by *only* mineral temper. Ultimately the use of organic material was discontinued, but we again have a relative marker for the dating of Varna since the Late Chalcolithic sites of Anatolia have been radiocarbon dated.

There is some debate about the ceramics of the Varna culture and the necropolis itself. Todorova²⁸ refers to the Varna culture pottery as ranging from light grey to black, showing the use of reduction firing. However, she attributes the deep black to a pyrolusite paint (slip) which may have been used to imitate pottery of higher firing quality. Margos²⁹ described the same general ware for the lake dwellings near the necropolis, noting the use of crushed, fired clay, but not the vegetable matter for tempering. She refers to the ware from the Varna necropolis as a dark brown to reddish brown in color, a direct indication of a lack of or misunderstanding of oxidation/reduction firing. The brown or reddish colors are indicative of oxidation only, a technique which could not produce the gold painted bowls.

At İkiztepe, the pottery is either black or dark grey, or with a black exterior and red or brown interior. This style shows evidence of contact with the Kura-Araxes culture of the southern Caucasus and eastern Anatolia, although the shapes of vessels is different. It is well known that in the Early Bronze Age, this

25. Sulimirski (supra n. 5) 112.

26. U.B. Alkim, "Recent Archaeological Research in Turkey; İkiztepe," *AS* 25-29 (1974-78) and J. Yakar, "Northern Anatolia in the Early Bronze Age," *Tel Aviv* 2, 4 (1975) 133-43.

27. These sites include Kavak, Tekkekoy, Alishar Hüyük, Alaca Hüyük and Buyuk Güllücek in the interior.

28. Todorova (supra n. 3) 43.

29. Margos (supra n. 9) 147.

culture, or at least its ceramic style expanded over large areas of the Middle East. Finds are known as east as the Gurgan plain in northeastern Iran,³⁰ and southward along the Zagros mountain range and Levantine coast where it is known as Khirbet Kerak ware. Within Anatolia, it spread from the eastern regions over most of the central plateau. This style was achieved by controlled firing and was apparently copied at Varna. Both Todorova³¹ and Ivanov³² describe vessels with red interiors and grey-black or brown-black exteriors. Todorova calls it a paint, while Ivanov refers to it as an engobe. In either case, it was applied to change the basic color of the fired vessel.

In terms of decoration it is puzzling why, if the necropolis does indeed date to the mature Karanovo VI/Gumelnița culture, is there not more graphite painted ware? Graphite cones were recovered from several of the burials, but of the 76 vessels displayed in the Okayama exhibit, only five had graphite painted decoration. Four came from Grave 3, Necropolis II and only one from Grave 43 in the necropolis under study.

The decorative techniques fall into two groups. Most unusual is the technique of excising broad horizontal grooves from the pot which would later be used for decorative motifs. A variation is the addition of plastic ribs to produce the same effect. This technique is unique to Varna and the nearby necropolis of Devnya. These bands are decorated with incised or grooved patterns, often filled with red or white incrustation. On the finer vessels, graphite is said to appear rarely and in small amounts.

The second group consists of vessels which were slipped and then burnished to a lustrous brown-black to reddish-brown surface. Although not explicitly stated, it may be assumed that this was the group displaying the interior red slip.

The use of grooved horizontal bands is an intrusive feature which has a strong analogy in the pottery of the Dnieper-Donetz culture. The applied plastic bands used to produce horizontal strips for decoration can also be seen in Early Bronze Age pottery from the lower Dnieper region (Figs. 3, 4 & 5). The applied

30. D. Zanotti, "The Gurgan Culture of Northeastern Iran; A Study of Material Culture and Chronology," unpublished research paper, Univ. of Wisc.-Milwaukee (1972).

31. Todorova (supra n. 3) 43.

32. Ivanov (supra n. 7) 21.



Fig. 3 Early Bronze Age Pottery from Chervonyj Kut cemetery, lower Dnieper area (after Gimbutas, 1965, fig. 335).

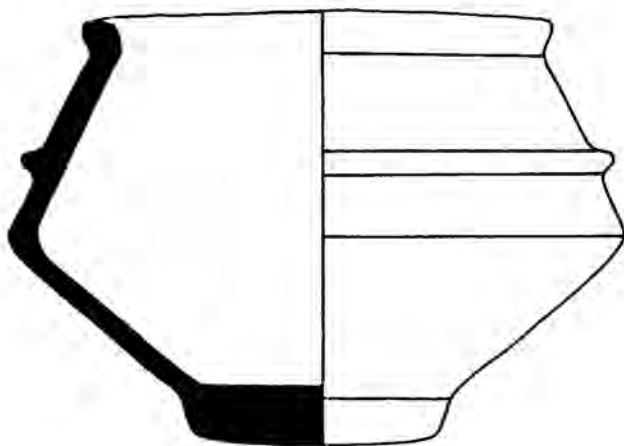


Fig. 4 Ceramic Vessel from Grave 51, Varna.

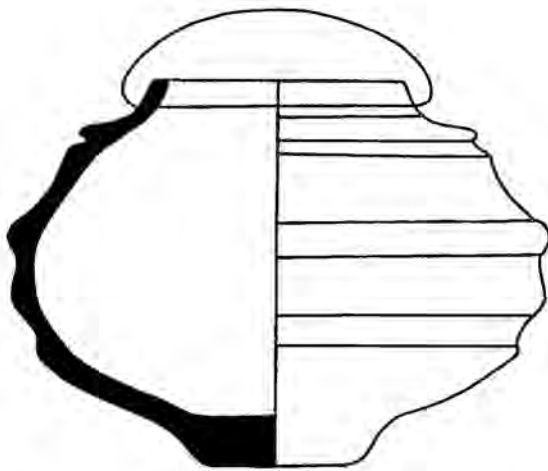


Fig. 5 Ceramic Vessel from Grave 6, Varna.

decorative techniques are indigenous, but during the Karanovo VI/Gumelnița period incrustation is used only rarely. It does not become common until the end of the Eneolithic.

The initial evidence points to the introduction of a new method, albeit a step backward, in clay preparation and firing along with some new methods of decoration. There is also a strong hint of north Anatolian influence introduced via trade or from Karanovo colonists in the Bafra region. The scarcity of graphite suggests a later date—as do the appearance of EBA characteristics.

3. *Metallurgy*

Points of importance in discussing the metal artifacts include the type of copper used, the axes in general and the appearance of crescentic axe-blades, the use of tangs for hafting certain objects and the appearance of spearheads and lances, a group unique in Bulgaria.

A total of 25 axes are described by Ivanov³³ of which 20 are illustrated. We can be reasonably sure that this is a nearly complete corpus since Kanchev³⁴ notes 16 axes from the first 60 burials and

33. Ivanov (supra n. 7) 20.

34. Kanchev (supra n. 15) 48.

the catalogue describes 17 from the same group. Apparently only 8 additional axes were found in the remaining 144 burials. He states that most axes are of the Coka and Vidra types, but notes that there were several axes of unknown types, one of which has been described elsewhere as the Devnya-Varna type. This type is distinguished by its elongation, the triangular or crescentic blade and the protrusions near the shaft-hole, reminiscent of later battle-axe forms. As can be seen in Table 2, the Vidra type is most common and occurs more frequently in cenotephs. Coka type axes are much more common in supine burials. The Varna type again are found predominantly in cenotephs. No axes appear to be associated with flexed burials. Coka type axes do not appear after Grave 43, while Vidra and Varna types occur throughout the necropolis.

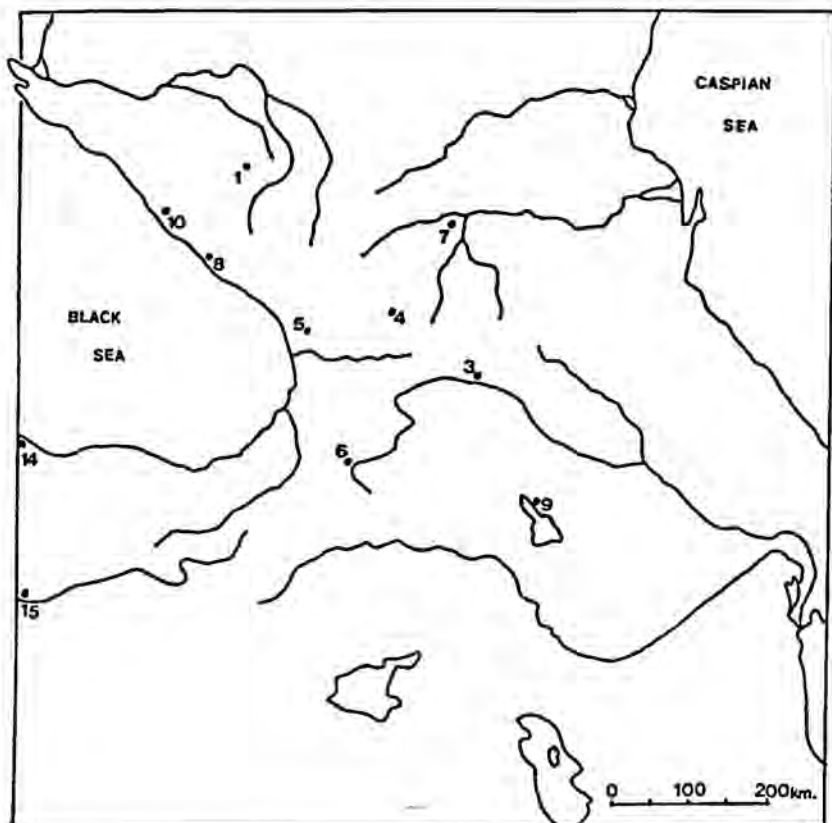
TABLE 2. *Hammer-Axes from the Varna Necropolis* (derived from Egami, 1982).

a. Occurrence Frequency of Hammer-Axes			
cenotephs	(13)	65%	
supine	(7)	35%	
flexed	(0)	0%	
b. Axe Types			
Vidra	(11)	55%	
Coka	(5)	25%	
Varna	(4)	20%	
c. Axe Type vs. Burial Type (%)			
	Coka	Vidra	Varna
cenoteph	20%(1)	73%(8)	75%(3)
supine	80%(4)	27%(3)	25%(1)

The single most characteristic trait of the Varna axes as noted by Ivanov is the use of triangular or crescentic blades, some of which are almost of a diamond shape. They appear on all Varna type axes and most of the Vidra type examples, although not as pronounced. This exaggerated curvature on some axes precludes any actual use and suggests a largely symbolic role. Microanalysis has shown some minute wear patterns, but the parallel striations are at an acute diagonal angle to the axis of the axes.³⁵

35. Kanchev (*supra* n. 15) 48.

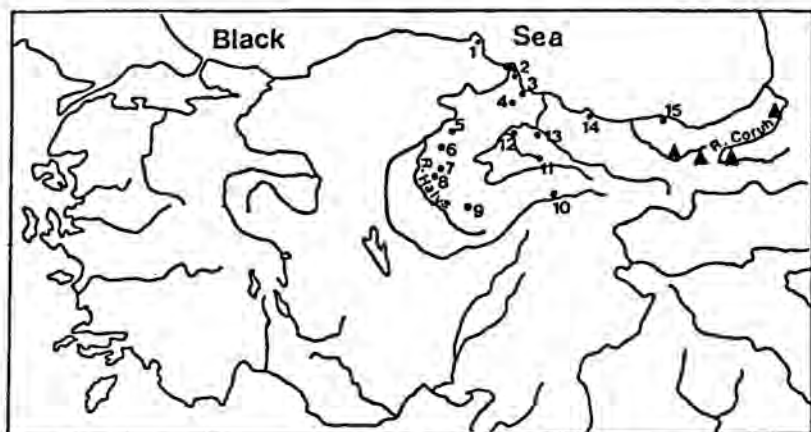
MAP II. Comparative Material to the Varna Crescentic Axe Blades (derived from Deshayes, 1960).



	<i>site</i>	<i>region</i>	<i>Deshayes catalogue no.</i>
1.	Andriokovskaia	Caucasus	2101
2.	Khodshali	Trans-Caucasus	1121
3.	Kvemo Sasirethi	"	1126
4.	Kvichari	"	1139
	"	"	1687
5.	Makhariya	"	1115
6.	Mekhtchis Tsikhe	"	2184
7.	Nalchik	Caucasus	2107
8.	Pitsunda	Trans-Caucasus	-
9.	Sevanga	"	1116
10.	Sotchi	"	1689
11.	unknown	Caucasus	1129
12.	W. Georgia	Trans-Caucasus	1707
13.	Alaca Hüyük	Anatolia	2100
14.	Ordu	"	1681
	"	"	1717
15.	Sivas	"	1103

Axes with crescentic blades are largely a style of the Early Bronze Age, with few examples appearing before 3200 B.C. The best parallels come from the "Colchidic" type axes of the Caucasus (Map II). Central Anatolian (Map III) parallels include

MAP III. Gold Sources of Northeast Anatolia and Sites Mentioned in Text.



- | | |
|-------------------|---------------|
| ▲ gold sources | 8. Boğazköy |
| 1. Sinop | 9. Alishar |
| 2. Ikiztepe | 10. Sivas |
| 3. Dundartepe | 11. Kozlu |
| 4. Kavak | 12. Mahmatlar |
| 5. Buyuk Güllücek | 13. Horoztepe |
| 6. Alaca Hüyük | 14. Ordu |
| 7. Yarikkaya | 15. Trabzon |

finds from Boğazköy, Alaca Hüyük, Mahmatlar, Horoztepe and the Ordu hoard near Trabzon (Fig. 6). "Colchidic" axes also appear north of the Black Sea in the Rybakovka hoard found near Odessa and the Berislav hoard found on the lower Dnieper (Fig. 7).³⁶ Analysis of one axe from Ordu showed it to be pure copper,³⁷ a curious fact for a hoard dated to the Late Bronze Age.

36. M. Gimbutas, *Bronze Age Cultures of Eastern Europe* (The Hague, 1965) chapter on the North Pontic Culture.

37. J. Deshayes, *Les Outils de Bronze, de L'Indus au Danube (IVe au IIe millénaire)* (Paris, 1960) 86.

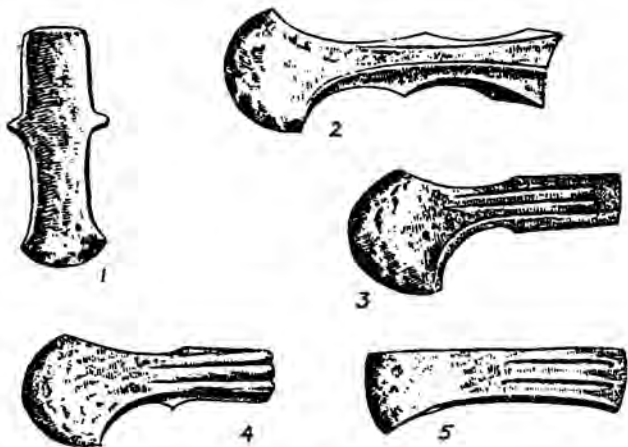


Fig. 6 The hoard of Ordu, northeastern Anatolia (after Gimbutas, 1965, fig. 349).

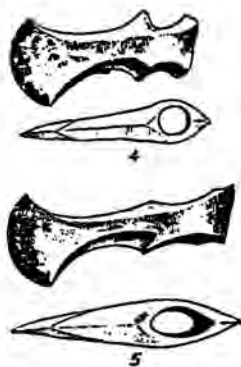


Fig. 7 Axes from the hoard of Pitsunda (after Gimbutas, 1965, fig. 347).

While the "Colchidic" axes are more exotic than their Balkan counterparts, they display an overall form similar to the Vidra type with the shaft-hole positioned very close to the axe butt. Despite varying sizes, the ratio of blade length/butt length is very close, suggesting that one design concept was in use in both regions. The distribution of Vidra type axes is confined to eastern Romania and central Bulgaria with the coastal area near Varna as a single focus.³⁸ The pattern is consistent with a central source near Varna from which the style or design concept diffused along trade routes northwards with Spondylus along the Aiges river through the heart of the distribution of Gumelnița sites and southwestwards along the copper route of the Luda Kamçila to the Aibunar mines and the Mariça basin.

No where is the Caucasian influence more evident than in the axe from Grave 4 (Fig. 8). The entire object displays an extreme curvature with the butt end tapering to a point. The shaft-hole is placed close to the blade leading to an unbalanced tool and the blade is flared and fully crescentic. As an axe it would have been almost unusable, leading to the conclusion that it was an entirely symbolic form. A totally stylistic impression is that of a snake,

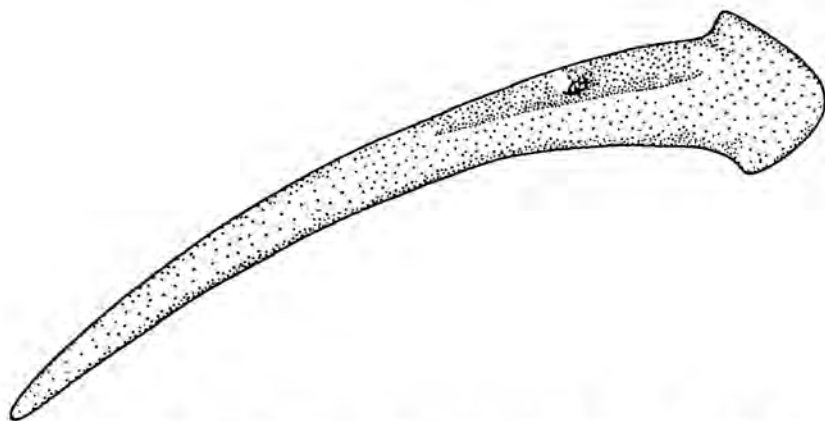


Fig. 8 Copper "pick-axe" from Tomb 4 (drawing made from Ivanov, 1978, fig. 13).

38. I. Bognar-Kutzian, "The Beginning and Position of the Copper Age in the Carpatho-Pannonian Region," *Actes du VIII Congres International des Sciences Préhistoriques et Protohistoriques II* (Beograd, 1973) 301-16, fig. 8.

which is interesting since a snake cult seems to be prevalent within the "Kurgan" tradition,³⁹ especially in the northern Caucasus. The *only* comparable find in southeastern Europe according to Ivanov comes from Moldavia, but is still unpublished so we cannot ascertain how closely the two are related.⁴⁰

Many of the chisels and one spearhead/lance are tanged (a hooked butt) for mounting on a wooden shaft or handle. This type of hafting is not at all common to the Eneolithic of southeastern Europe or even in the Bronze Age. It is a common Anatolian form which diffused into the Aegean and Near East, appearing on awls, daggers and lances or pikes. Good parallels come from the sites of Boğhazköy, Horoztepe and Dundartepe (Map III). Its appearance on a number of artifacts should be considered as evidence of influence of a different metallurgical school, most likely Anatolian in nature.

Closely related to the use of tangs for mounting is the first appearance of weapons made of copper within the Balkans. They can be divided into two groups: spearheads and pikes or lances. Spearheads are known from Grave 43 (Fig. 9) and Grave 97. In each burial a flint spearhead was also found.

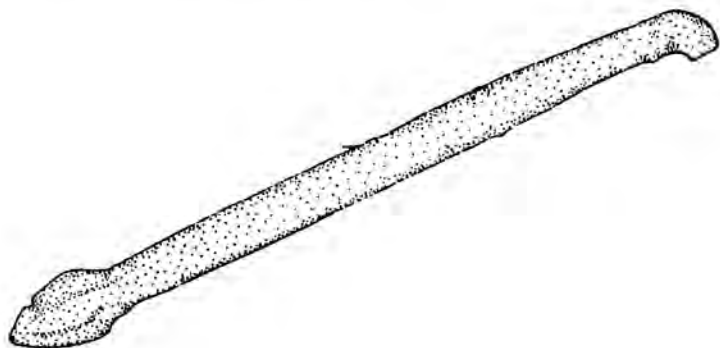


Fig. 9 Copper "javelin" with tang from Tomb 43 (drawing made from Ivanov, 1978, fig. 14).

39. Gimbutas (*supra* n. 11 and 36).

40. Ivanov (*supra* n. 7) 21, footnote 5.

The group which I refer to as pikes or lances are described by Ivanov as chisels in the catalogue. This group of nine examples can be divided into two sub-groups; those which are most likely chisels and those which were used as weapons. The former group consists of 2 finds from Grave 1 and one from Grave 55. None are tanged. The latter group consists of two finds from Grave 4 and one each from Graves 17, 40, 65, and 151. All were tanged. Other differences include their longer length, thinner cross-section and the shaping of the edge of utilization to a sharp, in some cases needle-like, point. Lengths range from 13.3 to 23 cm with the thickness of the square cross-section varying from .4 to .97 cm. The examples mentioned above of tanged tools from Anatolia were finds very similar to this group which Stronach described as pikes.⁴¹ They do not have Balkan parallels and should be regarded as Anatolian in character.

The spearhead from Grave 97 is reminiscent of examples from the Catacomb-Grave culture and early finds in western Siberia where the North Caucasian center of metallurgy was a strong influence.⁴² The shape of the tip is similar to the blades of the Varna axes being more of a diamond shape than triangular. The other spearhead from Grave 43 has a much thicker shaft and smaller blade. It has no decent counterparts in copper, but an unstratified example in bone from Rast, Romania⁴³ may be comparable. It is tempting to consider this a harpoon.

It is safe to say that these are among the first metal weapons found in Europe. Their appearance coincident with the use of hooked tangs for attachment points to Anatolian influence as well as a later date.

The last point to be considered is the source of the copper used to make the artifacts found in the Varna burials. Ivanov has stated that analyses made by E. Çernych has shown that *some* of copper came from Aibunar.⁴⁴ What was the source for the rest of the copper ore used at Varna? It is unlikely that Rudna Glava was the source since most of the trade conducted at Varna did not

41. D.B. Stronach, "The Development and Diffusion of Metal Types in Early Bronze Age Anatolia," *AS* 7 (1957) 89-126.

42. E.N. Çernych, "Metallurgical Provinces of the 5th-2nd Millennia in Eastern Europe in Relation to the Process of Indo-Europeanization," *Journal of Indo-European Studies* 8, 3-4 (1980) 318-36.

43. V. Dumitrescu, *The Neolithic Settlement at Rast* (Cambridge, 1980) plate XVII, 10.

44. Ivanov (supra n. 7) 24; Çernych's article on the analysis appears later in the same volume.

move inland via the Danube. Transylvania is a possible source because of the Spondylus trade route and distribution of the Vidra axe type. A more probable source is the large scale copper mine and smelting site at Kozlu, northern Anatolia (Map III).⁴⁵ The vein was exploited for at least 300 m underground and in galleries. Timbers used in the mine have been radiocarbon dated and calibrated to 3750 B.C.,⁴⁶ clearly too early for the Early Bronze Age in Anatolia, but very likely contemporary with the Varna necropolis. Besides the metal finds from nearby Anatolian sites, we must also make mention of the Karanovo type ceramics



Fig. 10 Early Bronze Age figurine from Ikiztepe (after Yakar, 1981, plate 1).

45. D.L. Giles and E.P. Kuijpers, "Stratiform Copper Deposits in North Anatolia, Turkey. Evidence for E.B. I Mining Activity," *Science* 186; 823-5.

46. Su-295, 4750 \pm 30 B.P., calibration by MASCA correction factor.

(trumpet handles, zoomorphic applications) from İkiztepe, Dündartepe and several other sites in the Samsun region as well as Kavak, Tekkekoy, Alishar Hüyük, Alaca Hüyük and Büyük Güllücek (Map III).⁴⁷ Figurines of the Karanovo VI/Gumelnița type are also known from İkiztepe (Fig. 10) and Alishar Hüyük

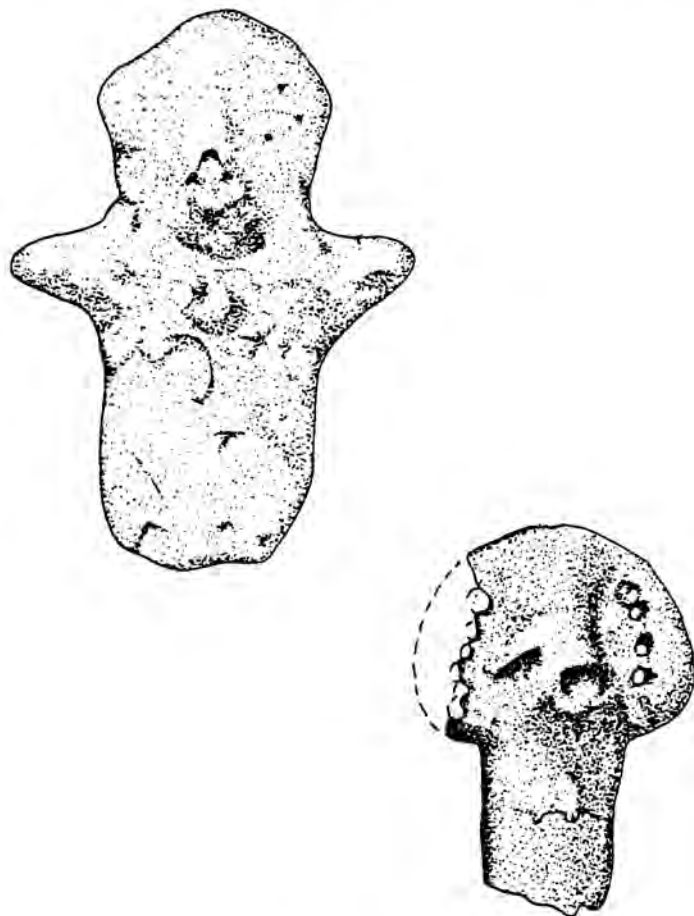


Fig. 11 Late Chalcolithic from Alishar Hüyük, Schichten 19-12 (drawn from Müller-Karpe, 1974, Tafel 301).

47. Alkim (supra n. 26).

(Fig. 11). The appearance of such an early, yet major mining operation hints of prior expertise as might have been gained at Aibunar. Given the close contacts seen between the Karanovo VI/Gumelnița culture and the region of north-central Anatolia, it is very likely that part of the copper found at Varna was mined and smelted in Anatolia.

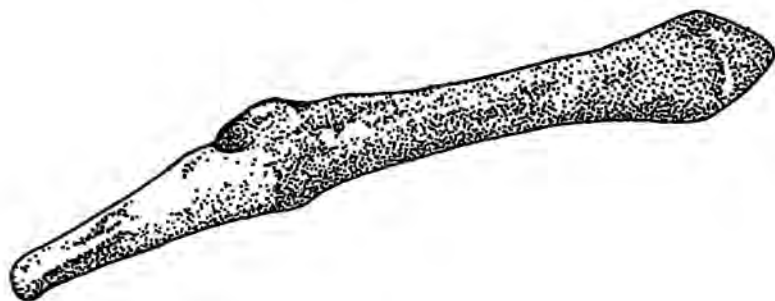


Fig. 12 Axe of the Varna type from Grave 1, Varna.

To summarize, in the metallurgy we can see forms, styles, techniques and possibly raw material, all of which point to northern Anatolia and the Caucasus as a primary source of the Varna metal finds, either via trade of intact tools or transfer of knowledge. It should not be a surprise since the Coruh region of northeastern Anatolia is the logical source for the Varna gold.

Conclusions

The above discussion can be distilled into major areas; the origin or ethnicity of the people buried in the Varna necropolis and the scope of the trade which centered on the former gulf of Varna. While separate areas, there is an apparent relationship between the changing population and social structure and the type of trade, or amount of trade which passed through Varna. The appearance of a Proto-Europoid population (predominantly male), distinctive new burial rituals and the increase in social stratification and male dominance coincides with the decline or interruption of the Aegean Spondylus trade, an interruption in trade along the inland waterways (specifically the Danube and

Olt), the abandonment or disruption of the Aibunar copper mine and its replacement by an Anatolian source, an increase in the influence of the Caucasian/Anatolian metallurgical schools and most important, the appearance of gold in large quantities from a source outside of the Balkans, most likely the Coruh region of northeastern Anatolia.

That the Balkans were penetrated by an influx of steppe inhabitants just before or after 4000 B.C. is a generally accepted concept described by Gimbutas as Kurgan Wave One. That the Srednij-Stog II culture was the principal source of the immigrants is also a fairly secure conclusion. However, arguments can be raised over the dating and scope of this influx. Did it occur as early as c. 4400-4300 B.C. as Gimbutas proposes or as late as c. 3700 B.C. setting the stage for the well evidenced Kurgan Wave Two, c. 3300-3200 B.C.? Are we dealing with the scattered movements of shepherds and traders who outside of necropolises such as Varna are represented only by isolated burials such as Csongrad, Decia Muresului, Suvorovo or Casimcea, or a large scale population movement which penetrated the Danube and Rhine basins to the heartland of Europe? Were these new people actually part of the Proto-Indo-European expansion or were they themselves refugees pushed westward by the growing population pressures that led to Kurgan Wave Two?

It is the opinion of the author that there was no real Kurgan Wave One. The physical evidence cited as proof just does not stand up to close scrutiny. It is more likely that we are dealing with a slow infiltration by traders and perhaps small groups of shepherds whose presence is overestimated because of the distinctive new physical type and burial rituals. This period of sporadic movement did not begin prior to 3800 B.C. but probably increased just prior to Kurgan Wave Two as pressures in the steppes increased. It is tempting to identify this period with the introduction of the sub-stratum of PIE which later became the European family of languages, but in light of Mallory's assertion that the major break-up of the Indo-European family of languages did not occur until Kurgan Wave Two, such conclusions must be reserved. The evidence from Varna's trade may provide insight.

There can be no doubt that as the ethnic pattern exhibited at Varna changed, so did the trading patterns. While the decline in material imports such as Spondylus, marble and Coka type axes point to isolation from the Aegean and Danube, it was the declining production or exhaustion of the Aibunar mine that most like-

ly turned the Varna trade towards Anatolia. The northern coastline was rich in minerals and sparsely populated until late in the Early Bronze Age. While influence from the Balkan may date back to Karanovo III, it is not until the time of the Varna necropolis, the Late Chalcolithic, that evidence of Balkan penetration of Anatolia begins to appear in large quantities at many sites. A by-product of the prospecting for copper may have been the discovery of the alluvial gold sources along the Coruh river near Trabzon, hence the sudden great wealth at Varna.

It has been speculated that the Hittite language came to Anatolia from the Balkan Black Sea coast. It is also accepted that Hittite diverged from the main language group long before the general break-up c. 3300-3200 B.C. The mechanisms at work at Varna and along the Black Sea coast provide a logical approach to the introduction of the Indo-European languages to central Anatolia, via trade rather than massive migrations. As studies progress it is likely that someday it will be realized that Varna was as important to the prehistory of Anatolia as it is to the past of Thrace.