The Horse, the Wheel, and Language

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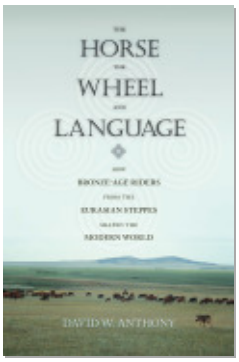

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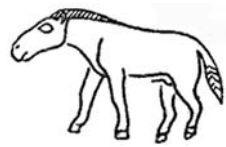
Chapter Fourteen



The Western Indo-European Languages

"A wild river full of possibilities flowed from my new tongue."
—Andrew Lam, *Learning a Language, Inventing a Future* 2006

We will not understand the early expansion of the Proto-Indo-European dialects by trying to equate language simply with artifact types. Material culture often has little relationship to language. I have proposed an exception to that rule in the case of robust and persistent frontiers, but that does seem to be an exception. The essence of language expansion is psychological. The initial expansion of the Indo-European languages was the result of widespread cultural shifts in group self-perception. Language replacement always is accompanied by revised self-perceptions, a restructuring of the cultural classifications within which the self is defined and reproduced. Negative evaluations associated with the dying language lead to a descending series of reclassifications by succeeding generations, until no one wants to speak like Grandpa any more. Language shift and the stigmatization of old identities go hand in hand.

The pre–Indo-European languages of Europe were abandoned because they were linked to membership in social groups that became stigmatized. How that process of stigmatization happened is a fascinating question, and the possibilities are much more varied than just invasion and conquest. Increased out-marriage, for example, can lead to language shift. The Gaelic spoken by Scottish "fisher" folk was abandoned after World War II, when increased mobility and new economic opportunities led to out-marriage between Gaelic "fishers" and the surrounding English-speaking population, and the formerly tightly closed and egalitarian "fisher" community became intensely aware both of its low ranking in a larger world and of alternative economic opportunities. Gaelic rapidly disappeared, although only a few people—soldiers, professionals, teachers—moved very far. Similarly, the general situation in Europe after 3300 BCE was one of increased

mobility, new pastoral economies, explicitly status-ranked political systems, and inter-regional connectivity—exactly the kind of context that might have led to the stigmatization of the tightly closed identities associated with languages spoken by localized groups of village farmers.[1]

The other side of understanding language shift is to ask why the identities associated with Indo-European languages were emulated and admired. It cannot have been because of some essential quality or inner potential in Indo-European languages or people. Usually language shift flows in the direction of paramount prestige and power. Paramount status can attach to one ethnic group (Celt, Roman, Scythian, Turk, American) for centuries, but eventually it flows away. So we want to know what in this particular era attached prestige and power to the identities associated with Proto-Indo-European speech—Yamnaya identities, principally. At the beginning of this period, Indo-European languages still were spoken principally by pastoral societies from the Pontic-Caspian steppes. Five factors probably were important in enhancing their status:

1. Pontic-Caspian steppe societies were more familiar with horse breeding and riding than anyone outside the steppes. They had many more horses than anywhere else, and measurements show that their steppe horses were larger than the native marsh and mountain ponies of central and western Europe. Larger horses appeared in Baden, Cernavoda III, and Cham sites in central Europe and the Danube valley about 3300–3000 BCE, probably imported from the steppes.[2] Horses began to appear commonly in most sites of the ETC culture in Transcaucasia at the same time, and larger horses appeared among them, as in southeastern Anatolia at Norşuntepe. Steppe horse-breeders might also have had the most manageable male bloodline—the genetic lineage of the original domesticated male founder was preserved even in places with native wild populations (see chapter 10). If they had the largest, strongest, *and* most manageable horses, and they had more than anyone else, steppe societies could have grown rich by trading horses. In the sixteenth century the Bukhara khanate in Central Asia, drawing on horse-breeding grounds in the Ferghana valley, exported one hundred thousand horses *annually* just to one group of customers: the Mughal rulers of India and Pakistan. Although I am not suggesting anything near that scale, the annual demand for steppe horses in Late Eneolithic/Early Bronze Age Europe could easily have totaled thousands of animals during the initial expansion of horseback riding beyond the steppes. That would have made some steppe horse dealers wealthy.[3]

2. Horseback riding shortened distances, so riders traveled farther than walkers. In addition to the conceptual changes in human geography this caused, riders gained two functional advantages. First, they could manage herds larger than those tended by pedestrian herders, and could move those larger herds more easily from one pasture to another. Any single herder became more productive on horseback. Second, they could advance to and retreat from raids faster than pedestrian warriors. Riders could show up unexpectedly, dismount and attack people in their fields, run back to their horses and get away quickly. The decline in the economic importance of cultivation across Europe after 3300 BCE occurred in a social setting of increased levels of warfare almost everywhere. Riding probably added to the general increase in insecurity, making riding more necessary, and expanding the market for horses (see paragraph above).

3. Proto-Indo-European institutions included a belief in the sanctity of verbal contracts bound by oaths (**h$_1$óitos*), and in the obligation of patrons (or gods) to protect clients (or humans) in return for loyalty and service. "Let this racehorse bring us good cattle and good horses, male children and all-nourishing wealth," said a prayer accompanying the sacrifice of a horse in the *Rig Veda* (I.162), a clear statement of the contract that bound humans to the gods. In Proto-Indo-European religion generally the chasm between gods and humans was bridged by the sanctity of oath-bound contracts and reciprocal obligations, so these were undoubtedly important tools regulating the daily behavior of the powerful toward the weak, at least for people who belonged under the social umbrella. Patron-client systems like this could incorporate outsiders as clients who enjoyed rights and protection. This way of legitimizing inequality probably was an old part of steppe social institutions, going back to the initial appearance of differences in wealth when domesticated animals were accepted.[4]

4. With the evolution of the Yamnaya horizon, steppe societies must have developed a political infrastructure to manage migratory behavior. The change in living patterns and mobility described in the previous chapter cannot have happened without social effects. One of those might have been the creation of mutual obligations of "hospitality" between guest-hosts (**ghos-ti-*). This institution, discussed in the last chapter, redefined who belonged under the social umbrella, and extended protection to new groups. It would have been very useful as a new way to incorporate outsiders as people with clearly defined rights and protections, as it was used from *The Odyssey* to medieval Europe.[5] The apparent absence of this root in Anatolian and Tocharian suggests that this might have been a new development connected with the migratory behavior of the early Yamnaya horizon.

5. Finally, steppe societies had created an elaborate political theater around their funerals, and perhaps on more cheerful public occasions as well. Proto-Indo-European contained a vocabulary related to gift giving and gift taking that is interpreted as referring to potlatch-like feasts meant to build prestige and display wealth. The public performance of praise poetry, animal sacrifices, and the distribution of meat and mead were central elements of the show. Calvert Watkins found a special kind of song he called the "praise of the gift" in Vedic, Greek, Celtic, and Germanic, and therefore almost certainly in late Proto-Indo-European. Praise poems proclaimed the generosity of a patron and enumerated his gifts. These performances were both acclamations of identity and recruiting events.[6]

Wealth, military power, and a more productive herding system probably brought prestige and power to the identities associated with Proto-Indo-European dialects after 3300 BCE. The guest-host institution extended the protections of oath-bound obligations to new social groups. An Indo-European–speaking patron could accept and integrate outsiders as clients without shaming them or assigning them permanently to submissive roles, as long as they conducted the sacrifices properly. Praise poetry at public feasts encouraged patrons to be generous, and validated the language of the songs as a vehicle for communicating with the gods who regulated everything. All these factors taken together suggest that the spread of Proto-Indo-European probably was more like a franchising operation than an invasion. Although the initial penetration of a new region (or "market" in the franchising metaphor) often involved an actual migration from the steppes and military confrontations, once it began to reproduce new patron-client agreements (franchises) its connection to the original steppe immigrants became genetically remote, whereas the myths, rituals, and institutions that maintained the system were reproduced down the generations.[7]

The End of the Cucuteni-Tripolye Culture and the Roots of the Western Branches

In this chapter we examine the archaeological evidence associated with the initial expansion of the western Indo-European languages, including the separation of Pre-Germanic, the ultimate ancestor of English. It is possible to connect prehistoric languages with archaeological cultures in this particular time and place *only* because the possibilities are already constrained by three critical parameters. These are (1) that the late Proto-Indo-European dialects did expand; (2) that they expanded into eastern and central Europe

from a homeland in the Pontic-Caspian steppes; and (3) that the separations of Pre-Italic, Pre-Celtic, and Pre-Germanic, at least, from late Proto-Indo-European probably happened at about this time, between 3300 and 2500 BCE (see the conclusions of chapters 3 and 4).

The Roots of the Oldest Western Indo-European Branches

These constraints oblige us to turn our attention to the region just to the west of the early Yamnaya territory, or west of the South Bug River valley, beginning about 3300 BCE. On this frontier we can identify three archaeological cases of cross-cultural contact in which people from the western Pontic steppes established long-term relationships with people outside the steppe zone to their west during the steppe Early Bronze Age, 3300–2800 BCE. Each of these new intercultural meetings provided a context in which language expansion might have occurred, and, given the constraints just described, probably did. But each case happened differently.

The first occurrence involved close integration, noted particularly in pottery but evident in other customs as well, between the steppe Usatovo culture and the late Tripolye villages of the upper Dniester and Prut valleys (figure 14.1). It is fairly clear from the archaeological evidence that the steppe aspect of the integrated culture had separate origins and stood in a position of military dominance over the upland farmers, a situation that would have encouraged the spread of the steppe language into the uplands. In the second case, people of the Yamnaya horizon moved in significant numbers into the lower Danube valley and the Carpathian Basin. This was a true "folk migration," a massive and sustained flow of outsiders into a previously settled landscape. Again there are archaeological signs, in pottery particularly, of integration with the local Cotsofeni culture. Integration with the locals would have provided a medium for language shift. In the third case, the Yamnaya horizon expanded toward the border with the Corded Ware horizon on the headwaters of the Dniester in far northwestern Ukraine. In some places it appears there was no integration at all, but on the east flank of this contact zone, near the middle Dnieper, a hybrid border culture emerged. It is probably safe to assume that the separations of several western Indo-European branches were associated somehow with these events. The linguistic evidence suggests that Italic, Celtic, and Germanic, at least, separated next after Tocharian (discussed in the previous chapter). The probable timing of separations suggests that they happened around this time, and these are the visible events that seem like good candidates.

Figure 14.1 Yamnaya migrations into the Danube valley and the east Carpathian piedmont, 3100–2600 BCE. The older western IE branches probably evolved from dialects scattered by these migrations.

The End of the Cucuteni-Tripolye Culture

The people whose dialects would separate to become the root speech communities for the northwestern Indo-European language branches (Pre-Germanic, Pre-Baltic, and Pre-Slavic) probably moved initially toward the northwest. That would mean moving through or into Late Tripolye territory if it happened between 3300 and 2600 BCE, the time span of the final, staggering C2 phase of the Tripolye culture, after which all Tripolye traditions disappeared entirely. The period began with the sudden abandonment of large regions near the steppe border, including almost the entire South Bug valley. In the regions where the Tripolye culture survived, no Tripolye C2 towns had more than thirty to forty houses. The houses themselves were smaller and less substantial. Painted fine ceramics declined in frequency, while clinging to old motifs and styles. Domestic rituals utilizing clay female figurines became less frequent, the female traits became stylized and abstract, and then the rituals disappeared entirely. Two major episodes of change can be seen. The first major shock came at the transition from Tripolye C1 to C2 about 3300 BCE, simultaneously with the appearance of the early Yamnaya horizon. The second and final sweep of change erased the last remnants of Tripolye customs around 2800–2600 BCE, when the early Yamnaya period ended.

The first crisis, at the Tripolye C1/C2 transition about 3300 BCE (table 14.1), is evident in the abandonment of large regions that had contained hundreds of Tripolye C1 towns and villages. The vacated regions included the Ros' River valley, a western tributary of the Dnieper south of Kiev, near the steppe border; all of the middle and lower South Bug valley, near the steppe border; and the southern Siret and Prut valleys in southeastern Romania (between Iasi and Bîrlad), also near the steppe border. After this event almost no Cucuteni-Tripolye sites survived in what is now Romania, so after two thousand years the Cucuteni sequence came to an end. All these regions had been densely occupied during Cucuteni B2/Tripolye C1. We do not know what happened to the evacuated populations. A Yamnaya kurgan was erected on the ruins of the Tripolye C1 super town at Maidanetsk'e (see figure 12.7) in the South Bug valley, but this seems to have happened centuries after its abandonment. Other kurgans in the South Bug valley (Serezlievka) contained Tripolye C2 figurines and pots, so it is clear that kurgan-building people occupied the South Bug valley, but their population seems to have been sparse, and their use of Tripolye pottery has led to arguments over their origins.[8] With the disappearance of agricultural towns from most of the South Bug valley, surviving Tripolye populations

Table 14.1
Selected Radiocarbon Dates for the Usatovo Culture, other Tripolye C2 groups, and Yamnaya graves in the Danube valley.

Lab Number	*BP Date*	*Sample*	*Calibrated Date*
1. Usatovo culture			
Mayaki settlement, lower Dniester			
Ki-282	4580±120	charcoal from fortification ditch	3520–3090 BCE
Ki-281	4475±130	same	3360–2930 BCE
Bln-629	4400±100	same	3320–2900 BCE
UCLA 1642B	4375±60	same	3090–2900 BCE
Le-645	4340±65	same	3080–2880 BCE
Usatovo, flat cemetery II, unrecorded grave number			
UCLA-1642A	4330±60	?bone	3020–2880 BCE
2. Tripolye C2 sites on the middle Dnieper			
Gorodsk settlement, fortified promontory, Teterev River			
GrN-5090	4551±35	?bone	3370–3110 BCE
Ki-6752	4495±45	shell	3340–3090 BCE
Sofievka cemetery, Borispol district, Kiev region			
Ki-5012	4320±70	grave 1, cremated bone	3080–2870 BCE
Ki-5029	4300±45	charcoal	3020–2870 BCE
Ki-5013	4270±90	square M11, cremated bone	3020–2690 BCE
3. Tripolye C2 sites on the upper Dniester			
Zhvanets settlement, early C2, upper Dniester, Kamianets-Podolsky region			
Ki-6745	4530±50	animal bone, pit-house 1	3360–3100 BCE
Ki-6743	4480±40	animal bone, surface house 2	3340–3090 BCE
Ki-6754	4380±60	charcoal	3100–2910 BCE
Ki-6744	4355±60	animal bone, pit-house 6	3080–2890 BCE
4. Yamnaya graves in the Danube valley			
Poruchik-Geshanovo kurgan cemetery, northeast Bulgaria			
Bln-3302	4360±50	charcoal from unpublished grave	3080–2900 BCE
Bln-3303	4110±50	same	2860–2550 BCE
Bln-3301	4080±50	same	2860–2490 BCE

Table 14.1 (*continued*)

Lab Number	*BP Date*	*Sample*	*Calibrated Date*
Plachidol kurgan cemetery 1, northeast Bulgaria			
Bln-2504	4269±60	charcoal, grave 2 with stela	3010–2700 BCE
Bln-2501	4170±50	charcoal, grave 1 with wagon	2880–2670 BCE
Baia Hamangia, Danube delta, Romania			
GrN-1995	4280±65	charcoal from grave	3020–2700 BCE
Bln-29	4090±160	charcoal from grave	2880–2460 BCE
Ketegyhaza kurgan 3, grave 4 (latest grave in kurgan 3), eastern Hungary			
Bln-609	4265±80	charcoal from grave	3020–2690 BCE

resolved into two geographic groups north and south of the South Bug (see figure 13.1).

The northern Tripolye C2 group was located on the middle Dnieper and its tributaries around Kiev, where the forest-steppe graded into the closed northern forest. Cross-border assimilation with steppe cultures had begun on the middle Dnieper during Tripolye C1, as at Chapaevka (see figures 12.2, 12.6), and this process continued during Tripolye C2. At towns like Gorodsk, west of the Dnieper, and cemeteries like Sofievka, east of the Dnieper, the mix of cultural elements included late Sredni Stog, early Yamnaya, late Tripolye, and various influences from southern Poland (late Baden, late TRB). The hybrid that emerged from all these intercultural meetings slowly became its own distinct culture.

The southern Tripolye C2 group, centered in the Dniester valley, was closely integrated with a steppe culture, the Usatovo culture, described in detail below. The two surviving late Tripolye settlement centers on the Dnieper and Dniester continued to interact—Dniester flint continued to appear in Dnieper sites—but they also slowly grew apart. For reasons that will be clear in the next chapter, I believe that the emerging hybrid culture on the middle Dnieper played an important role in the evolution of both the Pre-Baltic and Pre-Slavic language communities after 2800–2600 BCE. Pre-Germanic is usually assigned an earlier position in branching diagrams. If early Pre-Germanic speakers moved away from the Proto-Indo-European homeland toward the northwest, as seems likely, they moved through one of these Tripolye settlement centers before 2800 BCE. Perhaps it was the other one in the Dniester valley. Its steppe partner was the Usatovo culture.

Steppe Overlords and Tripolye Clients: The Usatovo Culture

The Usatovo culture appeared about 3300–3200 BCE in the steppes around the mouth of the Dniester River, a strategic corridor that reached northwest into southern Poland. The rainfall-farming zone in the Dniester valley had been densely occupied by Cucuteni-Tripolye communities for millennia, but they never established settlements in the steppes. Kurgans had overlooked the Dniester estuary in the steppes since the Suvorovo migration about 4000 BCE; these are assigned to various groups including Mikhailovka I and the Cernavoda I–III cultures. Usatovo represented the rapid evolution of a new level of social and political integration between lowland steppe and upland farming communities. The steppe element used Tripolye material culture but clearly declared its greater prestige, wealth, and military power. The upland farmers who lived on the border itself adopted the steppe custom of inhumation burial in a cemetery, but they did not erect kurgans or take weapons to their graves. This integrated culture appeared in the Dniester valley just after the abandonment of all the Tripolye C1 towns in the South Bug valley on one side and the final Cucuteni B2 towns in southern Romania on the other. The chaos caused by the dissolution of hundreds of Cucuteni-Tripolye farming communities probably convinced the Tripolye townspeople of the middle Dniester valley to accept the status of clients. Explicit patronage defined the Usatovo culture.[9]

Cultural Integration between Usatovo and Upland Tripolye Towns

The stone-walled houses of the Usatovo settlement occupied the brow of a grassy ridge overlooking a bay near modern Odessa, the best seaport on the northwest coast of the Black Sea. Usatovo covered about 4–5 ha. A stone defensive wall probably defended the town on its seaward side. The settlement was largely destroyed by modern village construction and limestone quarrying prior to the first excavation by M. F. Boltenko in 1921, but parts of it survived (figure 14.2). Behind the ancient town four separate cemeteries crowned the hillcrest, all of them broadly contemporary. Two were kurgan cemeteries and two were flat-grave cemeteries. In one of the kurgan cemeteries, the one closest to the town, half the central graves contained men buried with bronze daggers and axes. These bronze weapons occurred in no other graves, not even in the second kurgan cemetery. Female figurines were limited to the flat-grave cemeteries and the settlement, never occurring in the kurgan

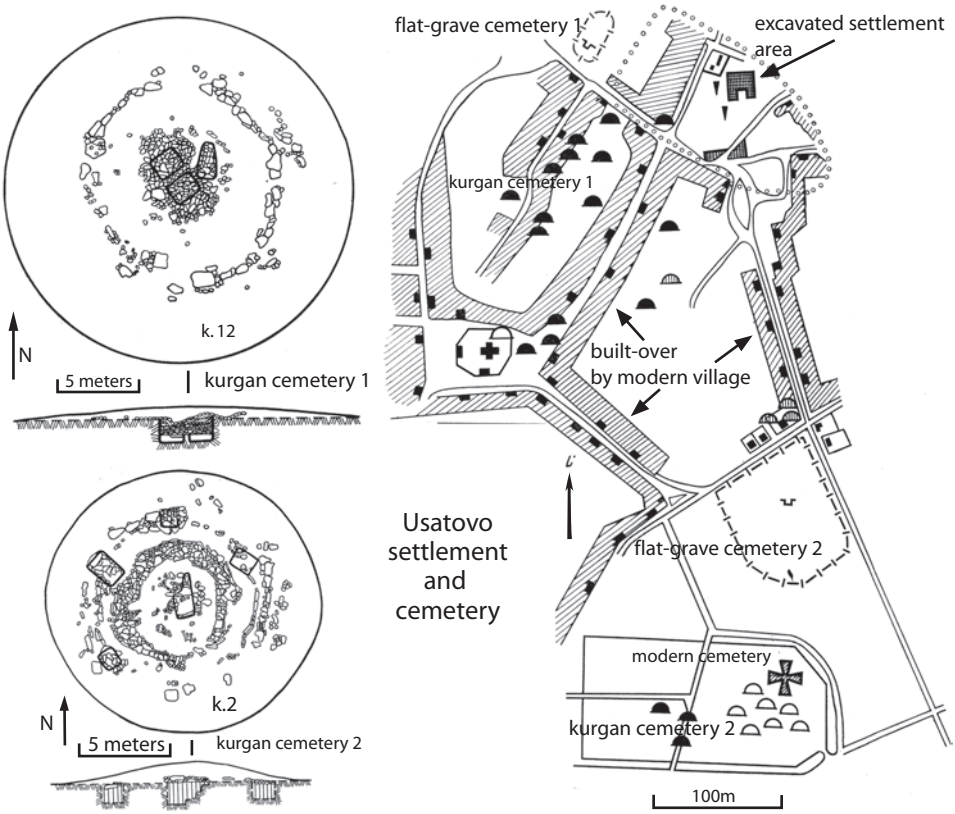


Figure 14.2 The Usatovo settlement (inside dotted line), kurgan cemeteries, and flat-grave cemeteries within the modern bay-side village of Usatovo, at the northeastern edge of the city of Odessa. After Patovka 1976 (village plan) and Zbenovich 1974 (kurgans).

graves. The flat-grave cemeteries were similar to flat-grave cemeteries that appeared outside Tripolye villages in the uplands, notably at Vikhvatinskii on the Dniester, where excavation of perhaps one-third of the cemetery yielded sixty-one graves of people with a gracile Mediterranean skull-and-face configuration. Upland cemeteries appeared at several other Tripolye sites (Holerkani, Ryşeşti, and Danku) located at the border between the steppes and the rainfall agriculture zone in the forest-steppe.

Clearly segregated funeral rituals (kurgan or flat grave) for different social groups appeared also at Mayaki, another Usatovo settlement on the

Dniester. The dagger chiefs of Usatovo probably dominated a hierarchy of steppe chiefs. Their relationship with the Tripolye villages in the Prut and Dniester forest-steppe seems unequal. Kurgan graves and graves containing weapons occurred only in the steppe. The upland Vikhvatinskii cemetery contained female figurines, but no metal weapons and only one copper object, a simple awl. Probably the Usatovo chiefs were patrons who received tribute, including fine painted pottery, from upland Tripolye clients. This relationship would have provided a prestige and status gradient that encouraged the adoption of the Usatovo language by late Tripolye villagers.

Usatovo is classified in all eastern European accounts as a Tripolye C2 culture. All eastern European archaeological cultures are defined first (sometimes only!) by ceramic types. Tripolye C2 pottery was a defining feature of Usatovo graves and settlements (figure 14.3). But the Usatovo culture was different from any Tripolye variant in that all the approximately fifty known Usatovo sites appeared exclusively in the steppe zone, at first around the mouth of the Dniester and later spreading to the Prut and Danube estuaries. Its funeral rituals were entirely derived from steppe traditions. Its coarse pottery, although made in standard Tripolye shapes, was shell-tempered and decorated with cord-impressed geometric designs like those of Yamnaya pottery. If the settlements were not so disturbed, we might be able to say whether they included compounds where Tripolye craftspeople worked as specialists. To explore how the Tripolye element was integrated in Usatovo society we have to look at other kinds of evidence.

The Usatovo economy was based primarily on sheep and goats (58–76% of bones at the Usatovo and Mayaki settlements, respectively). Sheep clearly predominated over goats, suggesting a wool butchering pattern.[10] At the same time, during Tripolye C2, clay loom weights and conical spindle whorls increased in frequency in upland towns in both the middle Dnieper and the Dniester regions, as if the Tripolye textile industry had accelerated. Usatovo settlements contained comparatively few spindle-whorls.[11] Perhaps upland Tripolye weavers made the wool from steppe sheep into finished textiles in a reciprocal exchange arrangement. Usatovo herders also kept cattle (28–13%) and horses (14–11%). Horse images were incised on two stone kurgan stelae at Usatovo (kurgan cemetery I, k. 11 and 3) and on a pot from an Usatovo grave at Tudorovo (figure 14.3n). Horses were important symbolically probably because riding was important in herding and raiding, and possibly because horses were important trade commodities.

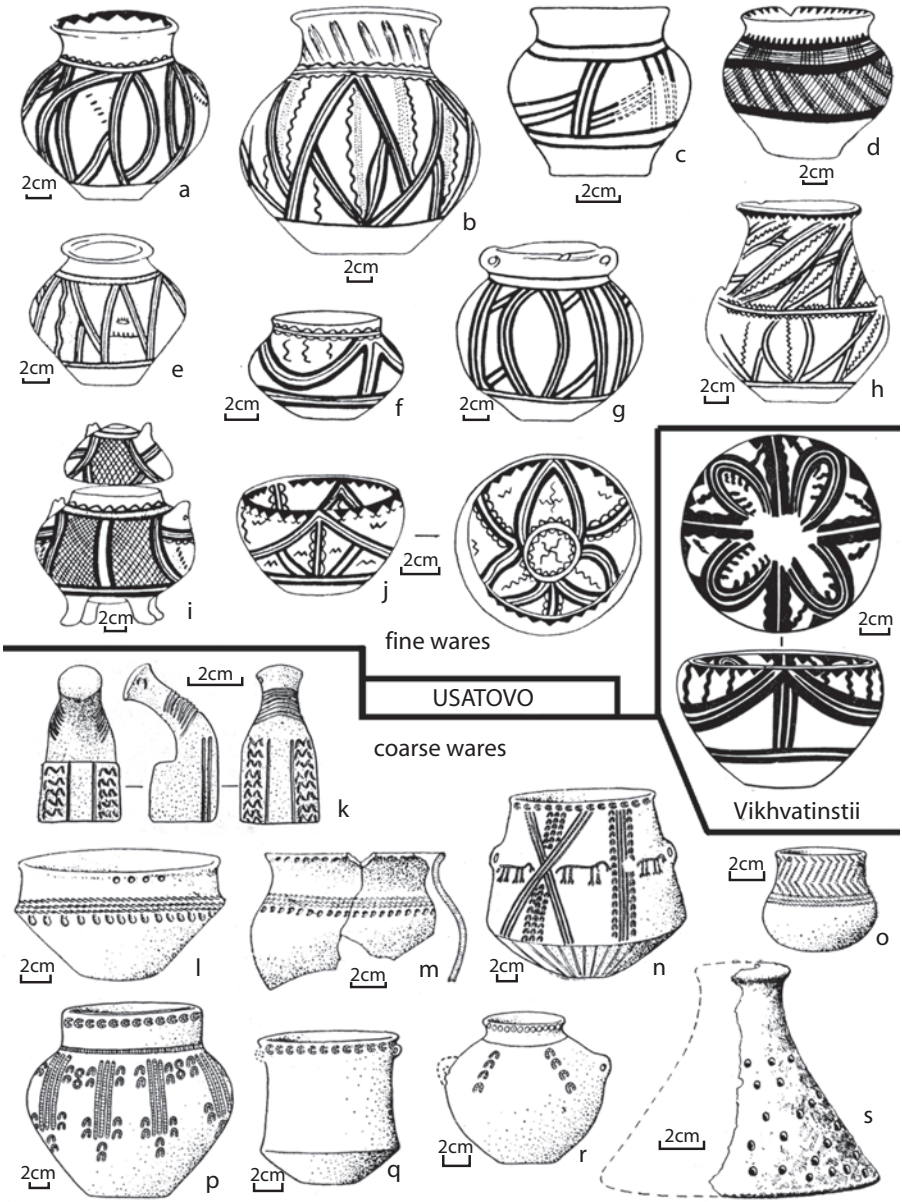


Figure 14.3 Usatovo-culture ceramics (a, e, h, p, q, r) Usatovo kurgan cemetery I; (b) Tudorovo flat grave; (c) Sarata kurgan; (d) Shabablat kurgan; (f) Parkany kurgan 182; (g, j, l) Usatovo kurgan cemetery II; (i) Parkany kurgan 91; (k) abstract figurine from Usatovo flat grave cemetery II; (m) Mayaki settlement; (n) Tudorovo kurgan; (o) Usatovo flat grave cemetery II; (s) Mayaki settlement, probably a cheese strainer. Also shown: a painted fine bowl from the Tripolye C2 cemetery at Vikhvatintsii. After Zbenovich 1968.

Impressions in pottery at the Usatovo settlement showed cultivated wheat (mostly emmer and bread wheats), barley, millet (frequent), oats (frequent), and peas.[12] The settlement also contained grinding stones and flint sickle teeth with characteristic edge gloss from cereal harvesting. This was the first evidence for cereal cultivation in the Dniester steppes, and, in fact, it is surprising, since rainfall agriculture is risky where precipitation is less than 350 mm per year. The grain would have been grown more easily in the upland settlements, perhaps cultivated by Tripolye people who resided part-time at Usatovo.

Tripolye C2 fine pots were particularly valued as grave gifts for the chiefs who died at Usatovo. Tripolye pots with an orange clay fabric, fired at almost 900°C, constituted 18% of the ceramics at the Usatovo settlement but 30% in the kurgan graves (figure 14.3, top). About 80% of the pottery at Usatovo and at other Usatovo-culture settlements was shell-tempered gray or brown ware, undecorated or decorated with cord impressions, and fired at only 700°C. This ware was made like steppe pottery. Though the shapes were like those made in the uplands by late Tripolye potters, some decorative motifs resembled those seen on Yamnaya Mikhailovka II–style pottery. A few of these shell-tempered gray pots at Usatovo were coated with a thick orange slip to make them *look* like fine Tripolye pots, indicating that the two kinds of pottery really were regarded as different.[13]

The painted Tripolye pots in Usatovo kurgan graves were most similar to those of the Tripolye C2 settlements at Brynzeny III on the Prut and Vikhvatintsii on the Dniester. Vikhvatinskii was 175 km up the Dniester from Usatovo near the steppe border, and Brynzeny III was about 350 km distant, hidden in the steep forested valleys of the East Carpathian piedmont. A fine painted pot of Brynzeny type was buried in the central grave of kurgan cemetery I, kurgan 12, at Usatovo, with an imported Maikop pot and a riveted bronze dagger. At this time Brynzeny III still had thirty-seven two-story *ploshchadka* houses, clay ovens, loom weights for large vertical looms, and female figurines. These traditional Tripolye customs survived in towns that showed ceramic connections with Usatovo, perhaps because patron-client agreements protected them. As the identities associated with the dying Tripolye culture were stigmatized and those associated with the Usatovo chiefs were emulated, people who lived at places like Brynzeny III and Vikhvatintsii might well have become bilingual. Their children then shifted to the Usatovo language.

Although fine Tripolye pots were preferred grave gifts for the Usatovo elite, the Tripolye culture itself occupied a secondary position of power

and prestige. This is clearest in funeral customs. At Usatovo the chiefs buried under the kurgan graves were richer and more important than the people buried in the flat graves, and the flat graves were exactly reproduced in the upland Tripolye cemeteries at Vikhvatinskii and Holerkani.

The Usatovo Chiefs and Long-distance Trade

Another aspect of the Usatovo economy was long-distance trade, probably conducted by sea. All six known Usatovo settlements overlooked shallow coastal river mouths that would have made good harbors. These river mouths are today closed off from the sea by siltation, creating brackish lakes called *liman*s, but they would have been more open to the sea in 3000 BCE. The sherds of small ceramic jugs and bowls of the Cernavoda III and Cernavoda II types from the lower Danube valley made up 1–2% of the broken crockery in the settlement at Usatovo, perhaps carried in by longboat rowers engaged in coastal trade down to Bulgaria. But these Cernavoda vessels never were offered as gifts in Usatovo graves. Whole imported late Maikop-Novosvobodnaya pots were included as grave gifts in the two central graves in kurgans 12 and 13 in kurgan cemetery I at Usatovo, two of the largest kurgans; but Maikop pottery never occurred in the settlement. Imported Maikop pots had a very different social meaning from Cernavoda pots.

Trade might have linked Usatovo to the emerging Aegean maritime chiefdoms of the EBI period, including Troy I. A white glass bead recovered from Usatovo kurgan cemetery II, kurgan 2, grave, 1 is the oldest known glass in the Black Sea region and perhaps in the ancient world. Glaze, the simplest form of glass, was applied to ceramics by about 4500–4000 BCE in northern Mesopotamia and Egypt. Glazes were made by mixing powdered quartz sand, lime, and either soda or ash and then heating the mixture to about 900°C, when it fused into a viscous state and could be dipped or poured. Faience beads were made of the same materials, molded into bead shapes, and glazed, beginning about the same time. But translucent glass, which required a higher temperature, has not been securely dated before the fifth dynasty of Egypt, or before 2450 BCE. The Usatovo bead and two others from Tripolye C2 Sofievka on the middle Dnieper are probably four hundred to seven hundred years older than that, equivalent to the first dynasty or the late Pre-Dynastic period. The Tripolye culture had no glazed ceramics or faience, so this vitreous technology was exotic. Almost certainly the Usatovo and Sofievka

glass beads were made somewhere in the Eastern Mediterranean and imported. Another Tripolye C2 cemetery near Sofievka at Zavalovka, radiocarbon dated 2900–2800 BCE and similar to Sofievka in grave types and pottery, contained beads made of amber from the Baltic, perhaps the earliest expression of the exchange of northern amber for Mediterranean luxuries.[14]

In addition, two of the central dagger graves (k. 1 and 3) at Usatovo and an Usatovo grave at Sukleya on the lower Dniester contained daggers with rivet holes for the handle, cast in bivalve molds with a midrib on the blade. [see figure 14.4, top]. This kind of blade appeared also in Anatolia at Troy II and contemporary sites in Greece and Crete (David Stronach's Type 4 daggers). Like the glass, the Usatovo examples seem older than the Aegean ones—they should date to the equivalent of Troy I. But, in this case, the type might well have been locally invented in southeastern Europe and spread to the Aegean. Daggers with rivet holes but with a simpler lenticular-sectioned blade (without a midrib) certainly were made locally across southeastern Europe. They appeared in at least seven other Usatovo-culture graves, in graves at Sofievka on the middle Dnieper, and in Cotsofeni sites in the lower Danube valley, radiocarbon dated just before and after 3000 BCE [see figure 14.4, middle]. Regardless of the direction of borrowing, the shared riveted dagger types of Usatovo and the Aegean point to long-distance contacts between the two regions, perhaps in oared longboats.[15]

Patrons and Clients: Graves of the Warrior Chiefs at Usatovo

Usatovo kurgan cemetery I was quite near the Usatovo settlement (see figure 14.2). It originally contained about twenty kurgans. Fifteen were excavated between 1921 and 1973. They were complex constructions. Each kurgan had an earth core built up inside a stone cromlech made of large rectangular stones laid horizontally. All the cromlechs were covered by earth when the kurgans were enlarged; whether this was part of the original funeral or an entirely unconnected later event is unknown. The central grave was a deep shaft (up to 2 m deep) dug in the center of the cromlech circle, and in most kurgans it was accompanied by several (1–3) other graves also located inside the cromlech circle, in shallow pits covered by stone lids. At least five kurgans in cemetery I (3, 9, 11, 13, 14) were guarded by standing stone stelae on the southwestern sector of the mound. One stela (k. 13) was shaped at its top into a head, making an anthropomorphic

shape, like many contemporary Yamnaya stelae in the South Bug–Dnieper steppes (see figure 13.11). Kurgan 3 (31 m in diameter) had two stelae standing side by side. The larger one (1.1 m tall) was inscribed with the images of a man, a deer, and three horses; the smaller one had just one horse. Kurgan 11 (40 m in diameter, the largest at Usatovo) covered a cromlech circle and inner mound 26 m in diameter surfaced with eighty-five hundred stones. On its southwest border were three stelae, one 2.7 m tall (!) with inscribed images of either dogs or horses. The central grave was robbed.

Only adult men were buried in the central graves of kurgan cemetery I, in a contracted position on the left side oriented east-northeast. Only the central graves and the peripheral graves on the southwestern sector contained red ochre. Seven of the fifteen central graves (k. 1, 3, 4, 6, 9, 12, and 14) had arsenical bronze dagger blades with two to four rivet holes for the handle. No other graves at Usatovo contained daggers (figure 14.4). Bronze daggers emerged as new symbols of status here and in the graves of the Yamnaya horizon at this time, but Yamnaya daggers had long tangs for the handle, like Novosvobodnaya daggers and unlike the Usatovo and Sofievka daggers with rivet holes for the handle. The central graves at Usatovo also contained fine Tripolye pots, arsenical bronze awls, flat axes, two Novosvobodnaya-style chisels, adzes, silver rings and spiral twists, flint microlithic blades, and flint hollow-based arrowheads. Bronze weapons and tools appeared only in the central graves.

Kurgan cemetery II was about 400 m away from kurgan cemetery I. It originally contained probably ten kurgans, most of them smaller than those in kurgan cemetery I; three were excavated. They yielded no daggers, no weapons, only small metal objects (awls, rings), and only a few fine painted Tripolye ceramic vessels. Six individuals had designs painted on their skulls with red ochre (figure 14.5). Three of these were men who had been killed by hammer blows to the head. Hammer wounds did not appear in kurgan cemetery I. Kurgan cemetery II was used for a distinct social group or status, perhaps warriors. But similar red designs were painted on the head of one male in kurgan cemetery I, in a peripheral grave under kurgan 12, grave 2, in the southwestern sector; similar designs were painted on the skulls of some Yamnaya graves at the Popilnaya kurgan cemetery on the South Bug.[16]

The flat graves at Usatovo were shallow pits covered by large flat stones, usually containing a body in a contracted position on the left side, oriented east or northeast. The peripheral graves under the kurgans had the same form as flat graves, and two cemeteries contained just flat graves, without

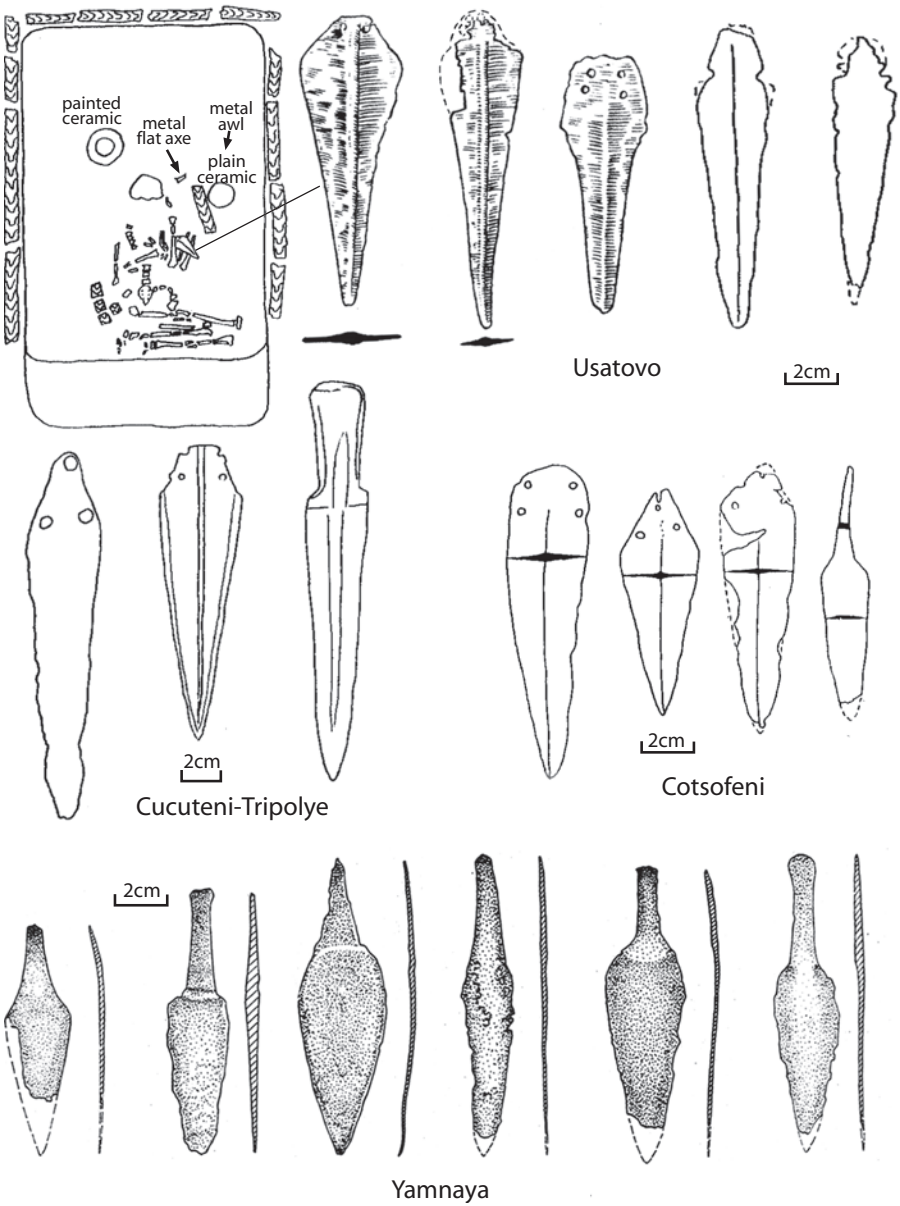


Figure 14.4 Daggers of the EBA, 3300–2800 BCE. *Top row*: Usatovo kurgan cemetery I, kurgan 3, central grave, with midrib dagger; kurgan 1, midrib dagger; Sukleya kurgan, midrib dagger; kurgan 9, lenticular-sectioned dagger; kurgan 6, lenticular-sectioned dagger. *Middle row left*: Werteba Cave, upper Dniester, riveted dagger; Cucuteni B, Moldova, midrib dagger; Werteba Cave, bone dagger carved in the shape of a metal dagger. *Middle row right*, Cotsofeni daggers from the lower Danube valley. *Bottom row*, Yamnaya tanged daggers from the North Pontic steppes. After Anthony 1996; and Nechitailo 1991.

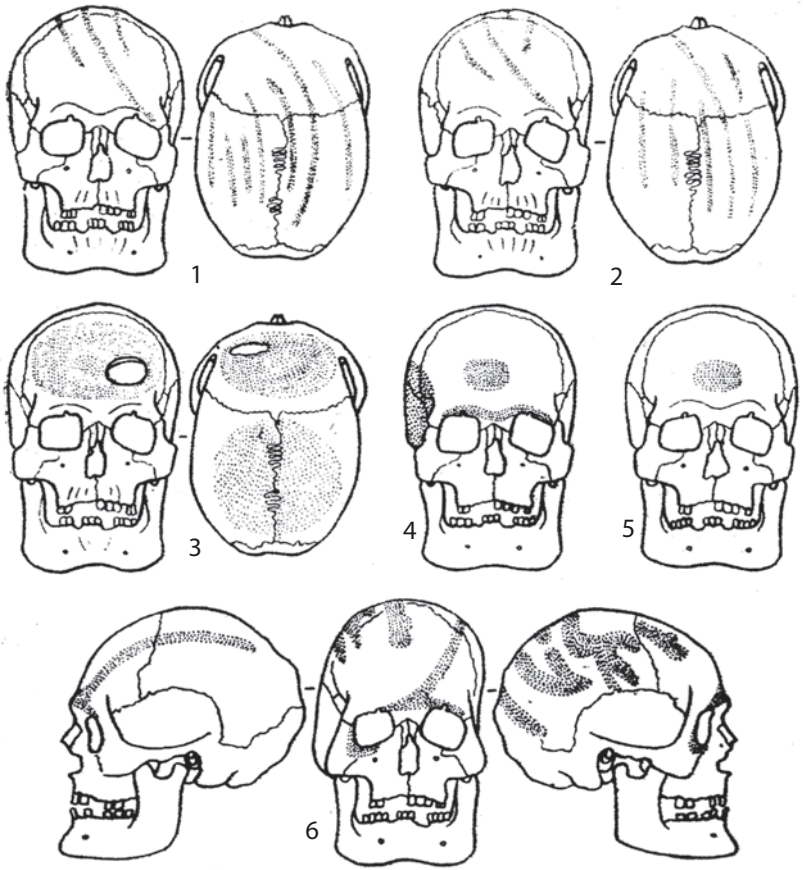


Figure 14.5 Skulls painted with red ochre designs from the Usatovo and Mayaki cemeteries. Number 3 was killed by the hammer wound in the forehead. After Zin'kovskii and Petrenko 1987.

kurgans (thirty-six graves in flat cemetery I; thirty graves in flat cemetery II). Whereas just seven of the fifty-one graves (14%) in the kurgan cemeteries contained children, and two of these were buried with adults, twelve of the thirty-six graves (33%) in flat cemetery I contained children. Most of the adults in the flat graves were males, with a few old females. Each grave had from one to five pottery vessels but no metal, and only 4% of the pottery was fine painted ware. They did have ceramic female figurines

(principally in children's graves), flint tools, and projectile points, and fifteen skulls were painted in the same red ochre designs as those in the kurgan graves, but none had hammer wounds.

Kurgan cemetery I was reserved for leaders who displayed arsenical bronze riveted daggers and axes and wore silver rings but suffered no hammer wounds, perhaps patrons. Kurgan cemetery II honored old men, old women, young men, and children who did not have bronze daggers or metal weapons of any kind but sometimes died of hammer wounds to the head, perhaps those who died in battle and their close kin. The flat cemeteries contained many children, a few women, and old men who had plain pots and no daggers. All were connected to one another, and to external Yamnaya groups, by linear red designs painted on some skulls. The social organization of Usatovo has been interpreted as a male-centered military aristocracy, but it could also be read as remarkably like the tripartite social system suggested by Dumezil for the speakers of Proto-Indo-European, with priest-patrons (kurgan cemetery I), warriors (kurgan cemetery II), and ordinary producers (flat graves).

The Ancestor of English: The Origin and Spread of the Usatovo Dialect

The Usatovo culture was exclusively a steppe culture, and it appeared simultaneously with the rapid expansion of the Yamnaya horizon across the steppes, after the permanent dissolution of many Tripolye towns near the steppe border. Usatovo is often interpreted as a Tripolye population that migrated into the steppes, but Tripolye farmers had never done this during the previous two thousand years, and in neighboring valleys (the lower Siret, lower Prut, the entire South Bug valley, the Ros') they were retreating from the steppe border, not advancing across it. The funeral customs of Usatovo were starkly hierarchical, with a typical steppe kurgan ritual reserved for the elite. Although Usatovo ceramics were almost entirely borrowed from and made by Tripolye potters, even here there were similarities with Yamnaya ceramics in some cord-impressed ornament on the coarse wares. Usatovo is not counted as a part of the Yamnaya horizon because of its close integration with the Tripolye culture, but it appeared at the same time as the Yamnaya horizon, in the steppes, with kurgan funeral rituals that repeated many old steppe customs; sacrifices and broken pottery also were placed on the southwestern side of the kurgan in Yamnaya and even Afanasievo graves. The painted skulls were also repeated in Yamnaya graves. Usatovo probably began with steppe clans connected with the early

Yamnaya horizon who were able to impose a patron-client relationship on Tripolye farming villages because of the protection that client status offered in a time of great insecurity. The pastoral patrons quickly became closely integrated with the farmers.

Tripolye clients of the Usatovo chiefs could have been the agents through which the Usatovo language spread northward into central Europe. After a few generations of clientage, the people of the upper Dniester might have wanted to acquire their own clients. Nested hierarchies in which clients are themselves patrons of other clients are characteristic of the growth of patron-client systems. The archaeological evidence for some kind of northward spread of people or political relationships consists of pottery exchanges between Tripolye sites on the upper Dniester and late TRB (Trichterbecker or Funnel-Beaker culture) sites in southeastern Poland. Substantial quantities of fine painted Tripolye C2 pottery of the Brynzeny III type occurred in southern Polish settlements of the late TRB culture dated 3000–2800 BCE, importantly at Gródek Nadbuźny and Zimne, and late TRB pots were imported into the Tripolye C2 sites of Zhvanets and Brynzeny III.[17] Zhvanets was a production center for fine Tripolye pottery, with seven large two-chambered kilns, a possible source of local economic and political prestige. Conflict accompanied or alternated with exchange, since both the Polish sites and the Tripolye C2 sites closest to southeastern Poland were heavily fortified. The Tripolye C2 settlement of Kosteshti IV had a stone wall 6 m wide and a fortification ditch 5 m wide, and Zhvanets had three lines of fortification walls faced with stone, and both were located on high promontories.[18] Tripolye C2 community leaders whose parents had already adopted the Usatovo language could have attempted to extend to the late TRB communities of southern Poland the same kind of patron-client relationships that the Usatovo chiefs had offered them, an extension that might well have been encouraged or even backed up by paramount Usatovo chiefs.

If I had to hazard a guess I would say that this was how the Proto-Indo-European dialects that would ultimately form the root of Pre-Germanic first became established in central Europe: they spread up the Dniester from the Usatovo culture through a nested series of patrons and clients, and eventually were spoken in some of the late TRB communities between the Dniester and the Vistula. These late TRB communities later evolved into early Corded Ware communities, and it was the Corded Ware horizon (see below) that provided the medium through which the Pre-Germanic dialects spread over a wider area.

The Yamnaya Migration up the Danube Valley

About 3100 BCE, during the initial rapid spread of the Yamnaya horizon across the Pontic-Caspian steppes, and while the Usatovo culture was still in its early phase, Yamnaya herders began to move through the steppes past Usatovo and into the lower Danube valley. The initial groups were followed by a regular stream of people that continued for perhaps three hundred years, between 3100 and 2800 BCE.[19] The passage through the Usatovo chiefdoms probably was managed through guest-host relationships. The migrants did not claim any Usatovo territory—at least they did not create their own cemeteries there. Instead, they kept going into the Danube valley, a minimum distance of 600–800 km from where they began in the steppes east of Usatovo—in the South Bug valley and farther east. The largest number of Yamnaya migrants ended up in eastern Hungary, an amazing distance (800–1,300 km depending on the route taken). This was a major, sustained population movement, and, like all such movements, it must have been preceded by scouts who collected information while on some other kind of business, possibly horse trading. The scouts knew just a few areas, and these became the targets of the migrants.[20]

The Yamnaya migrations into the Danube valley were targeted toward at least five specific destinations (see figure 14.1). One cluster of Yamnaya kurgan cemeteries, probably the earliest, appeared on the elevated plain northwest of Varna bay in Bulgaria (kurgan cemeteries at Plachidol, Madara, and other nearby places). This cluster overlooked the fortified coastal settlement at Ezerovo, an important local Early Bronze Age center. The second cluster of kurgan cemeteries appeared in the Balkan uplands 200 km to the southwest (the Kovachevo and Troyanovo cemeteries). They overlooked a fertile plain between the Balkan peaks and the Maritsa River, where many old tells such as Ezero and Mihailich had just been reoccupied and fortified. The third target was 300 km farther up the Danube valley in northwestern Bulgaria (Tarnava), on low ridges overlooking the broad plain of the Danube. These three widely separated clusters in Bulgaria contained at least seventeen Yamnaya cemeteries, each with five to twenty kurgans. Across the Danube and just 100 km west of the northwestern Bulgarian cluster, a larger group of kurgan cemeteries appeared in southwestern Romania, where at least a hundred Yamnaya kurgans dotted the low plains overlooking the Danube around Rast in southern Oltenia, south of Craiova. The Tarnava and Rast kurgans were in the same terrain and can be counted as one group, separated by the Danube River (and a modern international border).

Pushing westward through Cotsofeni-culture territory, Yamnaya migrants found their way over the mountains around the Iron Gates, where the Danube sweeps through a long, steep set of gorges, and into the wide plains on the Serbian side. A few kurgan groups were erected in a fourth cluster west of the Iron Gates in the plains of northern Serbia (Jabuka). Finally, the fifth and largest group of kurgans appeared in the eastern Hungarian plains north of the Körös and east of the Tisza rivers.[21] The number of kurgans raised in the east Hungarian cluster is unknown, but Ecsedy estimated at least three thousand, spread over about 6000–8000 km^2. Archaeologists have mapped forty-five Yamnaya cemeteries, each of which contained five to thirty-five kurgans. One kurgan at Kétegyháza was built on top of the remains of a Cernavoda III settlement. The east Hungarian Yamnaya population seems to have been the largest that accumulated in any of the five target areas. Some of them wore leather caps, silver temple rings, and dog-canine-tooth necklaces in their graves.

The first three clusters near Varna, Ezero, and the Cotsofeni territory seem to have been chosen for their proximity to settled areas, perhaps by ambitious men seeking clients, whereas the last two clusters seem to have been chosen for their pastures, perhaps by others who wanted to increase their herds. In all places the Yamnaya funeral ritual was similar, and it was not native but intrusive. Kurgans were 15–60 m in diameter. The grave pit floors often had traces of organic mats, some painted with designs, as in the steppes (figure 14.6). The central graves contained an adult (80% are males in Bulgaria) buried supine with raised knees (some were contracted on the side), with the head oriented toward the west (or, in Bulgaria, sometimes to the south). Most had Proto-Europoid skull-face shapes, like the predominant element in the Pontic steppe Yamnaya population. Most graves contained no grave goods. A few contained a flint tool, beads of pierced dog teeth, or a temple ring with one and a half twists of copper, silver, or gold. In Hungary a lump of red ochre was placed near the head; in Romania and Bulgaria, in addition to a lump placed near the head, red ochre covered the floor or stained the skull, feet, legs, and hands. At Kétegyháza, where there was no local source of hematite from which to make red ochre, a lump of clay was painted red to imitate true ochre, a clear indication of a cult practice imported from a region with different minerals. One grave at Gurbaneşti in Romania contained a clay vessel with carbonized hemp seeds, the earliest evidence for the burning of *Cannabis*. Sherrat suggested that *Cannabis* smoking was introduced to the Danube valley by the Yamnaya immigrants. In northeast Bulgaria at Plachidol, one Yamnaya grave (k. 1, gr. 1) had four wooden wagon wheels placed at the corners

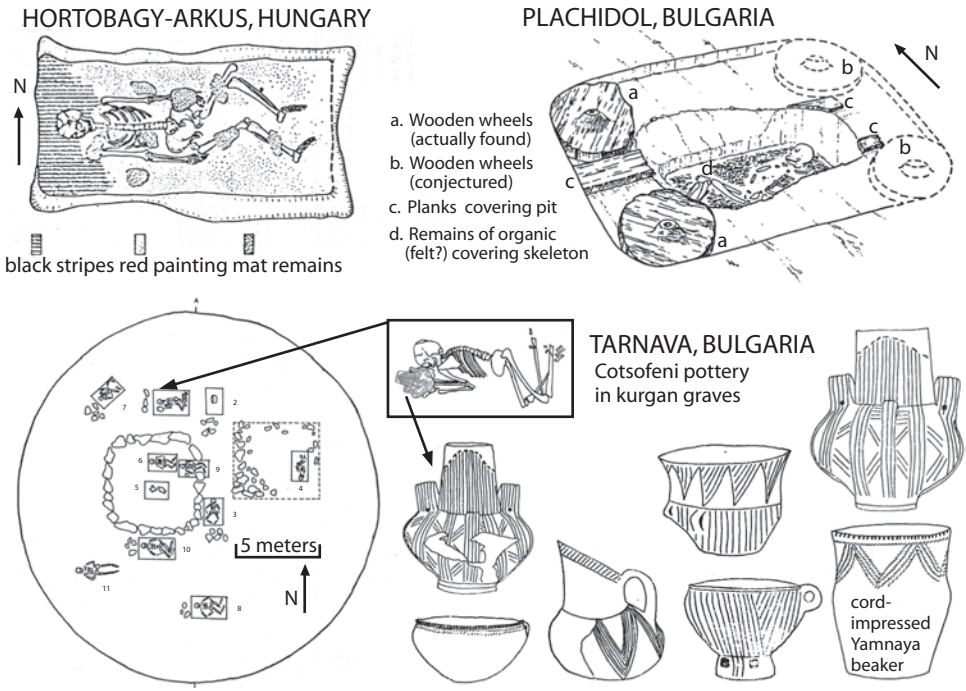


Figure 14.6 Kurgan graves and ceramics from Bulgaria and eastern Hungary associated with the Yamnaya migration about 3000 BCE. The graves under Tarnava kurgan 1 in northwestern Bulgaria contained principally Cotsofeni pottery, but one grave under kurgan 2 contained a typical Yamnaya beaker. After Ecsedy 1979; Panaiotov 1989; and Sherratt 1986.

just as in many wagon graves in the steppes (figure 14.6). Cemeteries in this cluster near Varna contained anthropomorphic stone stelae like the Yamnaya and Kemi-Oba stelae in the steppes.

The source of the Yamnaya migration is commonly said to have been in the lower Dniester steppes, where Yamnaya graves also were consistently oriented to the west. But the lower Dniester steppes were occupied by the Usatovo culture between 3100 and 2800 BCE. Yamnaya graves in the Dniester steppes are consistently stratified above Usatovo graves, and most of them are radiocarbon dated between 2800 and 2400 BCE, so most of them postdated the Danube valley migration. The Dniester variant of Yamnaya might instead represent a return migration *from* the Danube valley back into the steppes, since almost all significant migration streams

produce a flowback of return migration. The Yamnaya wagon graves (Kholmskoe, Vishnevoe, and others) located in the steppes just north of the Danube delta are stratified above Usatovo graves, so probably were made later than the Yamnaya wagon grave in Bulgaria at Plachidol. The Danube valley migration probably originated east of the Usatovo area, in the steppes around the South Bug, Ingul, and Dnieper valleys. Western-oriented Yamnaya graves are found as a minor variant in Yamnaya cemeteries in the Dnieper-South Bug region. The oldest dated Yamnaya wagon grave (ca. 3000 BCE) at Bal'ki (k. 1 gr. 57) on the lower Dnieper was oriented to the west.[22]

What started this movement? A popular candidate has been a shortage of pasture in the steppes, but I find it hard to believe that there was any absolute shortage of pasture during the initial expansion of a new wagon-based economy. If the migration into the Danube valley began with raiding that then developed into a migration, we have to ask what caused the raiding. In the discussion of the causes of steppe warfare, in chapter 11, I mentioned the Proto-Indo-European *Trito* myth, which legitimized the cattle raid; the likelihood that competition between high-status families would lead to escalating bride-prices calculated in livestock, which might *create* a consumer shortage of animals and pastures in places where no absolute shortage existed; and the Proto-Indo-European initiation ritual that sent all young men out raiding.

The institution of the *Männerbünde* or *korios*, the warrior brotherhood of young men bound by oath to one another and to their ancestors during a ritually mandated raid, has been reconstructed as a central part of Proto-Indo-European initiation rituals.[23] One material trait linked to these ceremonies was the dog or wolf; the young initiates were symbolized by the dog or wolf and in some Indo-European traditions wore dog or wolf skins during their initiation. The canine teeth of dogs were frequently worn as pendants in Yamnaya graves in the western Pontic steppes, particularly in the Ingul valley, one probable region of origin for the Yamnaya migration.[24] A second material trait linked to the *korios* was the belt. The *korios* raiders wore a belt and little else (like the warrior figures in some later Germanic and Celtic art, e.g., the Anglo-Saxon Finglesham belt buckle). The initiates on a raid wore two belts, their leader one, symbolizing that the leader was bound by a single oath to the god of war/ancestors, and the initiates were double-bound to the god/ancestors and to the leader. Stone anthropomorphic stelae were erected over hundreds of Yamnaya graves between the Ingul and the South Bug valleys, in the same region where

dog-canine pendants were common. The most common clothing element carved or painted on the stelae was a belt, often with an axe or a pair of sandals attached to it. Usually it was a single belt, perhaps symbolizing the leader of a raid. That stone stelae with belts were erected also by the Yamnaya migrants in Bulgaria near Plachidol provides another link between the migrants and the symbolism of the *korios* raid.[25]

There must also have been other pulls, positive rumors about opportunities in the Danube valley, because the migrants did not just raid but decided to live in the target region. These attractions are difficult to identify now, although the opportunity to acquire clients might have been a powerful pull.

Language Shift and the Yamnaya Migration

The Yamnaya migration occurred at a time of great fluidity and change throughout southeastern Europe. In Bulgaria, the tells in the upland plains of the Balkans at Ezero, Yunatsite, and Dubene-Sarovka were reoccupied about 3300–3200 BCE at the beginning of the Early Bronze Age (EBI) after almost a millennium of abandonment. The reoccupied tell settlements were fortified with substantial stone walls or ditches and palisades. One target of the Yamnaya migration was precisely this region. Yamnaya kurgan cemeteries could be seen for many miles; visually, they dominated the landscapes around them. In contrast, local cemeteries in the lower Danube valley and the Balkans, like the EBI cemetery at the Bereket tell settlement near Stara Zagora, usually had no visible surface monuments.[26]

A series of new artifact types diffused very widely across the lower and middle Danube valleys in connection with the Yamnaya migration. Concave-based arrowheads similar to steppe arrowheads appeared in the newly occupied tell sites in Bulgaria (Ezero) and in Aegean Macedonia (Dikili–Tash IIIB). These possibly were a sign of warfare with intrusive Yamnaya raiding groups. A new ceramic style spread across the entire middle and lower Danube, including the Morava and Struma valleys leading to Greece and the Aegean, and in Aegean Macedonia. The defining trait of this style was cord-impressed pottery encrusted with white paint.[27] White-encrusted, cord-impressed pottery appeared also in the Yamnaya graves. The Yamnaya immigrants could, perhaps, have played a role in joining one region to another and helping to spread this new style. But the pottery styles they spread were not their own. The Yamnaya immigrants usually deposited no pottery in their graves, and, when they did, they borrowed local ceramic styles, so their ceramic footprint is almost invisible.

Many Yamnaya kurgans in the lower Danube valley contained Cotsofeni ceramic vessels. The Cotsofeni culture evolved in mountain refuges in western Romania and Transylvania beginning about 3500 BCE, probably from Old European roots. Cotsofeni settlements were small agricultural hamlets of a few houses. Their owners cremated their dead and buried the ashes in flat graves, some of which contained riveted daggers like Usatovo daggers.[28] When Yamnaya herders reached the plains around Craiova, they probably realized that control over this region was the key to movement up and down the Danube valley through the mountain passes around the Iron Gates. They established alliances or patron-client contracts with the leaders of the Cotsofeni communities, through which they obtained Cotsofeni pottery (and probably other less visible Cotsofeni products), as Usatovo patrons obtained Tripolye pottery. Cotsofeni pottery then was carried into other regions by Yamnaya people. A Cotsofeni vessel was found in a Yamnaya kurgan as far afield as Tarakliya, Moldova, probably in the grave of a returned migrant. In northwestern Bulgaria, kurgan 1 at Tarnava (figure 14.6) contained an unusual concentration of six Cotsofeni pots in six Yamnaya graves.[29] Most of the Yamnaya kurgans in Bulgaria contained no ceramics, but, when they did, they were often Cotsofeni ceramics.

The situation of the Yamnaya chiefs might have been similar to that described by Barth in his account of the Yusufai Pathan invasion of the Swat valley in Pakistan in the sixteenth century. The invader, "faced with the sea of politically undifferentiated villagers proceeds to organize a central island of authority, and from this island he attempts to exercise authority over the surrounding sea. Other landowners establish similar islands, some with overlapping spheres of influence, others having unadministered gaps between them."[30] The mechanism through which the immigrant chief made himself indispensable to the villagers and tied them to him was the creation of a contract in which he guaranteed protection, hospitality, and the recognition of the villagers' rights to agricultural production in exchange for their loyalty, service, and best land. Yamnaya herding groups needed more land for pastures than did farming groups of equal population, and this could have provided a rationale for the Yamnaya people to claim use-rights over most of the available pasture lands and the migration routes that linked them, eventually creating a web of landownership that covered much of southeastern Europe. The reestablishment of tell settlements in the Balkans might have been part of a newly bifurcated economy in which farmers settled on fortified tells and increased grain production in response to reductions in their pastures, taken by their Yamnaya patrons.

The widely separated pockets of Yamnaya settlement in the lower Danube valley and the Balkans established speakers of late Proto-Indo-European dialects in scattered islands where, if they remained isolated from one another, they could have differentiated over centuries into various Indo-European languages. The many thousands of Yamnaya kurgans in eastern Hungary suggest a more continuous occupation of the landscape by a larger population of immigrants, one that could have acquired power and prestige partly just through its numerical weight. This regional group could have spawned both pre-Italic and pre-Celtic. Bell Beaker sites of the Csepel type around Budapest, west of the Yamnaya settlement region, are dated about 2800–2600 BCE. They could have been a bridge between Yamnaya on their east and Austria/Southern Germany to their west, through which Yamnaya dialects spread from Hungary into Austria and Bavaria, where they later developed into Proto-Celtic.[31] Pre-Italic could have developed among the dialects that remained in Hungary, ultimately spreading into Italy through the Urnfield and Villanovan cultures. Eric Hamp and others have revived the argument that Italic and Celtic shared a common parent, so a single migration stream could have contained dialects that later were ancestral to both.[32] Archaeologically, however, the Yamnaya immigrants here, as elsewhere, left no lasting material impression except their kurgans.

Yamnaya Contacts with the Corded Ware Horizon

The Corded Ware horizon is often invoked as the archaeological manifestation of the cultures that introduced the northern Indo-European languages to Europe: Germanic, Baltic, and Slavic. The Corded Ware horizon spread across most of northern Europe, from Ukraine to Belgium, after 3000 BCE, with the initial rapid spread happening mainly between 2900 and 2700 BCE. The defining traits of the Corded Ware horizon were a pastoral, mobile economy that resulted in the near disappearance of settlement sites (much like Yamnaya in the steppes), the almost universal adoption of funeral rituals involving single graves under mounds (like Yamnaya), the diffusion of stone hammer-axes probably derived from Polish TRB styles, and the spread of a drinking culture linked to particular kinds of cord-decorated cups and beakers, many of which had local stylistic prototypes in variants of TRB ceramics. The material culture of the Corded Ware horizon was mostly native to northern Europe, but the underlying behaviors were very similar to those of the Yamnaya horizon—the broad adoption of a herding economy based on mobility (using ox-drawn wagons and horses), and a corresponding rise in the ritual prestige

and value of livestock.[33] The economy and political structure of the Corded Ware horizon certainly was influenced by what had emerged earlier in the steppes, and, as I just argued, some Corded Ware groups in southeastern Poland might have evolved from Indo-European–speaking late TRB societies through connections with Usatovo and late Tripolye. The Corded Ware horizon established the material foundation for the evolution of most of the Bronze Age cultures of the northern European plain, so most discussions of Germanic, Baltic, or Slavic origins look back to the Corded Ware horizon.

The Yamnaya and Corded Ware horizons bordered each other in the hills between Lvov and Ivano-Frankovsk, Ukraine, in the upper Dniester piedmont around 2800–2600 BCE (see figure 14.1). At that time early Corded Ware cemeteries were confined to the uppermost headwaters of the Dniester west of Lvov, the same territory that had earlier been occupied by the late TRB communities infiltrated by late Tripolye groups. If Corded Ware societies in this region evolved from local late TRB origins, as many believe, they might already have spoken an Indo-European language. Between 2700 and 2600 BCE Corded Ware and late Yamnaya herders met each other on the upper Dniester over cups of mead or beer.[34] This meeting was another opportunity for language shift, and it is possible that Pre-Germanic dialects either originated here or were enriched by this additional contact.

The wide-ranging pattern of interaction that the Corded Ware horizon inaugurated across northern Europe provided an optimal medium for language spread. Late Proto-Indo-European languages penetrated the eastern end of this medium, either through the incorporation of Indo-European dialects in the TRB base population before the Corded Ware horizon evolved, or through Corded Ware–Yamnaya contacts later, or both. Indo-European speech probably was emulated because the chiefs who spoke it had larger herds of cattle and sheep and more horses than could be raised in northern Europe, and they had a politico-religious culture already adapted to territorial expansion. The dialects that were ancestral to Germanic probably were initially adopted in a small territory between the Dniester and the Vistula and then spread slowly. As we will see in the next chapter, Slavic and Baltic probably evolved from dialects spoken on the middle Dnieper.[35]

The Origins of Greek

The only major post-Anatolian branch that is difficult to derive from the steppes is Greek. One reason for this is chronological: Pre-Greek probably

split away from a later set of developing Indo-European dialects and languages, not from Proto-Indo-European itself. Greek shared traits with Armenian and Phrygian, both of which probably descended from languages spoken in southeastern Europe before 1200 BCE, so Greek shared a common background with some southeastern European languages that might have evolved from the speech of the Yamnaya immigrants in Bulgaria. As noted in chapter 3, Pre-Greek also shared many traits with pre–Indo-Iranian. This linguistic evidence suggests that Pre-Greek should have been spoken on the eastern border of southeastern Europe, where it could have shared some traits with Pre-Armenian and Pre-Phrygian on the west and pre–Indo-Iranian on the east. The early western Catacomb culture would fit these requirements (see figure 15.5), as it was in touch with southeastern Europe on one side and with the developing Indo-Iranian world of the east on the other. But it is impossible, as far as I know, to identify a Catacomb-culture migration that moved directly from the western steppes into Greece.

A number of artifact types and customs connect the Mycenaean Shaft Grave princes, the first definite Greek speakers at about 1650 BCE, with steppe or southeastern European cultures. These parallels included specific types of cheekpieces for chariot horses, specific types of socketed spearheads, and even the custom of making masks for the dead, which was common on the Ingul River during the late Catacomb culture, between about 2500 and 2000 BCE. It is very difficult, however, to define the specific source of the migration stream that brought the Shaft Grave princes into Greece. The people who imported Greek or Proto-Greek to Greece might have moved several times, perhaps by sea, from the western Pontic steppes to southeastern Europe to western Anatolia to Greece, making their trail hard to find. The EHII/III transition about 2400–2200 BCE has long been seen as a time of radical change in Greece when new people might have arrived, but the resolution of this problem is outside the scope of this book.[36]

Conclusion: The Early Western Indo-European Languages Disperse

There was no Indo-European invasion of Europe. The spread of the Usatovo dialect up the Dniester valley, if it happened as I have suggested, was quite different from the Yamnaya migration into the Danube valley. But even that migration was not a coordinated military invasion. Instead, a succession of Pontic steppe tribal segments fissioned from their home clans

and moved toward what they perceived as places with good pastures and opportunities for acquiring clients. The migrating Yamnaya chiefs then organized islands of authority and used their ritual and political institutions to establish control over the lands they appropriated for their herds, which required granting legal status to the local populations nearby, under patron-client contracts. Western Indo-European languages might well have remained confined to scattered islands across eastern and central Europe until after 2000 BCE, as Mallory has suggested.[37] Nevertheless, the movements into the East Carpathians and up the Danube valley occurred in the right sequence, at the right time, and in the right directions to be connected with the detachment of Pre-Italic, Pre-Celtic, and Pre-Germanic—the branch that ultimately gave birth to English.