The Early Upper Paleolithic beyond Western Europe

EDITED BY

P. Jeffrey Brantingham,
Steven L. Kuhn,
and Kristopher W. Kerry

UNIVERSITY OF CALIFORNIA PRESS
Berkeley Los Angeles London

6

The Beginning of the Upper Paleolithic on the Russian Plain

L. B. Vishnyatsky and P. E. Nehoroshev

CHRONOLOGICAL FRAMEWORK AND GEOGRAPHICAL DISTRIBUTION OF THE RELEVANT SITES

The period encompassing the Middle-Upper Paleolithic transition broadly corresponds to the Middle Valdai Megainterstadial (i.e., Middle Würm, Oxygen Isotope Stage 3; also known as the Mologa-Sheksna Interstadial). Lasting from about 55 to 25 ka, the Middle Valdai Megainterstadial separates the early (Kalinin) and late Valdai (Ostashkov) glacial stages (Zarrina 1991; Arslanov 1992). Late Middle Paleolithic sites on the Russian Plain date to the first half of the Middle Valdai Megainterstadial, whereas early Upper Paleolithic sites are known only from the second half. Assemblages older than 55 ka or younger than 25 ka are beyond the scope of this chapter.

Sites dating to the early stages of the Upper Paleolithic, as well as late Middle Paleolithic assemblages, are primarily concentrated in the southwestern and southern parts of the Russian Plain. Some early Upper Paleolithic sites are also known from the central part of the region, and a few may be found as far north as 65°, near the western foothills of the northern Ural Mountains (figure 6.1). In the west, where glaciation is thought to have been extensive, late Middle and early Upper Paleolithic assemblages are not known north of 52°. The two areas of the Russian Plain where most of the relevant sites are situated are, in the west, the Dniester basin, including adjacent parts of the upper Dnieper basin, and, in the south, the middle and lower Don basin. Single assemblages are known in the central part of the Plain (e.g., the Oka and Desna basins) and, as already mentioned, the northeast. The Crimean Peninsula, most of which belongs geographically to the Russian Plain, represents a very specific cultural area with extremely rich Paleolithic materials (see Marks and Monigal, this volume).

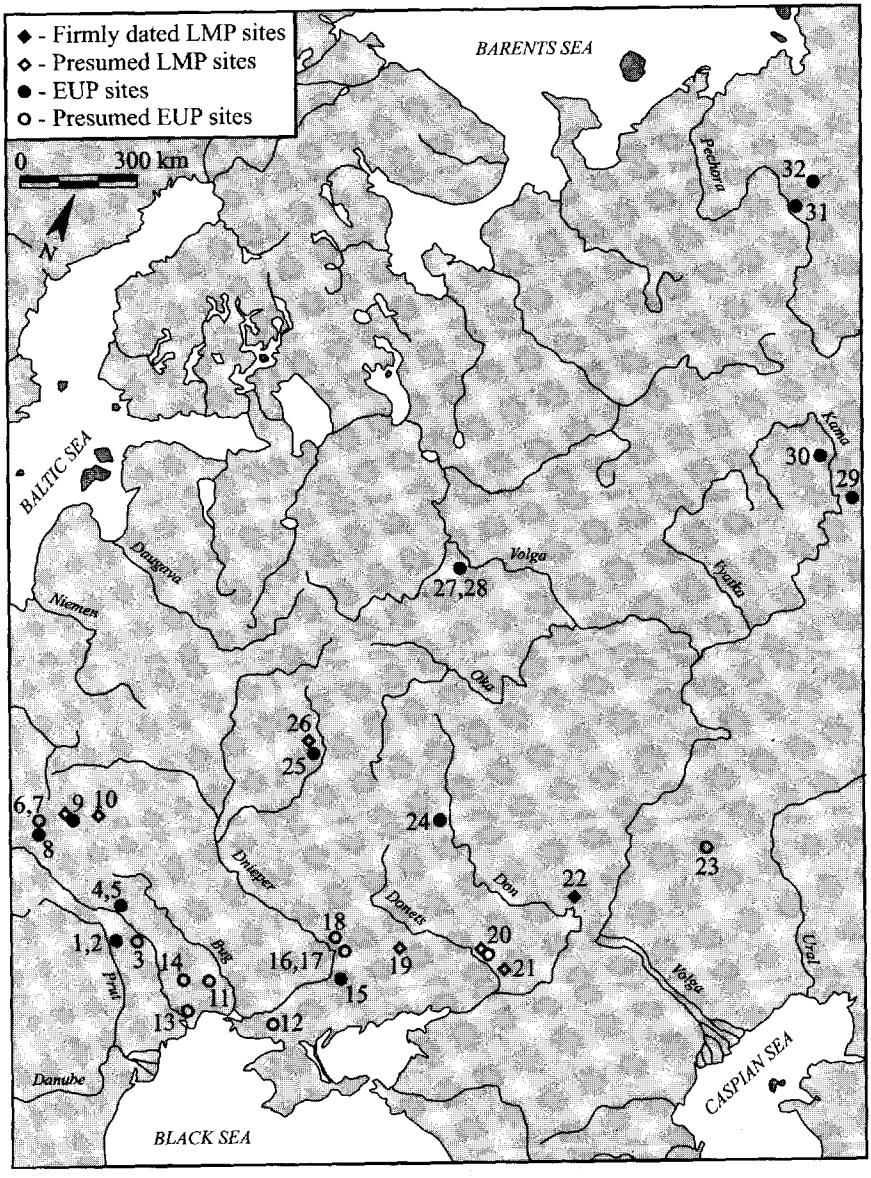

Figure 6.1. Distribution of late Middle Paleolithic (LMP) and early Upper Paleolithic (EUP) sites on the Russian Plain. *Key:* 1, Korpatch; 2, Brynzeny 1; 3, Klimautsy 1; 4, Moldova 5; 5, Korman 4; 6, Ivanychi; 7, Chervony Kamen; 8, Koulichivka; 9, Zhornov; 10, Tochilnitsa; 11, Anetovka 13; 12, Peremoga 1; 13, Zeleny Khutor; 14, Leski; 15, Mira; 16, Osokorovka; 17, Vorona 3; 18, Nenasytets; 19, Belokuzminovka; 20, Biryuchia Balka; 21, Kalitvenka; 22, Shlyakh; 23, Nepryankhino; 24, Kostenki; 25, Khotylevo 2; 26, Betovo; 27, Sungir; 28, Rusanikha; 29, Zaozerie; 30, Garchi 1; 31, Byzovaya; 32, Mamontovaya Kurya.

PALEOGEOGRAPHICAL BACKGROUND

In local stratigraphic units, the Middle Valdai Megainterstadial is correlated with the Leningrad horizon in the northwest of Russia, the Monchalovo horizon in the central part of the Russian Plain, and the Dofinovka horizon in the Ukraine. The Megainterstadial is usually divided into several warm and cold substages, the names and dates of which vary from area to area and author to author (table 6.1). Unfortunately, some of the names have been used in contradictory ways. For example, some authors have chosen the term "Kashin" to designate a cold period lasting from 42 to 39 ka (Chebotareva and Makarycheva 1982), whereas others have used the same label for a subsequent warm stage lasting from 37.5 to 34 ka (Spiridonova 1991; Zarrina 1991). The term "Grazhdanski" has been used in similarly contradictory ways to designate different substages.

To avoid any misunderstandings, we use ordinal numbers to refer to substages within the Megainterstadial, namely Middle Valdai Stages (MVS) 1–5. Most researchers agree that the Megainterstadial consisted of three relatively warm periods separated by two colder events. The climatic optimum marking the beginning of the Megainterstadial (MVS 1) may be correlated (at least in part) to the Moershoofd in western Europe. Around 40–42 ka MVS 1 was interrupted by a cold event (MVS 2), which was followed by another optimum (MVS 3) roughly coeval with the Hengelo (about 35–39 ka). The second cold period (MVS 4), having correlates in both western Europe and Siberia, ended around 32 ka. A final period of climatic amelioration (MVS 5) lasted for about 7 ka. Climate began to deteriorate around 24–25 ka, leading up to the Last Glacial Maximum. It is worthy of note that nearly all researchers agree on the chronological limits of MVS 5. To the west of the Russian Plain, MVS 5 is known variously as the Denekamp, Stillfried B, or Arcy event.

MVS 1, 3, and 5 are usually considered to represent typical interstadial conditions. Judging from available palynological data, paleolandscapes of MVS 1 were dominated by periglacial forest-steppes (with some admixture of broadleaf trees in the Dniester-Prut area), whereas MVS 3 and 5 witnessed warmer climates that resulted in an expansion of arboreal vegetation. In the Don-Oka area, particularly favorable conditions are thought to have occurred during MVS 3 (Spiridonova 1991: 185; Bolikhovskaya 1995: 188), whereas in the western Russian Plain, the maximum spread of deciduous forests is reported for MVS 5 (Bolikhovskaya 1995: 118). Of special importance for our understanding of the Middle-Upper Paleolithic transition may be a xeric phase preceding and/or partly coinciding with the beginning of MVS 3. According to Levkovskaya (1999), this phase has been traced palynologically over a vast area of temperate Eurasia from the Transcarpathians

TABLE 6.1 Major Subdivisions of the Middle Valdai Megainterstadial

	Source				
Climatic Signal	Chebotareva and Makarycheva 1982[1]	Zarrina 1991; Spiridonova 1991	Arslanov 1992	Bolikhovskaya 1995[2]	Present Chapter
Warm	Dunaevo	Dunaevo interstadial	Dunaevo interstadial	Dniester interstadial	MVS 5
	32–25	32.5–24	32–25	32–24	32–25
Cold	Shensk		Leyascieme		MVS 4
	35–32	34–32.5	36–32		35–32
Warm	Leningrad and Shapurovo[3]	Kashin	Grazhdanski interstadial	Molodova interstadial	MVS 3
	39–36	37.5–34	42.5–36	39–35	39–35
Cold	Kashin		Shapki		MVS 2
	42–39	40–37.5	45–42.5		42–39
Warm	Krasnogorsk	Grazhdanski interstadial	Krasnogorsk interstadial	Bailovo interstadial	MVS 1
	47–42	50–40	58–45	50–44	50–42

NOTE: All ages given in ka. Missing entries signify that authors did not formally classify or provide ages.
[1]Chart is based on materials from the northern Russian Plain only (glacial area).
[2]Chart mainly reflects the situation in the southwest Russian Plain (Dniester and Prut basins).
[3]These two relatively warm periods are supposed to have been separated by a short-term fall in temperature designated as the Surozh phase.

to southern Siberia (including the Caucasus and the Russian Plain) and can be dated to 38–39 ka.

To conclude this very brief survey, we note that paleomagnetic excursions have been recorded in both the lower and uppermost strata of Megainterstadial deposits on the Russian Plain. The Kargopolovo excursion is dated to around 42–45 ka and the Mono excursion to around 24–25 ka. The presence of these excursions in the stratigraphic sections at several archaeological sites (e.g., Molodova 5, Kostenki, Shlyakh) provides both independent age estimates and points of correlation between sites.

EARLY UPPER PALEOLITHIC INDUSTRIES

Megainterstadial Upper Paleolithic industries from the Russian Plain are divided into two groups depending on their age (table 6.2). Those older than

MVS 5 (older than 32 ka) are designated as initial Upper Paleolithic and those postdating this boundary are combined under the label "late early Upper Paleolithic." It should be stressed that this division does not necessarily mean that the late early Upper Paleolithic industries were more developed or more advanced than those attributed to the initial Upper Paleolithic.

Initial Upper Paleolithic

On the Russian Plain, no more than a dozen archaeologically representative assemblages can be confidently dated to the initial Upper Paleolithic. The majority of these are concentrated within the borders of a small rural district (Kostenki) on the middle Don. One of the most conspicuous features of the initial Upper Paleolithic on the Russian Plain is its cultural diversity. Indeed, assemblages predating 32 ka have been assigned to several different archaeological cultures, based on the obvious technological and typological originality of the industries. Another interesting feature, making the initial Upper Paleolithic on the Russian Plain distinct from the rest of Europe, is the complete absence of the Aurignacian.

The earliest of the Kostenki assemblages are believed be older than 32 ka (table 6.2). This age assignment is supported both by a number of conventional and AMS radiocarbon dates (Sinitsyn et al. 1997) and by the stratigraphic position of some cultural layers within a fossil soil (lower humic bed) below a well-expressed volcanic ash horizon. The ash horizon is connected with one of the eruptions of the Phlegrean Fields in Italy and may be as old as 35–38 ka (Sinitsyn 1996: 279; Hoffecker 1999: 137). It would appear that the first Upper Paleolithic industries appeared along the middle Don no later than MVS 3. Some of the cultural layers found in the upper humic bed at the Kostenki sites, above the ash horizon, may well have ages in excess of 30 ka. The lowermost part of this fossil soil has been dated to about 32 ka, which supports the hypothesis that this soil formed under the warm conditions of MVS 5.

Most of the initial Upper Paleolithic sites from Kostenki are usually classified into two separate archaeological cultures, the Streletskian and the Spitsynian. In addition, there are several early assemblages of unclear affiliation, including layer IVb at Kostenki 14, which contains an extremely well-developed bone industry having no parallels among contemporary sites (Sinitsyn 2000).[1] The Streletskian is distinguished by the presence of bifacially worked triangular points with concave (figure 6.2: 5, 8, 9, 12) or, less frequently, straight bases (Rogachev 1957; Rogachev and Anikovich 1984: 179–81; Anikovich 1992: 226–31, 2000; Bradley et al. 1995). Both initial

1. Throughout this chapter, sites are designated by Arabic numerals and layers/assemblages by Roman numerals (e.g., Kostenki 17/II).

TABLE 6.2 Provisional Chronology for Early Upper Paleolithic Assemblages on the Russian Plain

Age (ka)	Stage	Location of Assemblage: West and Southwest	South	Central	Northeast
24			*Biryuchia Balka*	Khotylevo	
		Korpatch IV	*2/III*	Sungir	
	Late early	Koulichivka II		Rusanikha	
26		Brynzeny III			
	Upper	Korman 4/VII	Kostenki 17/I		
		Molodova 5/	Kostenki 16		
28	Paleolithic	VIII	Kostenki 8/II		
		Ivanychi	Kostenki 1/III		Garchi 1
		Zhornov IIa			Byzovaya
30					
		Molodova 5/	Kostenki 15		
		IX–X	Kostenki 14/II		
32			Kostenki 14/III		
		Mira II			
		Kulychivka III	*Biryuchia Balka*		Zaozerie
34			*Iv/VII*		
	Initial				
36	Upper		Kostenki 1/V		
		Korman 4/X	Kostenki 12/II		
	Paleolithic	Molodova 5/	Kostenki 17/II		
38		Xa, Xb	Kostenki 12/III		
			Kostenki 14/IVb		
40					

NOTES: Based on stratigraphic positions and radiocarbon determinations (sites with no absolute dates are shown in italics). As in the text, Arabic and Roman numerals are used to designate sites and cultural layers, respectively.

and late early Upper Paleolithic Streletskian assemblages also include bifacial points with round bases (figure 6.2: 10, 11), short sub-triangular end scrapers with or without ventral thinning (figure 6.2: 1–4), chisel-like tools including typical *pièces esquillées* (figure 6.2: 16), Mousterian-like retouched points, and simple, convergent, and angular side scrapers (figure 6.2: 17, 18). Most cores are flat, and prismatic forms are extremely rare. Flakes strongly predominate over blades, and the majority of tools are made on

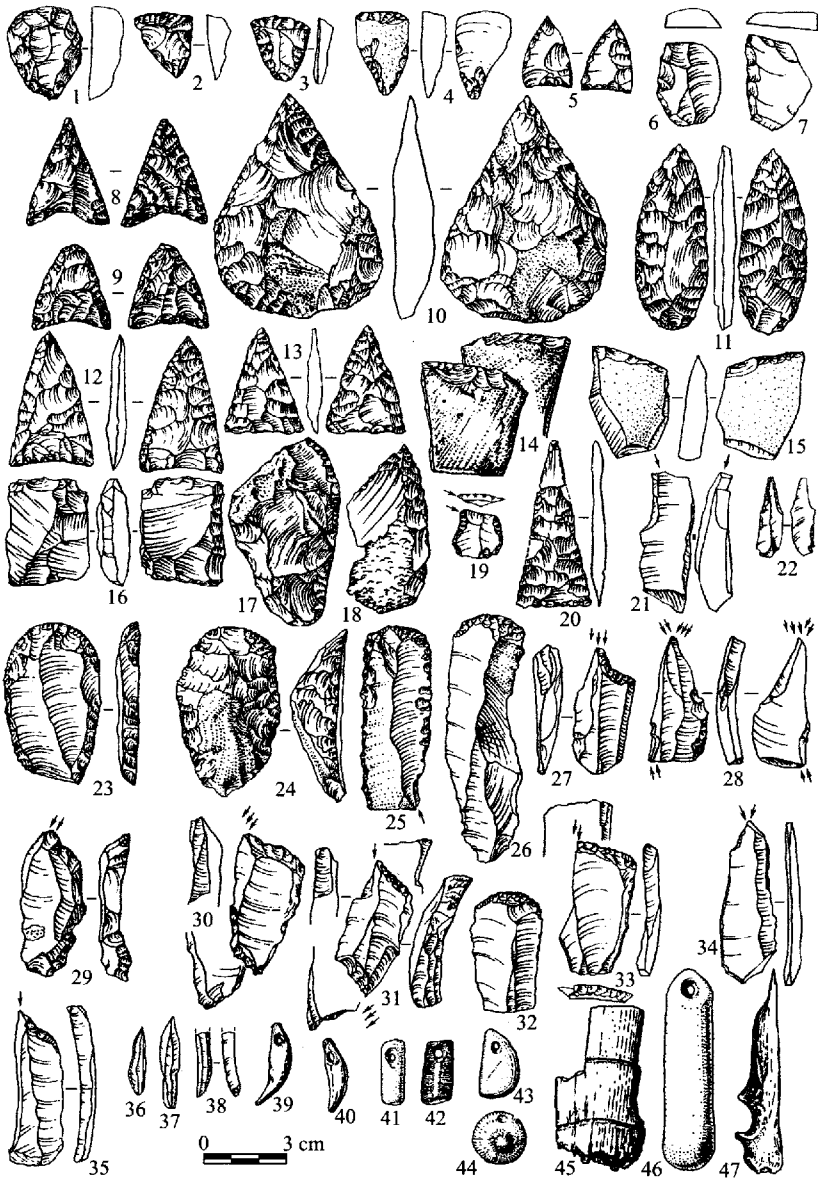

Figure 6.2. Artifacts associated with the Streletskayan (1–22) and Spitsynian (23–47) cultures. Kostenki 12/III (1, 10, 14, 17); Kostenki 1/V (3–7, 12, 15, 19, 22); Kostenki 6 (8, 9); Sungir (11, 13, 16, 18, 20, 21); Kostenki 17/II (23–47). After Rogachev and Anikovich (1984).

flakes. Overall, the Streletskian is characterized by many Middle Paleolithic features, which are perceptible not only in the earliest sites (Kostenki 12/III, Kostenki 6, Kostenki 1/V), but also in those postdating 32 ka and situated far to the north and south of Kostenki (see below). Bone tools and ornaments are absent from initial Upper Paleolithic Streletskian assemblages, although they are well represented in some late early Upper Paleolithic examples (e.g., Sungir).

The Spitsyn culture, in contrast to the Streletskian, is known only from Kostenki and only from under the ash horizon. There is one definitive assemblage representing this culture (Kostenki 17/II), and one candidate assemblage (Kostenki 12/II). The stone industry of Kostenki 17/II, containing about ten thousand items, is very distinctive against the background of contemporary Streletskian sites. At the same time, it has no peculiar tool types (*fossiles directeurs*), which would allow us to put the search for analogies on firmer ground. As a consequence, it is difficult to demonstrate convincingly that any other assemblage should be considered Spitsynian. Unlike the Streletskian, the Spitsynian at Kostenki 17/II lacks any "archaic" features. Despite its very early age, it looks to be a full-fledged Upper Paleolithic, with prismatic cores being the only form of nuclei and blades dominating among the blanks. The tools consist primarily of retouched blades, end scrapers on blades with subparallel, unretouched edges (figure 6.2: 23–26, 32), and burins (figure 6.2: 27–31, 33–35). The latter are especially numerous, comprising about half of the 330 objects with secondary retouch. Characteristic of the assemblage is a type of burin on oblique retouched truncations. There are also isolated retouched microblades (figure 6.2: 36–38). The collection includes a few bone tools (figure 6.2: 47) and about fifty pendants with perforated holes made from arctic fox canines ($n = 37$), belemnites, stone, fossil shells, and corals (figure 6.2: 39–44, 46). It has recently been proposed that the Spitsynian may be considered one of the oldest Aurignacoid industries in Europe (Anikovich 1999). We are inclined to agree with Sinitsyn (2000), however, who argues that use of the term "Aurignacian" (in any form) to describe Kostenki 17/II is unwarranted.

Beyond the Kostenki area, there are very few archaeologically representative assemblages that could be placed definitely within the initial Upper Paleolithic. Most significant of those excavated and published before 2000 is probably the industry of layer III at Koulichivka in the upper Dnieper basin (Savich 1975: 15–36, 1987; Cohen and Stepanchuk 2000; Meignen et al., this volume). The lithic assemblage consists of about 6,500 specimens, including nearly one hundred cores (both flat and prismatic) and more than two hundred tools made primarily on blades. The tool kit is dominated by various end scrapers (including carinated and nosed forms), as well as burins, retouched blades, and blades with retouched truncations. The combination of end scrapers of Aurignacian aspect with numerous Levallois

points allows us to link the industry with the Bohunician (Cohen and Stepanchuk 1999, 2000; Geneste et al. 1999; Meignen et al., this volume; Svoboda, this volume), whereas its position beneath a fossil soil attributed to Stillfried B may be indicative of an age not younger than early MVS 5. This age assignment is partly corroborated by a radiocarbon date of about 31 ka reported for layer III (Savich 1987), although there are some doubts about the provenance of the sample used for dating (Anikovich 2000; Meignen et al., this volume).

Assemblages such as Molodova 5/Xa,b and Korman 4/X (in the Dniester basin), although undoubtedly dating to MVS 3, are extremely small and difficult to classify (Chernysch 1977: 21, 1987: 25–26). In fact, it is impossible to say whether they are Middle or Upper Paleolithic. More tractable is the assemblage from Biryuchia Balka 1v/VII (the Seversky Donets River mouth), which occurs below a fossil soil of presumed MVS 5 age. This site yielded a number of unfinished, bifacially worked triangular points resembling Streletskian specimens (Matioukhine 1998). The assemblage may be as old as the earliest Kostenki sites, but more data are needed—absolute dates, palynological and paleomagnetic analyses—to substantiate this hypothesis. The same applies to the lower artifact-bearing levels at the site of Nepryakhino. This site, located just north of the lower Volga, is known for its numerous leaf-shaped bifacial tools of Szeletian appearance. It is regarded by the excavator as "final Mousterian-early Upper Paleolithic" (Zakharikov 1999). Another possible candidate to be included in the initial Upper Paleolithic sites is Mira, located in the lower Dnieper area (Cohen and Stepanchuk 2000). The lower level is thought to be older than 30 ka and has yielded a small collection of stone artifacts with several points of Gravettian aspect (V. Cohen and V. Stepanchuk, pers. comm.). Finally, a very early age has been suggested for the site of Zaozerie, on the Chusovaya River in the northeastern part of the Russian Plain near the western foothills of the Ural Mountains (58° N). A small Upper Paleolithic assemblage with end scrapers and retouched blades was found here in the upper part of a buried soil dated to 34 ka (Pavlov et al. in press). Equally old or even older finds come from Mamontovaya Kurya on the Pechora River (66° N), where the number of radiocarbon dates ranging from 34 to 38 ka exceeds the number of artifacts, represented by a bifacial fragment and a mammoth tusk preserving supposed stone tool cutmarks (Pavlov and Indrelid 2000).

Late Early Upper Paleolithic

Of the two Kostenki cultures noted above, only the Streletskian transcends the boundary separating initial and late early Upper Paleolithic. The Streletskian also transcends the geographic borders of Kostenki village during the late early Upper Paleolithic, being found not only at Kostenki 11/V and

12/Ia, but also at a number of localities to the south and north. In the south, the late early Upper Paleolithic Streletskian is represented by level III at Biryuchia Balka 2 (at the Seversky Donets River mouth), which contains a rich collection of both partially and fully finished triangular bifacial points with concave or straight bases, and short subtriangular, ventrally thinned end scrapers. However, the dating of this assemblage remains problematic; a post-MVS 5 age cannot be excluded (Matioukhine 1998: 491). Strange as it may seem, the same applies to the site of Sungir (Bader 1978), in the center of the Russian Plain, famous for its numerous ornaments and art objects and widely believed to be as old as 27–28 ka (e.g., White 1993a,b). Recent direct AMS radiocarbon dates on human bones from three burials associated with the cultural layer at the site suggest an age less than 25 ka (Pettitt and Bader 2000). Possibly coeval with Sungir is the site of Rusanikha, situated 8 km to the west in an identical geological context (Mikhailova 1985). The stone inventories of Sungir and Rusanikha are very similar, although Rusanikha contains none of the bifacial points found at Sungir (figure 6.2: 11, 13, 20) and considered a hallmark of the Streletskian. To the northeast, bifacial points and Streletskian short, subtriangular end scrapers were found at the site of Garchi 1 in the Kama basin (59° N) and are reliably dated to 28–29 ka (Pavlov and Indrelid 2000; Pavlov et al. in press). The contemporaneous assemblage from Byzovaya Cave on the Pechora River (65° N) used to be classified as Streletskian (Kanivets 1976), but subsequent work has rejected this affiliation (Anikovich 1986). The stone inventories from late early Upper Paleolithic Streletskian assemblages do not differ substantially from initial Upper Paleolithic examples, although both technologically and typologically Upper Paleolithic elements become somewhat more common. A late early Upper Paleolithic Streletskian bone industry is known only from Sungir, where it consists of diverse utilitarian (e.g., points, hoes, lances from straightened mammoth tusks), decorative (e.g., more than ten thousand beads, pendants, bracelets), and art objects (e.g., animal figurines).

Another late early Upper Paleolithic entity distinguished at Kostenki is the Gorodtsovian, or Gorodtsov culture (Rogachev and Anikovich 1984: 183–85; Sinitsyn 1996), which seems to have appeared later than the Spitsynian and Streletskian. Nonetheless, the oldest Gorodtsovian assemblages should be placed at the boundary between the initial and late early Upper Paleolithic, as is indicated by stratigraphic positions at the base of the upper humic bed (see above) and new radiocarbon dates of $30{,}080 \pm {}^{590}_{550}$ BP (GrN-21802) and $31{,}760 \pm {}^{430}_{410}$ BP (GrA-13288) obtained for Kostenki 14/III (Sinitsyn 2000). Although the affiliation of the Kostenki 14/III industry with the Gorodtsov culture is unlikely, layer III must have formed not much earlier than the overlying layer II containing a typical Gorodtsovian inventory. Despite their relatively late age, the Gorodtsovian, like the Streletskian, is characterized by a flake-oriented technology and contains many tools that

would look more natural in the Middle Paleolithic. For example, Kostenki 14/II contains many retouched artifacts of Mousterian appearance, including diverse side scrapers (figure 6.3: 16), points (figure 6.3: 15), limaces (figure 6.3: 1, 17), and knives, which altogether comprise about half of all tools (Sinitsyn 1996: 282). Such tools are also well represented at Kostenki 15 and are still recognized at Kostenki 16, which is probably the latest known Gorodtsovian assemblage. In addition, all of the abovementioned sites contain diverse collections of scaled pieces (figure 6.3: 2–8) and end scrapers (figure 6.3: 11–14), whereas burins and bifacially worked tools are either rare or absent. The Gorodtsov culture is famous for its bone inventory, consisting of many utilitarian and decorative objects, such as points (including one with a zoomorphic head), needles, pendants, and beads. Particularly characteristic are the so-called shovels with ornamented handles made on mammoth long bones or scapulae (figure 6.3: 18).

In addition to the appearance of the Gorodtsovian at Kostenki, the beginning of MVS 5 seems to have marked the spread of the Aurignacian assemblages onto different parts of the Russian Plain and neighboring areas. These assemblages, however, are few in number and isolated. One of the most representative industries is that of Kostenki 1/III. The collection consists of more than 4,500 stone and bone items. The technology is clearly blade-oriented. Tools (about two hundred) are dominated by retouched microblades (figure 6.3: 21–23), including those with alternate retouch (i.e., dorsal retouch on one edge and ventral on the opposite edge). There are also thick (carinated) end scrapers of typical Aurignacian appearance (figure 6.3: 19), end scrapers on large blades with retouched edges (figure 6.3: 25), various burins and scaled pieces, single perforators, and small side scrapers. Split-base bone points, characteristic of many Aurignacian industries, are absent; a surprising feature, given the rich bone inventory. It includes awls, polishers, a perforated pendant made from a fox canine, and engraved ivory rods and points. Of the thirteen radiocarbon dates obtained from different labs, eight are indicative of an age around 25–26 ka, whereas two dates suggest the assemblage may be as old as 32 ka. For the time being, it is impossible to choose between these two alternative age estimates, although palynological and stratigraphic data are thought to be more consistent with the earlier date (Sinitsyn et al. 1997: 29). A similar industry from Siuren 1 in the Crimea has two radiocarbon dates pointing to an age of 28–30 ka. Another late early Upper Paleolithic assemblage that can be more or less confidently identified as Aurignacian is from Ivanychi, in the western end of the Russian Plain (Pyasetsky 1988). The archaeological materials come from the upper part of what may be a buried MVS 5 soil, roughly coeval with layer IIa at the site of Zhornov dated to 27–28 ka. The collection is very small (about 150 artifacts), but the presence of a dozen of high carinated and nosed end scrapers (figure 6.3: 44–48), combined with at least one

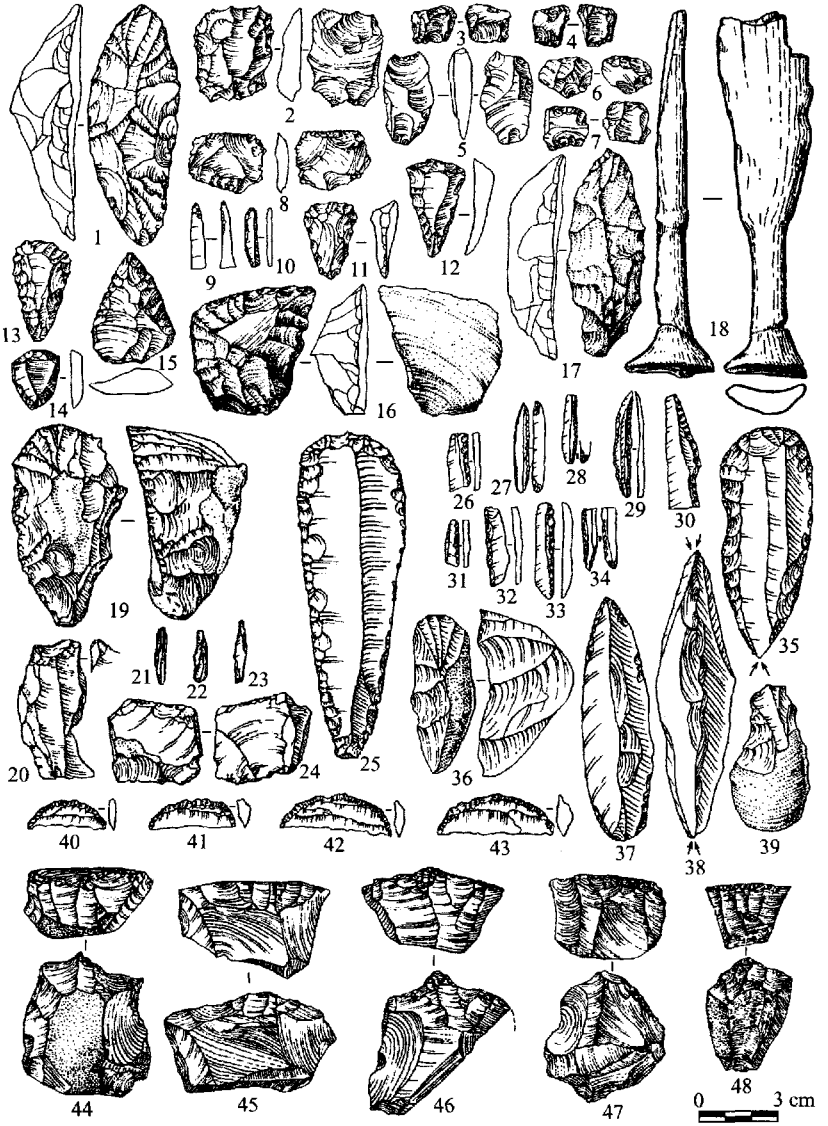

Figure 6.3. Artifacts associated with the Gorodtsov (1–18), Aurignacian (19–25, 44–48), and Molodovan cultures (26–39). Kostenki 14/II (1, 2, 8, 11, 13, 15–17); Kostenki 12/I (3, 4, 9, 10); Kostenki 15 (5–7, 12, 14, 18); Kostenki 1/III (19–25); Ivanychi (44–47); Molodova 5/VIII (26, 30, 31, 35, 36); Molodova 5/IX (27–29, 37, 38); Molodova 5/X (32–34 and 39); Korpatch, layer IV (40–43). After Rogachev and Anikovich (1984), Chernysh (1982, 1987), Pyasetsky (1988).

busked burin, makes its attribution to the Aurignacian rather plausible. The nearby site of Chervony Kamen also contains a number of Aurignacian artifact forms and is described as "developed Aurignacian" (Pyasetsky 1995). However, this site consists of surface finds only and may be mixed. Several other assemblages known from the northwestern Black Sea area are often described as early Upper Paleolithic, or Aurignacian, but consist mostly (or completely) of surface finds. These are Vorona 3 (Nuzhnyi 1994), Peremoga 1 (Olenkovsky 1991), Zeleny Khutor (Sapozhnikov 1994), Nenasytets (Smirnov 1973), and Klimautsy 1 (Borziak 1981).

A number of industrial traditions that existed in different parts of the Russian Plain during MVS 5 is often referred to as Gravettoid. The earliest of these is possibly the Molodovan culture represented primarily by materials from the multilevel site of Molodova 5 (Rogachev and Anikovich 1984: 173–74; Anikovich 1987, 1992: 214–19). The culture has a distinctive tool kit, which includes symmetrical dihedral burins on blades (figure 6.3: 38), end scrapers on large blades sometimes with thinning at the proximal end (figure 6.3: 35), single and double-tipped points on large blades (figure 6.3: 37), and various forms of backed bladelets (figure 6.3: 26–34). Bifacially worked tools are absent (with only one exception). All these characteristics appear for the first time in layer X at Molodova 5, which is confidently dated to the beginning of MVS 5. These characteristics are equally well expressed in the overlying layers IX–VII, the lowermost of which has two radiocarbon dates of 28–29 ka. The uppermost layer—the only one yielding a rich bone inventory—is believed to have formed after 24 ka. In a somewhat modified form, the Molodovan traditions continued to exist in post-Megainterstadial times.

Another putatively Gravettoid culture is Telmanskaya in the Kostenki area. This culture is represented by materials from Kostenki 8/II, which is dated to the middle of MVS 5. In contrast to the contemporary Gorodtsovian, the rich stone industry of Kostenki 8/II (about 23,000 stone artifacts including over two thousand tools) is completely blade-based and consists of typical Upper Paleolithic forms (various burins and end scrapers, backed microblades, perforators, truncated and notched blades). At the same time, the bone inventory resembles that from Kostenki 14/II, manifested most clearly in the types of engraved decorative patterns (e.g., parallel rows of notches and zigzags).

Two additional late early Upper Paleolithic assemblages described as Gravettoid are Zhornov IIa in the upper Dnieper basin (Pyasetsky 1991), and Khotylevo 2 in the Desna basin (Zavernyaev 1991). The former includes only fifteen tools (burins, knives, a broken point) and, judging by a radiocarbon date of about 28 ka, may be roughly coeval with the Telmanskaya and early Molodovan cultures. Khotylevo 2 is famous for its extremely rich and original stone and bone inventory, but its chronological position at the upper boundary of MSV 5 puts it beyond the scope of this chapter.

Of particular interest among the latest early Upper Paleolithic sites are layer III at Brynzeny 1 (a cave) and layer IV at Korpatch (both in the Prut basin). Brynzeny 1/III yielded a rich stone industry (some 7,500 objects, including over five hundred tools) combining Middle and Upper Paleolithic tool types (Ketraru 1973). There are numerous end and side scrapers, some burins, points on blades, Mousterian points on typical Levallois flakes, backed points, and archaic-looking oval and triangular bifaces. Nine radiocarbon determinations obtained for layer III range from about 14 to 26 ka. Only the character of the archaeological materials forces us to consider the earlier dates as more plausible. Somewhat similar assemblages come from a number of sites postdating the Megainterstadial (e.g., Chuntu, Bobuleshty). They have been united into the Brynzeny culture (Borziak 1983). The inventory from Korpatch, layer IV, dated to about 25 ka, is also remarkable for its unique combination of tools (Grigorieva 1983b). In addition to various end scraper types, burins, and retouched blades, it includes side scrapers, bifacially worked leaf-shaped points, and a series of typical segments (figure 6.3: 40–43). The segments, together with similar artifacts from Krakow-Zwierzyniec in Poland (Kozłowski 2000b; Kozłowski, this volume) and trapezoids from Buran-Kaya 3 in Crimea (Marks 1998; Marks and Monigal, this volume), represent the oldest geometric tools known in eastern Europe. A number of peculiar segments may also be represented at Kostenki 8/II.

There are several other sites in the southwestern Russian Plain and, particularly, in the northwestern Black Sea area that have been described as early Upper Paleolithic (e.g., Leski, Osokorovka 1/VI, Anetovka 13). However, the available absolute dates, geological data, and the character of the archaeological materials do not give sufficient grounds to place these assemblages within the late early Upper Paleolithic.

THE LATE MIDDLE PALEOLITHIC AND GENESIS OF THE EARLY UPPER PALEOLITHIC

Many hypotheses have been put forward to explain the genesis of the early Upper Paleolithic on the Russian Plain (Rogachev 1957: 132; Chmielewski 1972: 176; Anikovich 1983, 1992; Gladilin and Demidenko 1989c; Amirkhanov et al. 1993). Especially well known is the idea linking the Streletskian with Middle Paleolithic industries of the Crimea (e.g., Zaskalnaya, Chokurcha) and the southwestern Russian Plain (e.g., Trinka 3/III) where similar forms of bifacial points have been found (Anikovich 1999: figure 3). Most of these hypotheses hang in mid-air, however, because of the near absence of representative and reliably dated late Middle Paleolithic assemblages in the region. Although there are a number of very important and well-known Middle Paleolithic sites in the southern and southwestern parts of the Russian Plain, nearly all of them are too early to have much bearing on the gen-

esis problem. The Mousterian at Ketrosy, Korman 4, and Molodova 1 and 5, as well as the Eastern Micoquian at Khotylevo 1 and Sukhaya Mechetka, clearly predate the Megainterstadial period (e.g., Hoffecker 1999: figure 5) and cannot have direct links with the early Upper Paleolithic. Regarding the putative late Middle Paleolithic industries at Zhornov (lower layer) (Pyasetsky 1992), Tochilnitsa (Pyasetsky 1990), Belokuzminovka (Gerasimenko and Kolesnik 1992), Betovo (Tarasov 1999), Biryuchia Balka and Kalitvenka (Matioukhine 1987), their assignments to the end of the Middle Paleolithic, although possible, are mainly based on rather ambiguous stratigraphic observations. We agree that all, or most of these assemblages may be of Megainterstadial age, but it is obvious that the available evidence is far from conclusive.

The only Middle Paleolithic assemblage from the Russian Plain that can be assigned with confidence to the period directly preceding the appearance of the first Upper Paleolithic industries is Shlyakh, layer VIII (Nehoroshev and Vishnyatsky 2000). Shlyakh is an open-air, multilevel Middle-Upper Paleolithic site in the southern part of the middle Don basin. Layer VIII, occurring at a depth of 4.5 m, directly below a buried soil, was found to be the richest archeological level. Two AMS radiocarbon dates obtained for this level point to an age of around 45 ka. This date is corroborated by palynological and paleomagnetic studies, which suggest that the main cultural level directly postdates the Kargopolovo paleomagnetic excursion (43–45 ka). Retouched tools from layer VIII consist of side scrapers, proto-Kostenki and backed knives (figure 6.4: 1), Mousterian points (figure 6.4: 3, 10), some retouched blades (figure 6.4: 8), end scrapers (figure 6.4: 2, 6, 9), and burins (figure 6.4: 5). Bifaces characteristic of many of eastern European Middle Paleolithic assemblages are absent. It is particularly significant that the industry contains a protoprismatic technology (figure 6.4: 4) aimed at the production of blades from wedge-shaped cores (figure 6.4: 7). Although the character of the industry by no means establishes a direct "phylogenetic" link with any of the early Upper Paleolithic cultures known in the Russian Plain, it clearly shows that a trend toward greater use of laminar technologies existed in the local Mousterian and became very pronounced by the end of the Middle Paleolithic.

WHO WERE THE CREATORS OF THE EARLY UPPER PALEOLITHIC ON THE RUSSIAN PLAIN?

Human fossil materials from the Russian Plain are very rare (for an exhaustive review, see Kharitonov and Batsevich [1997]). No human remains as yet have been reported in association with late Middle Paleolithic assemblages, and only single finds can be assigned to the initial Upper Paleolithic. It is widely believed that all of the Upper Paleolithic cultures of the region were

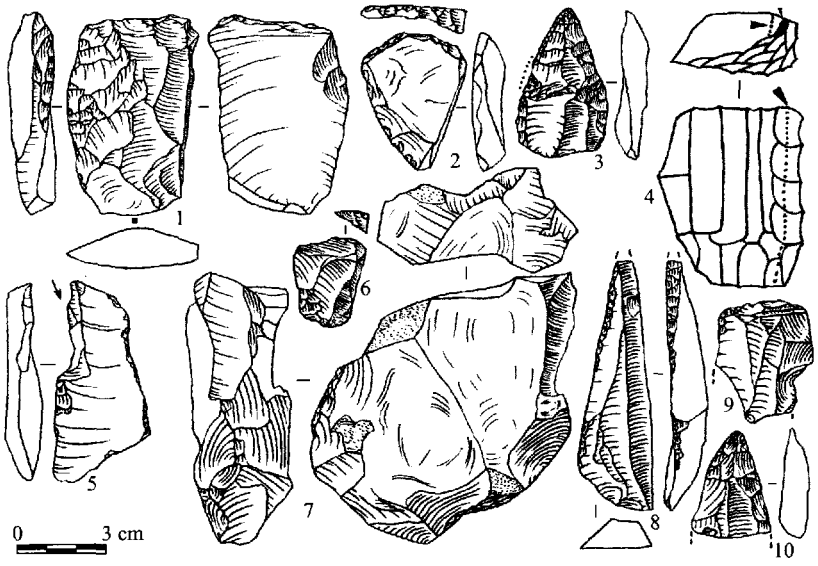

Figure 6.4. Artifacts from Shlyakh: retouched tools (1–3, 5, 6, 8–10); core (7); generalized technological scheme (4).

associated with anatomically modern humans (but see Anikovich 1999: 121–22). However, for the Spitsynian culture, this conclusion is based only on a single molar found in layer II at Kostenki 17. The presumed association between anatomically modern humans and the Streletskian is based on the rich but chronologically very late skeletal materials from Sungir. Interestingly, the fossil materials from Sungir are thought to show a number of archaic ("Neanderthaloid") traits. Less ambiguous are the fossil remains associated with the Gorodtsovian: modern human remains from the burial at Kostenki 14 must be either coeval with, or older than layer III, suggesting a minimum age of 31 ka. The child burial found at Kostenki 15 is probably the same age as cultural layer at the site, around 27–32 ka.

ON THE CAUSES OF THE MIDDLE-UPPER PALEOLITHIC TRANSITION

According to a very popular view, the Middle-Upper Paleolithic transition in Europe was caused by the arrival of anatomically modern people with an advanced culture. Some local Neanderthal populations are thought to have borrowed aspects of this advanced modern culture, a process of acculturation supposedly represented in the Châtelperronian, Szeletian, and Uluzzian. Intended first to explain the many incongruities between old theories

and new data appearing in western and central Europe, this scenario of migration and acculturation has recently been invoked to explain the Middle-Upper Paleolithic transition on the Russian Plain (Anikovich 1999: 74; Cohen and Stepanchuk 1999).

In our opinion, however, the acculturation model leaves much to be desired. In most of Europe, the so-called Neanderthal early Upper Paleolithic cultures seem to have appeared well before those associated with anatomically modern humans (Zilhão and d'Errico 1999). Moreover, there are no reliably dated modern human remains in Europe older than 36–37 ka. If we exclude the morphologically ambiguous partial cranium from Hannofersand and the isolated molar from Kostenki 17/II, the maximum established age for the arrival of anatomically modern humans in Europe is 32 ka. The absence of fossil evidence aside, we still do not know who was responsible for the Aurignacian, where it originated, or even whether its origin was mono- or polyphyletic. Thus the presence of the Aurignacian on the Russian Plain, or anywhere for that matter, is of ambiguous significance. But, most importantly, all the Neanderthal early Upper Paleolithic cultures seem too original to have been simply borrowed. These observations necessarily exclude acculturation as a viable mechanism of culture change for the Neanderthal early Upper Paleolithic in Europe. On the Russian Plain, not only is there no reason to associate the "advanced" Spitsynian early Upper Paleolithic with anatomically modern humans and the "archaic" Streletskian early Upper Paleolithic with archaic humans, but there is also little evidence to suggest that the Spitsynian predates the Streletskian. As in western Europe, acculturation is thus a nonviable explanation for the genesis of the early Upper Paleolithic on the Russian Plain.

As one of us has recently tried to show (Vishnyatsky 2000), neither the available chronological data nor what we know about the association between different early Upper Paleolithic industries and hominin morphotypes give firm enough ground to believe that Upper Paleolithic culture(s) were brought to Europe, the Near East, or southern Siberia from elsewhere. Rather, there appear to have been a series of broadly synchronous local transitions prompted by the need to intensify resource procurement when escaping to open territory became impossible. So understood, the "Upper Paleolithic revolution" signifies the end of a "generalist" phase in the evolution of culture and transition to an "specialist" mode of development.