A New Framework for the Upper Paleolithic of Eastern Europe

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ABSTRACT. The results of field and laboratory research during the past decade require a new classificatory framework for the Upper Paleolithic in Eastern Europe. It is now apparent that people making artifacts assigned to the Ahmarian industry occupied both the southern and northern slopes of the Caucasus Mountains (i.e., Ortval Klde, Layer 4d; Mezmaiskaya Cave, Layer 1C). Their sites probably indicate a separate movement of anatomically modern humans (AMH) from the Near East directly into Eastern Europe, establishing an independent line of development during the earlier Upper Paleolithic that parallels the Proto-Aurignacian and Aurignacian sequence in Western and Central Europe. This East European industry is most fully represented at the Kostenki-Borschchevo sites on the Don River before 40,000 cal BP (e.g., Kostenki 14, Layer IVb). It is followed by a closely related industry, also characterized by bladelet production, that is dated to the interval between 40,000 and 30,000 cal BP in Crimea and the East European Plain. The proposed new framework reflects recognition of these distinctive East European entities and of two environmental events that had significant impacts on human settlement in Eastern Europe: (1) the Campanian Ignimbrite (CI) volcanic eruption (40,000 cal BP); and (2) the Last Glacial Maximum (LGM) (~25,000 cal BP).

It has been suggested that the early Upper Paleolithic (EUP) industry present in Eastern Europe before 40,000 cal BP should be labeled an eastern variant of the contemporaneous Proto-Aurignacian of Mediterranean Europe. However, given the separate movement of people from the Near East via the Caucasus Mountains, and independent development of the East European EUP, this industry is more appropriately termed “Proto-Gravettian.” The younger bladelet industry, which includes assemblages at Buran-Kaya III (Layer 6-1), Mira (Layer II/2), and probably Shlyakh (Layers 4C, 6), may be termed “Early Gravettian” to distinguish it from the classic Gravettian industry that dates to less than 30,000 cal BP (e.g., Avdeeo, Zaraisk). The upper temporal boundary of the Proto-Gravettian corresponds to the CI eruption (40,000 cal BP), while the classic Gravettian of the East European Plain appears to have been effectively terminated by the LGM (~25,000 cal BP).

Several sites that date to the 40,000–30,000 cal BP interval (e.g., Kostenki 1, Layer III) contain elements that suggest a connection with the Aurignacian technocomplex of Western-Central Europe. These assemblages may be placed into the category of “Eastern Aurignacian,” which reflects differences in content with the West and Central European sites. The apparent spread of this industry into Eastern Europe from the Balkans may be related to the impact of the CI eruption on a large area of the East European Plain.
The chronology of the early Gravettian in Eastern Europe
Layer 2

Rogachev 1957: 52, fig. 23

32,413 ± 649 cal BP
(GrN-10509)

Kostenki 8
Layer II/2

32,429 ± 519 cal BP (GrA-20033)

Mira
Layer 6-1

35,933 ± 392 cal BP (GrA-37938)

Layer 6-2

39,602 ± 928 cal BP (GrA-40485)

Buran-Kaya III
The Ahmarian in Eastern Europe
Ortvale Klde, Layer 4d

~42,000–39,000 cal BP

Adler et al. 2006: fig 10
Mezmaiskaya Cave
Mezmaiskaya Cave, Layer 1C

~38,000–37,000 cal BP

Golovanova et al. 2010: fig. 1
Kostenki 14, Layer IVb

adapted from A. A. Sinitsyn

~44,000–42,000 cal BP
Proto-Aurignacian

42,000 cal BP
Early Gravettian

CI tephra 40,000 cal BP

Proto-Gravettian
Aurignacian sites in Eastern Europe: 40,000–30,000 cal BP
Landscape Archaeology of the East European Plain
Efimenko\textsuperscript{1} proposed cultural stratigraphy for Kostenki-Borshchevo in 1928, using classificatory units defined in SW France

<table>
<thead>
<tr>
<th>Site/Layer</th>
<th>Industry</th>
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</thead>
<tbody>
<tr>
<td>Borshchevo 2, upper</td>
<td>Late Magdalenian</td>
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<tr>
<td>Borshchevo 2, lower</td>
<td>Middle Magdalenian</td>
</tr>
<tr>
<td>Kostenki 2/Kostenki 3</td>
<td>Early Magdalenian</td>
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<td>Kostenki 1, Layer I</td>
<td>Early Solutrean</td>
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<td>Borshchevo 1</td>
<td>Late Aurignacian</td>
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</tbody>
</table>

\textsuperscript{1}Ефименко, П. П. (1928) Некоторые итоги изучения палеолита СССР. Человек 1: 52–56.
Rogachev and others subsequently defined local archaeological cultures at Kostenki-Borshchevo that were not recognized outside the central East European Plain . . .

streletskaya  spitsynskaya  gorodtsovskaya
the landscape of the East European Plain differs significantly from that of SW France, and natural shelters are almost entirely absent on the central plain . . .
EUP sites on the East European Plain

- Kostentki-Borschchevo
- Sungir'
- Kulychivka
- Biryuch'ya Balka
- Mira
- Molodova 5
- Korman' 4
- Mamontova Kur'ya Byzovaya
Kostenki-Borshchevo contains an “EUP landscape” comprising various sites, including both habitation areas and functionally-specialized sites where large mammals were killed and/or butchered.
Soil micromorphology indicates spring activity associated with formation of the “humic beds” and EUP occupations (Holliday et al. 2007)
Kostenki 14  Layer II

- horse NISP = 1500
- all skeletal parts represented
- green breakage of long-bone shafts
- percussion marks on long-bone shafts
- cut marks on long-bones, ribs, other elements
- anatomical groups of foot bones and vertebrae

1954 excavations
A. N. Rogachev
Kostenki 1  Layer V

- mammoth NISP = 517
- MNI = 1 adult mammoth
- most skeletal elements represented
- cut/gouge marks on some bones

ulna with cut-marks

2004 trench
artifacts associated with evidence for large mammal kill-butcher at Kostenki

Kostenki 1 Layer V

Kostenki 12 Layer III

Kostenki 14 Layer II
the “Clovis landscape” in the San Pedro Valley (SE Arizona) provides an analog to the EUP landscape at Kostenki . . .

Haynes (2007:3)
at Murray Springs, kill-butchery locations are situated near a campsite
Murray Springs contains the same types of tools found in association with large-mammal butchery at Kostenki . . .
the pattern observed at Kostenki is also evident at other EUP sites on the East European Plain, such as Mira, Layer I

- horse NISP = 72%
- most skeletal parts represented
- green breakage of long-bone shafts
- percussion and cut marks on bones
- anatomical groups of bones

from V. B. Stepanchuk
“archaic” or “Mousteroid” forms also found in later UP sites

Kostenki 1 Layer I

Efimenko 1958
The problem of the Initial Upper Paleolithic of Eastern Europe
Initial Upper Paleolithic sites of Eastern Europe?
Shlyakh Layer 8 contains an industry similar to the Emirian and dating to ~45,000 cal BP

45,700±3000 (OxA-8307)
46,300±3100 (OxA-8306)

from Nekhoroshev 1999: 143, fig. 21
A new framework for the Upper Paleolithic of Eastern Europe
<table>
<thead>
<tr>
<th>Years cal BP</th>
<th>INDUSTRY</th>
<th>Caucasus Mountains</th>
<th>Crimea</th>
<th>Southwest Plain</th>
<th>Central Plain</th>
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<tbody>
<tr>
<td>20,000 – 12,000 cal BP</td>
<td>Epi-Gravettian</td>
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<td>30,000 – 20,000 cal BP</td>
<td>Late Gravettian (formerly “Eastern Gravettian”)</td>
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<td>Molodova 5-VII</td>
<td>Kostenki 1-I</td>
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<td>Avdeevo</td>
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<td>Zaraisk</td>
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<td>40,000 – 30,000 cal BP</td>
<td>Early Gravettian</td>
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<td>Syuren' 1-G/F</td>
<td>Molodova 5-X</td>
<td>Kostenki 8-II</td>
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<td></td>
<td>Eastern Aurignacian?</td>
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<td>Buran-Kaya III</td>
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<td>Kostenki 1-III</td>
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<td>Mira III/2</td>
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<td>Shlyakh-6</td>
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<td>42,000 – 40,000 cal BP</td>
<td>Proto-Gravettian</td>
<td>Mezmaiskaya Cave-1C</td>
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<td>Ortvale Klde-4d</td>
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<td>50,000 – 42,000 cal BP</td>
<td>Initial Upper Paleolithic</td>
<td>Monasheskaya Cave?</td>
<td>Shaitan-Koba?</td>
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<td>Kabazi II?</td>
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<td>Shlyakh-8</td>
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LGM
CI tephra
Kostenki 14-IVb
Kostenki 17-II
Kostenki 14-IVb
Shlyakh-8
Mikhail Vasilyevich Anikovich (1947–2012)