

A New Framework for the Upper Paleolithic of Eastern Europe

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**European Society for the
Study of Human Evolution
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The chronology of the early Gravettian in Eastern Europe



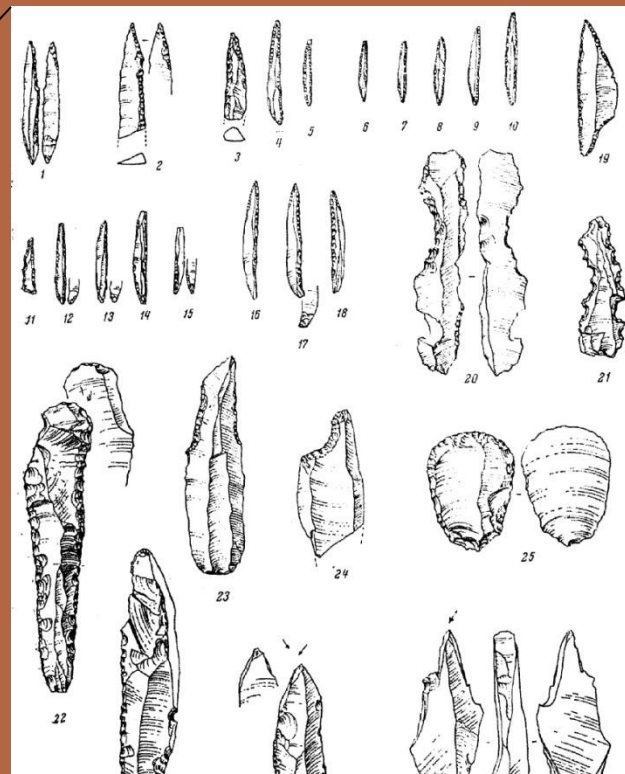
KOSTENKI-BORSHCHEVO

Mira

Buran-Kaya III

**Early Gravettian sites
in Eastern Europe**

Layer 2



Rogachev 1957: 52, fig. 23

**32,413 ± 649 cal BP
(GrN-10509)**

Kostenki 8

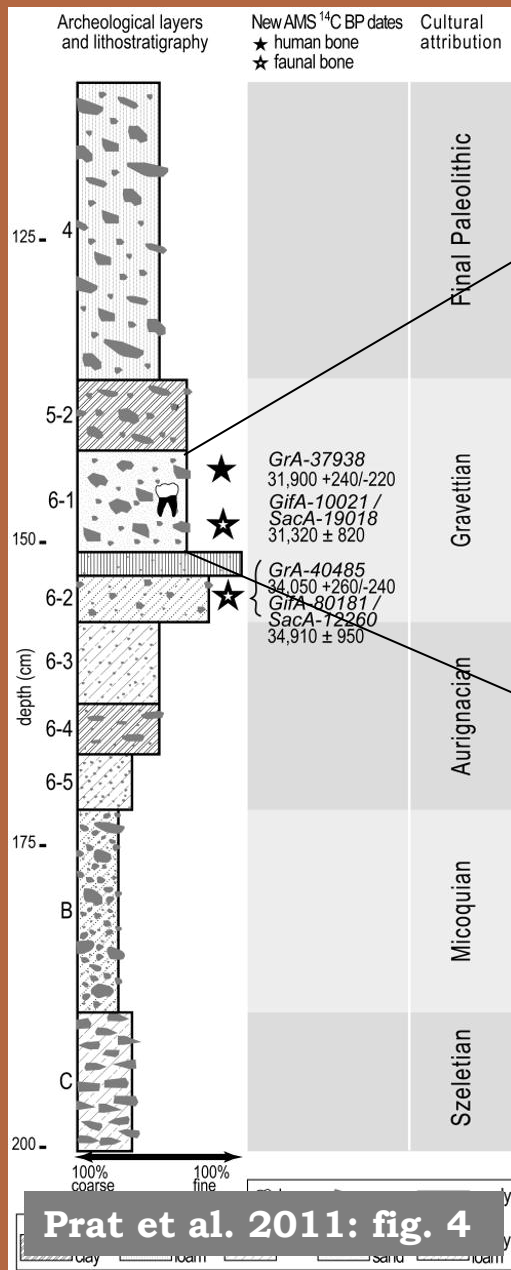


Layer II/2

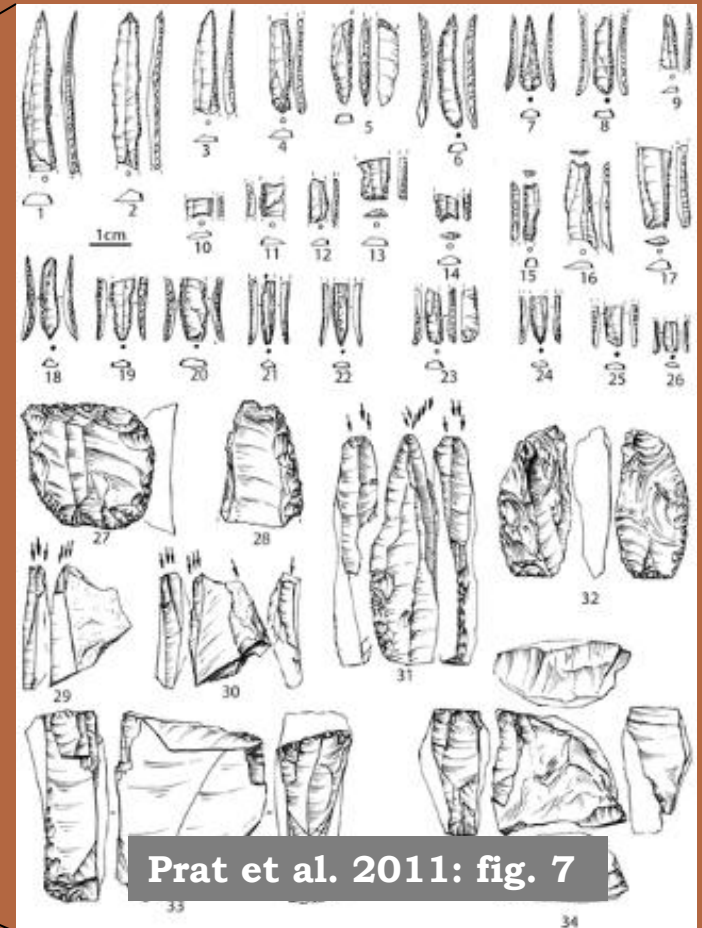


**$32,429 \pm 519$ cal BP
(GrA-20033)**

Mira



Layer 6-1



**35,933 ± 392 cal BP
(GrA-37938)**

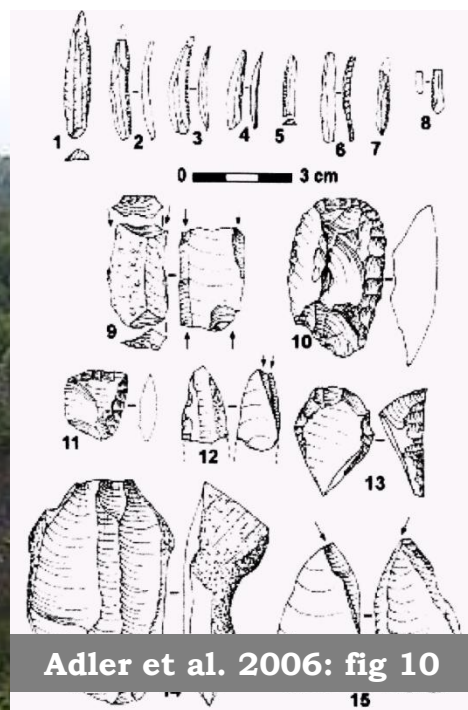
Layer 6-2

**39,602 ± 928 cal BP
(GrA-40485)**

Buran-Kaya III

The Ahmarian in Eastern Europe





Adler et al. 2006: fig 10

15



Ortvale Klde, Layer 4d

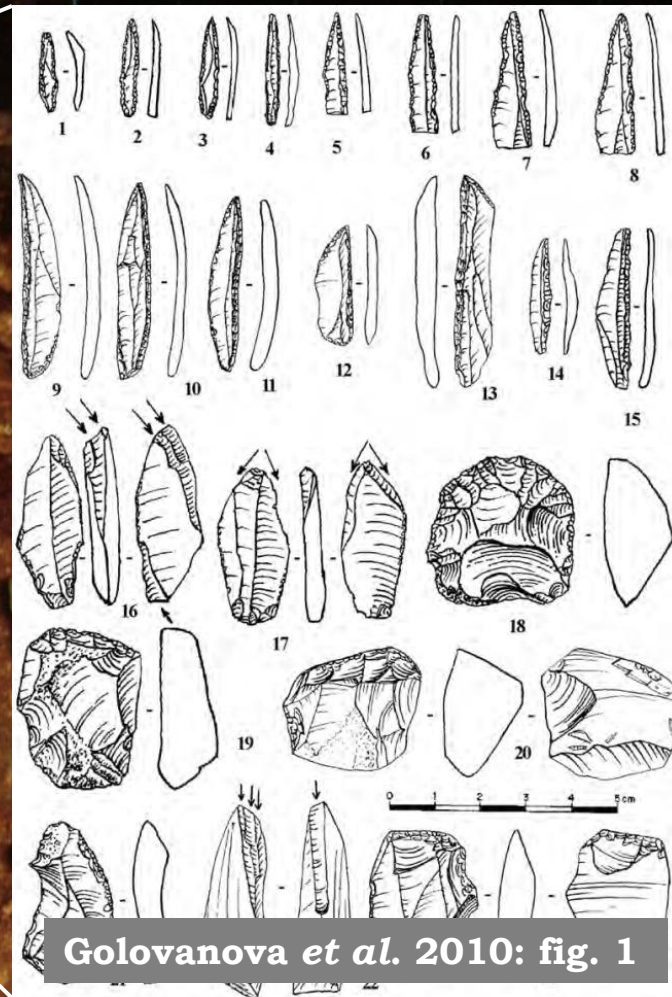
~42,000–39,000 cal BP

NORTH
→



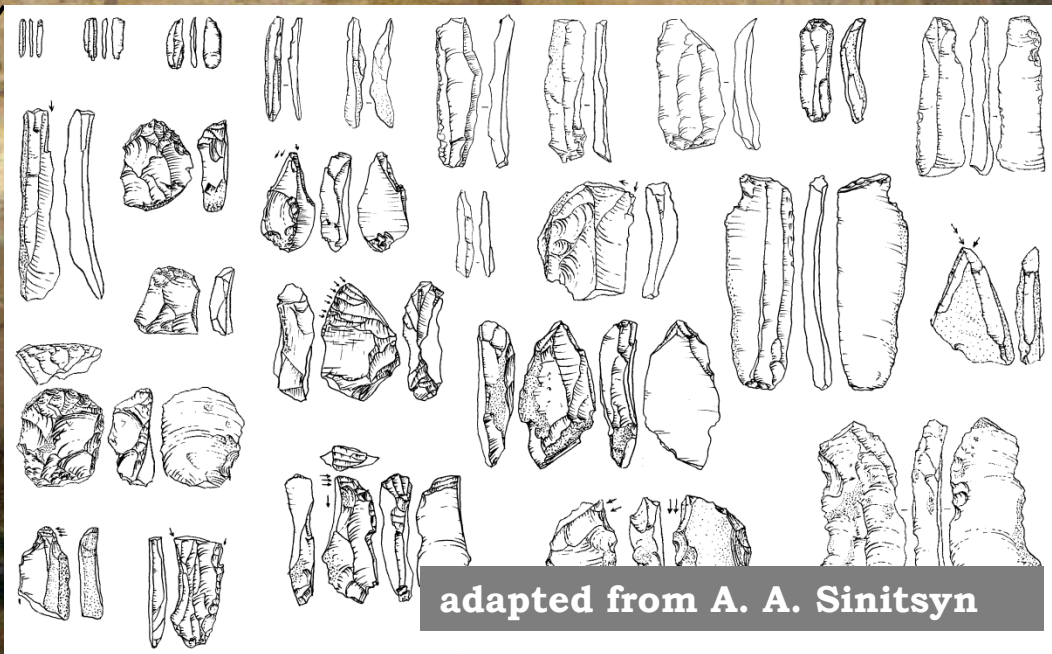
Mezmaiskaya Cave

Mezmaiskaya Cave, Layer 1C



~38,000–37,000 cal BP

Kostenki 14, Layer IVb



~44,000–42,000 cal BP

Proto-Aurignacian

42,000 cal BP

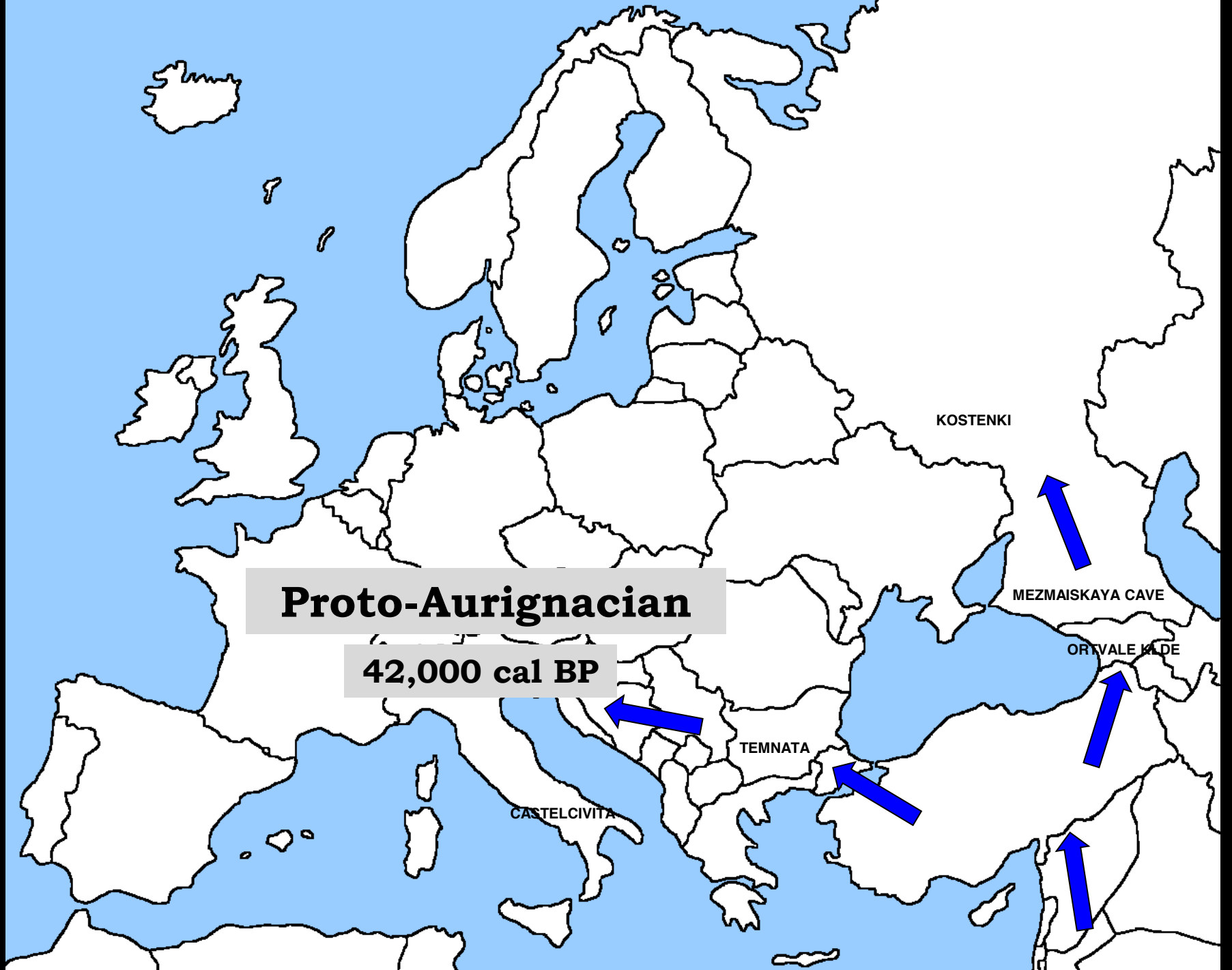
KOSTENKI

MEZMAISKAYA CAVE

ORTVALE KLEDE

TEMNATA

CASTELCIVITA



A map of Europe with landmasses in white and water bodies in light blue. Two grey rectangular boxes highlight specific regions. The first box, labeled 'Proto-Gravettian' and '42,000 cal BP', is located in Eastern Europe, covering parts of Russia and Ukraine. The second box, labeled 'Proto-Aurignacian' and '42,000 cal BP', is located in Southern Europe, covering parts of Italy and the Balkans. Four blue arrows point from specific sites towards these highlighted regions: one from Kostenki in Russia towards the Proto-Gravettian area, one from Mezmaiskaya Cave in Ukraine towards the Proto-Gravettian area, one from Orville Klde in Georgia towards the Proto-Gravettian area, and one from Temnata in the Balkans towards the Proto-Aurignacian area. A fifth blue arrow points from Castelcivita in Italy towards the Proto-Aurignacian area.

Proto-Gravettian

42,000 cal BP

KOSTENKI

MEZMAISKAYA CAVE

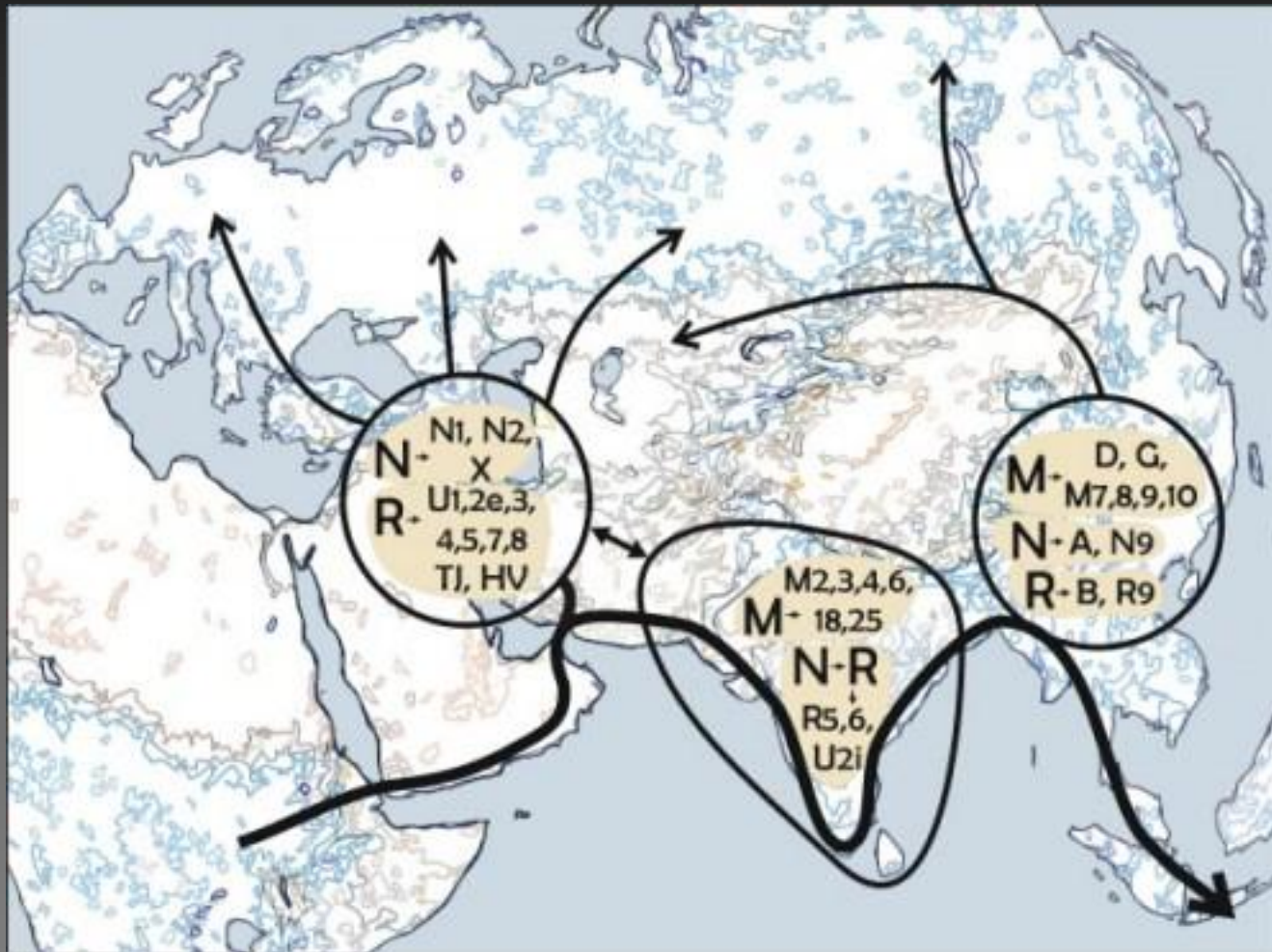
ORVILLE K L D E

Proto-Aurignacian

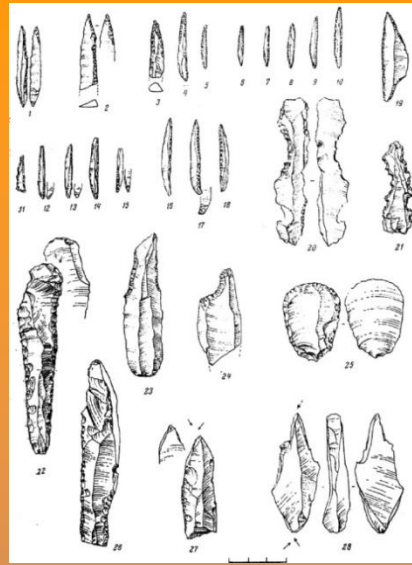
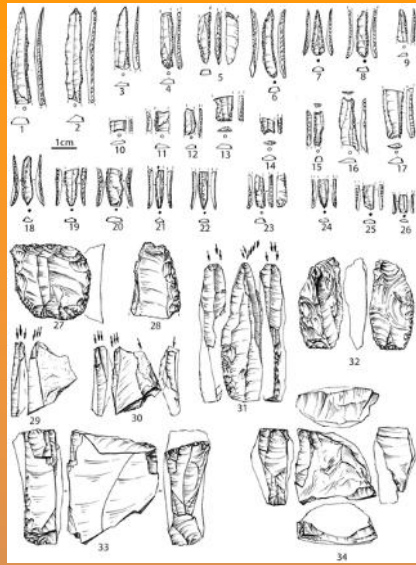
42,000 cal BP

TEMNATA

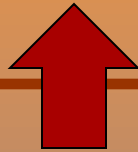
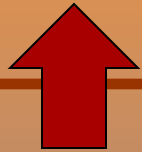
CASTELCIVITA



Source: Metspalu *et al.* (2004) *BMC Genetics* 2: 26 doi:10.1186/1471-2156-5-26

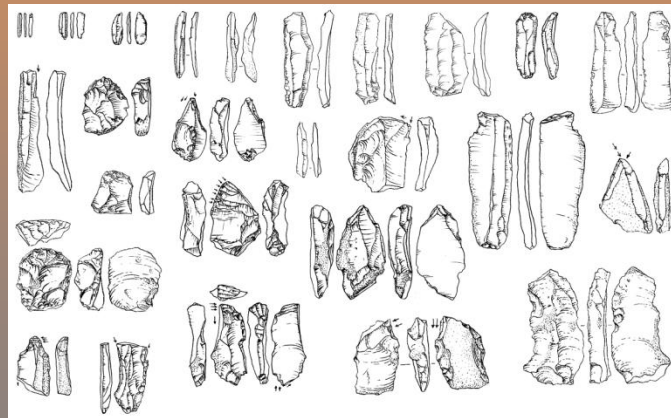
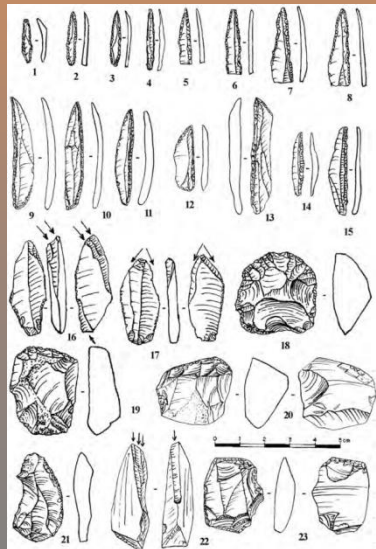


Early Gravettian



CI tephra

40,000 cal BP



Proto-Gravettian



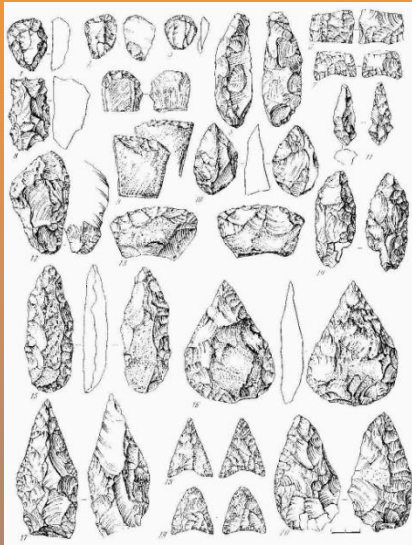
Landscape Archaeology of the East European Plain

Efimenko¹ proposed cultural stratigraphy for Kostenki-Borshchevo in 1928, using classificatory units defined in SW France

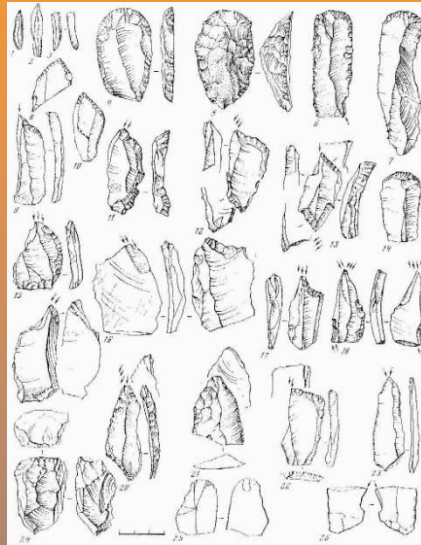
Site/Layer	Industry
Borshchevo 2, upper	Late Magdalenian
Borshchevo 2, lower	Middle Magdalenian
Kostenki 2/Kostenki 3	Early Magdalenian
Kostenki 1, Layer I	Early Solutrean
Borshchevo 1	Late Aurignacian

¹Ефименко, 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 . . .



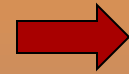
streletskaya



spitsynskaya



gorodtsovskaya

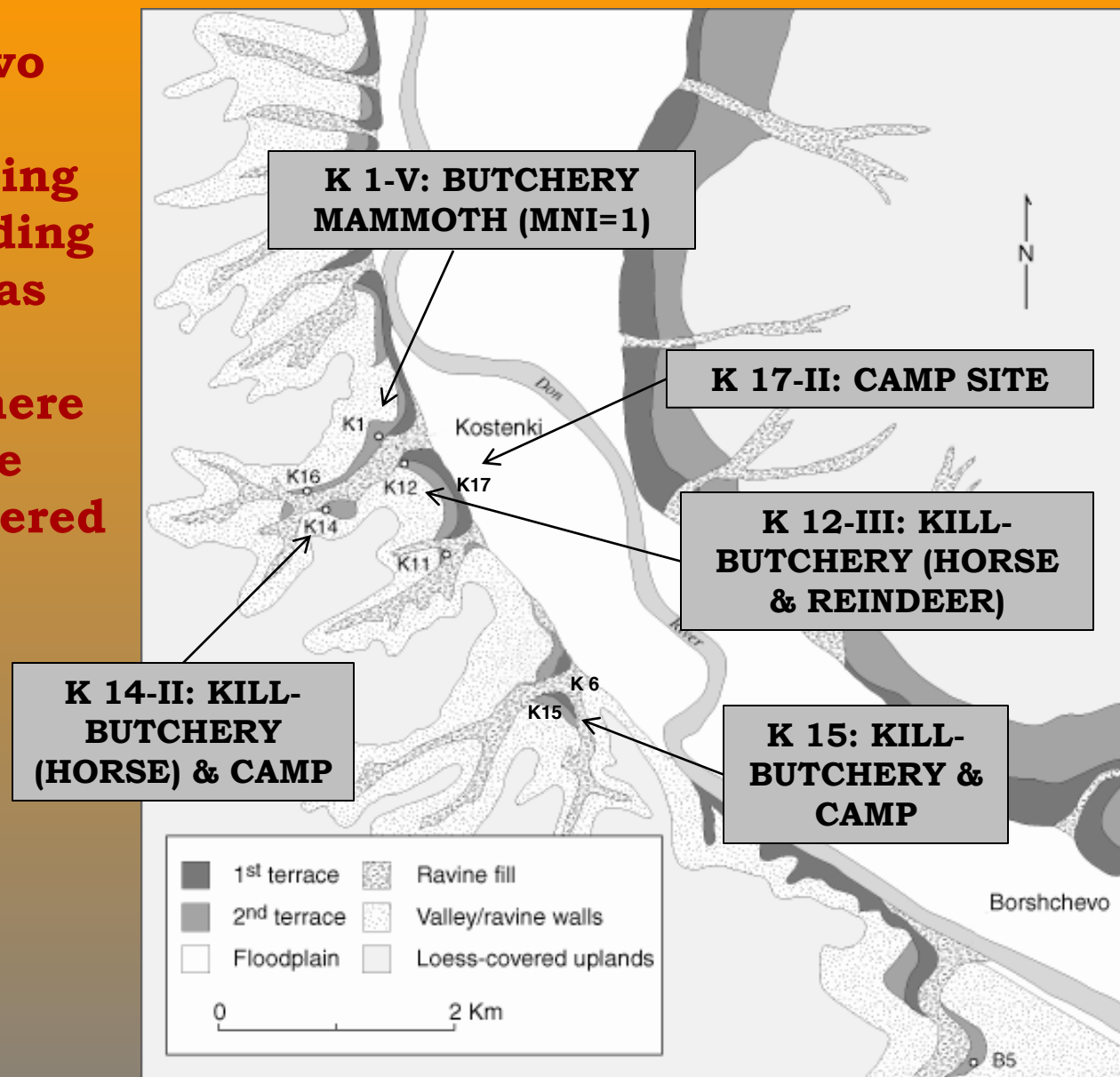


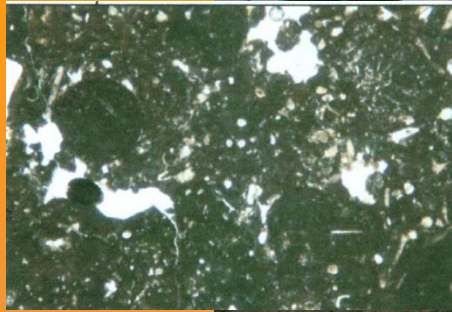
the landscape of the East European Plain differs significantly from that of SW France, and natural shelters are almost entirely absent on the central plain . . .



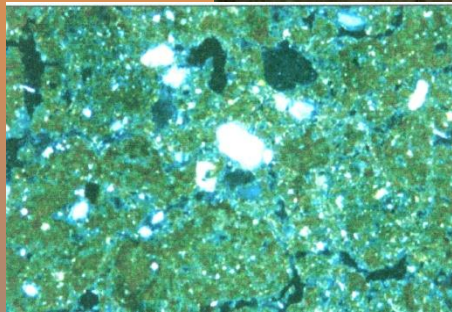


Kostenki-Borshchevo contains an “EUP landscape” comprising various sites, including both habitation areas and functionally-specialized sites where large mammals were killed and/or butchered

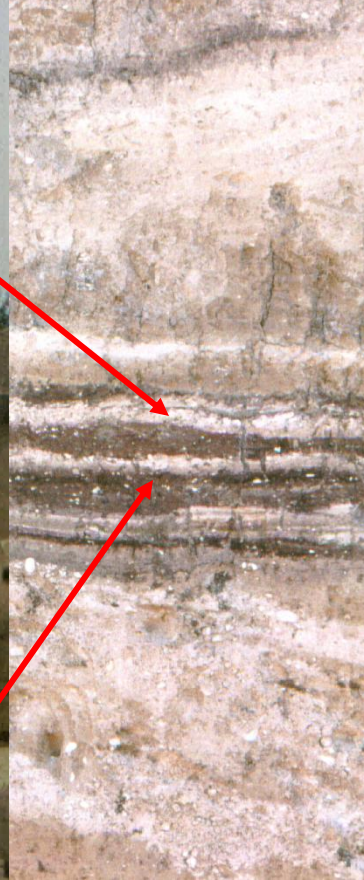




CARBONATE LENS



HUMIC LAYER

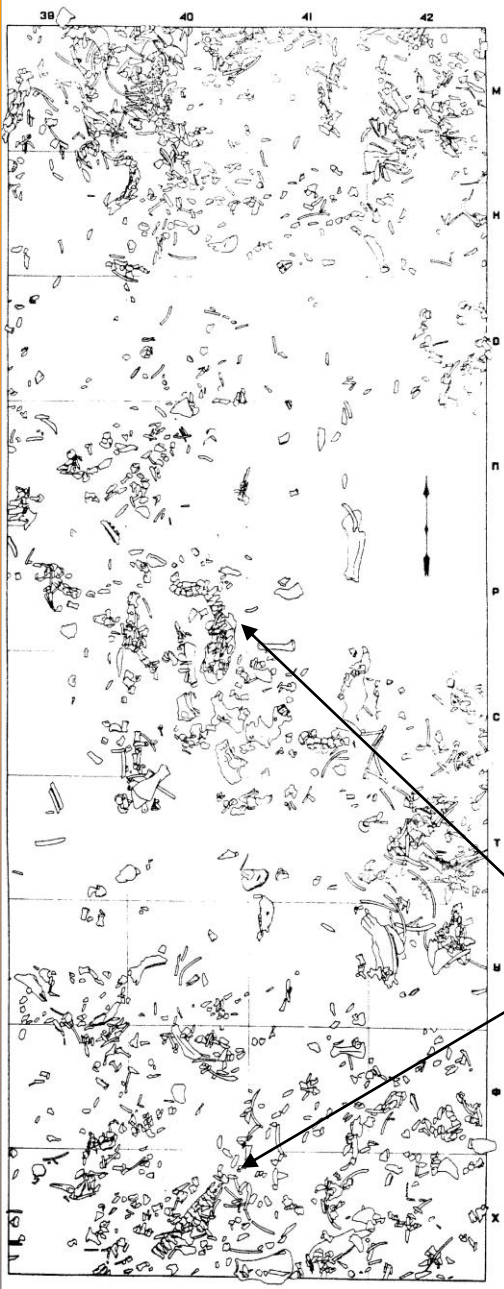


KOSTENKI 12

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

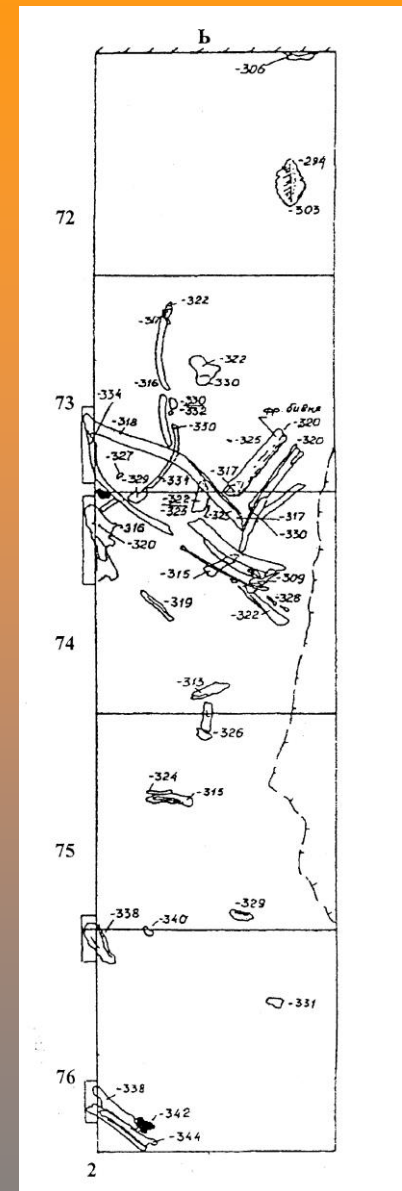
Kostenki 1 Layer V



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



ulna with cut-marks

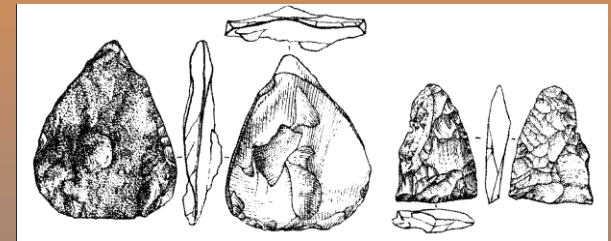
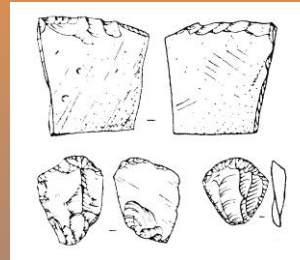
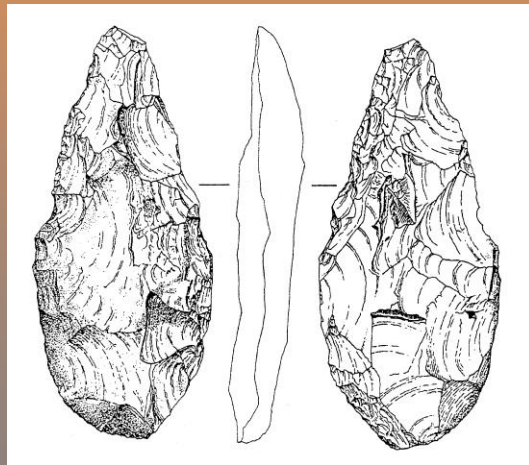


2004 trench

artifacts associated with evidence for large mammal kill-butchery at Kostenki



Kostenki 1 Layer V

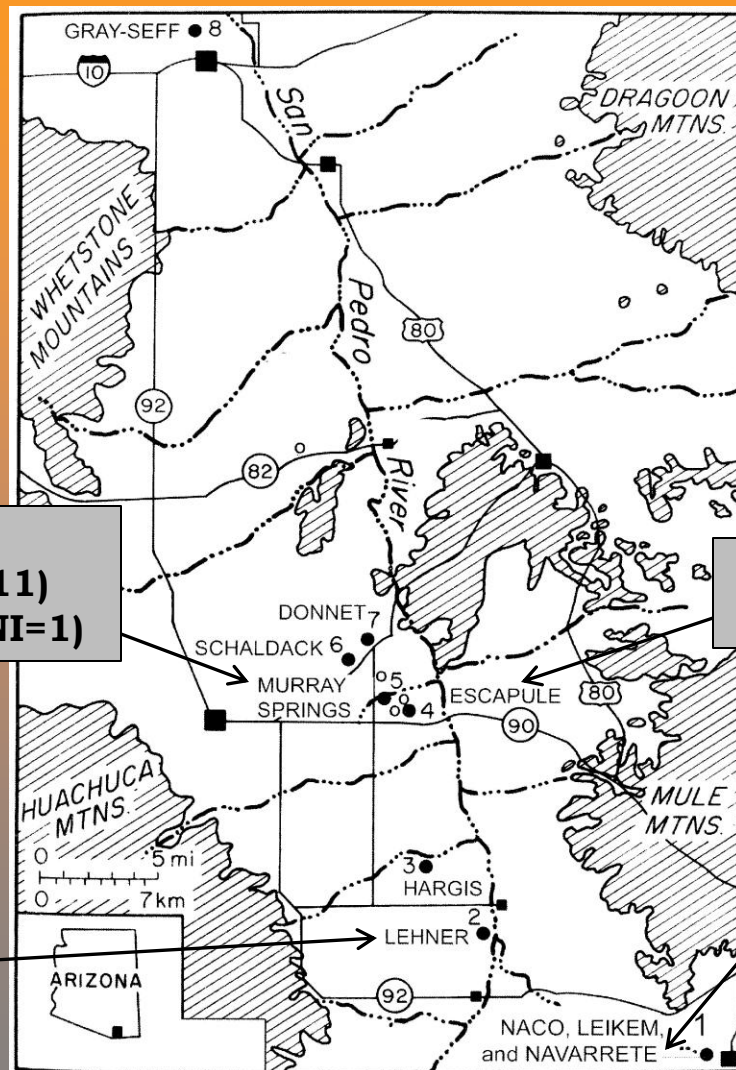


Kostenki 12 Layer III



Kostenki 14 Layer II

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



CAMP SITE
BISON KILL (MNI=11)
MAMMOTH KILL (MNI=1)

KILL?
MAMMOTH (MNI=1)

KILL-BUTCHERY
MAMMOTHS (MNI=13)

KILL-BUTCHERY?
MAMMOTHS (MNI=2)

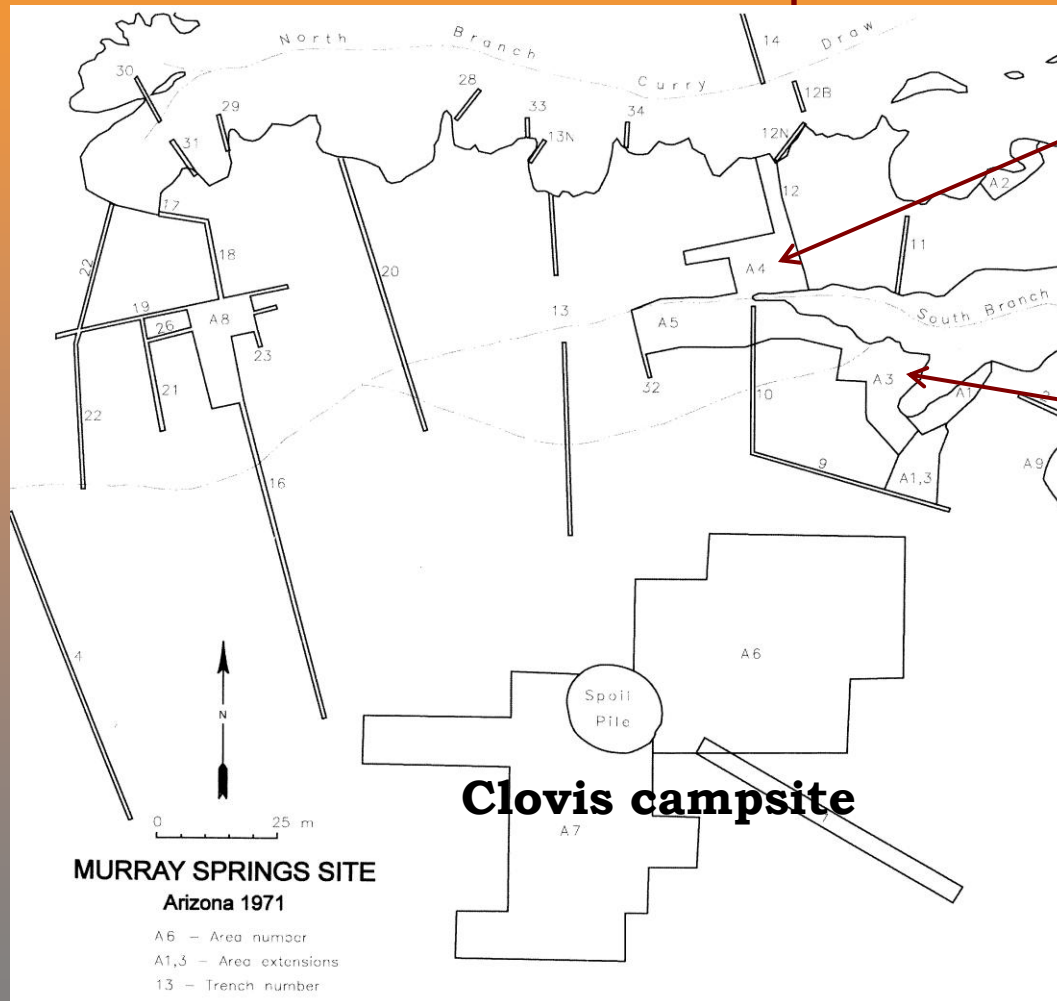
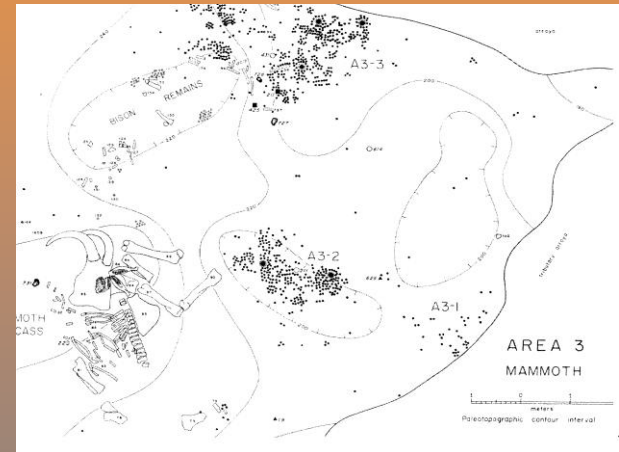
Haynes (2007:3)

**at Murray Springs,
kill-butchery locations
are situated near a
campsite**

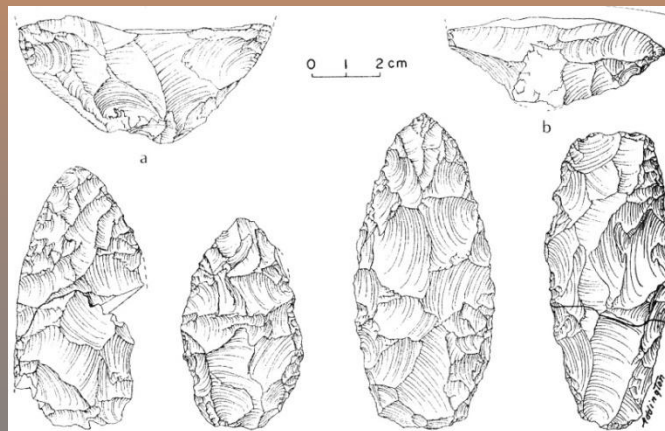
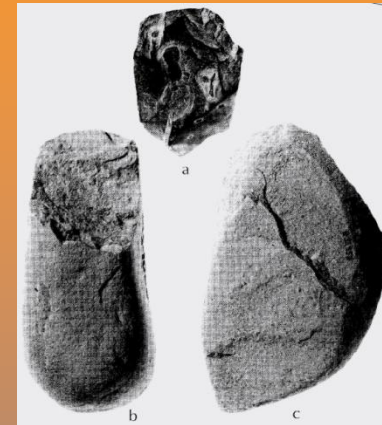
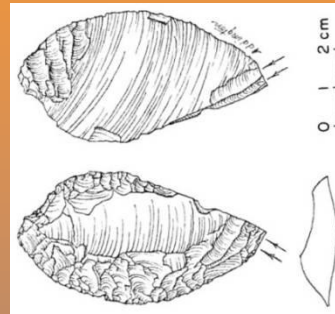
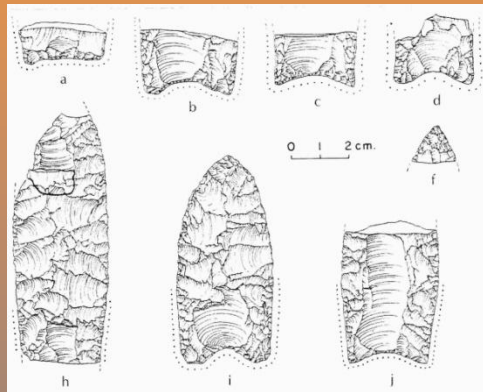
**multiple bison
kill-butchery
location**



mammoth butchery location



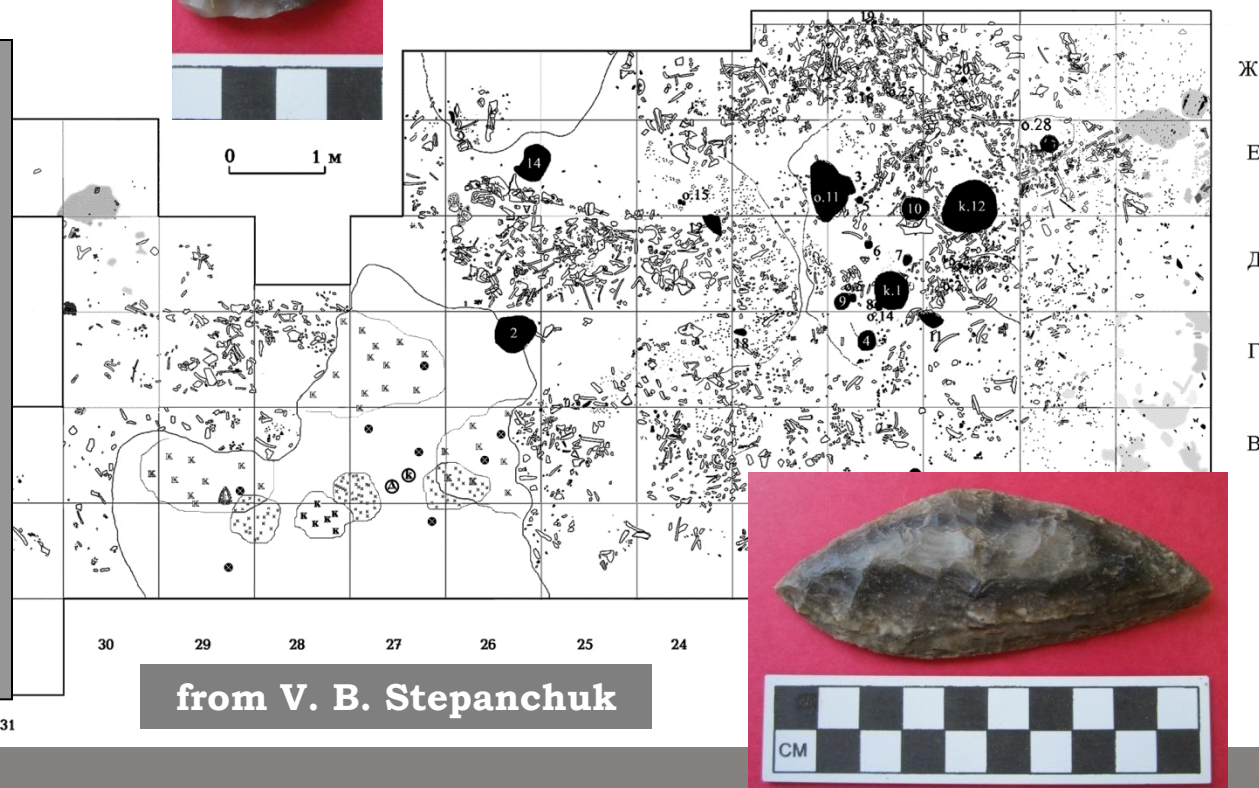
Murray Springs contains the same types of tools found in association with large-mammal butchery at Kostenki . . .



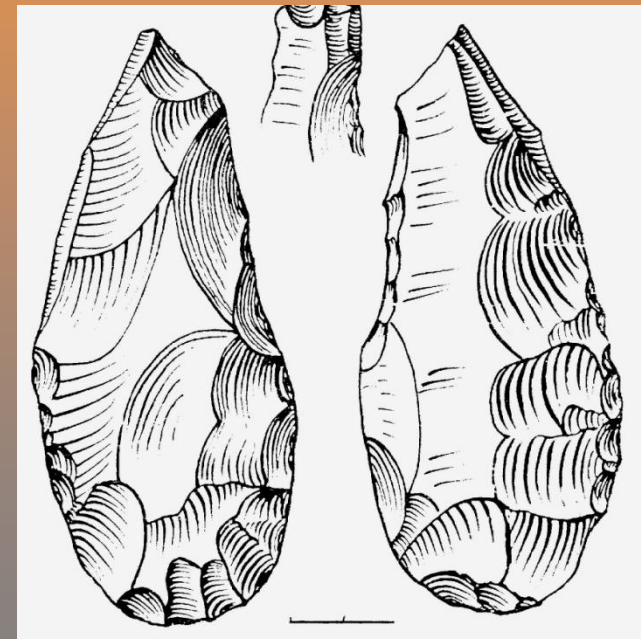
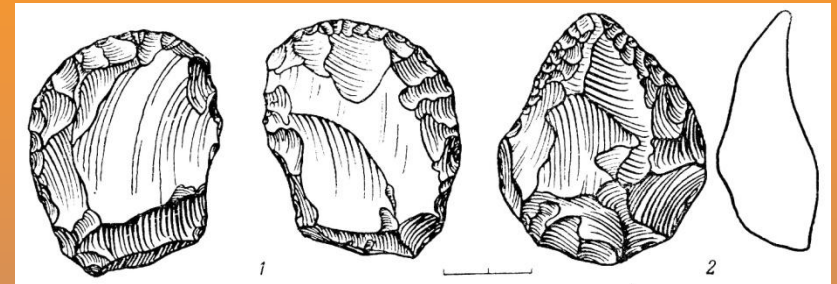
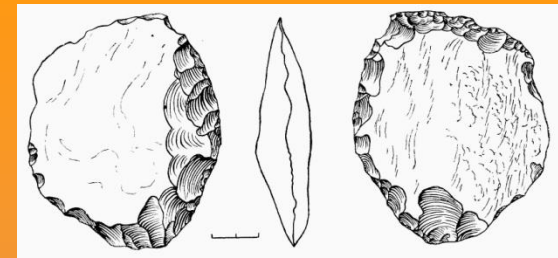
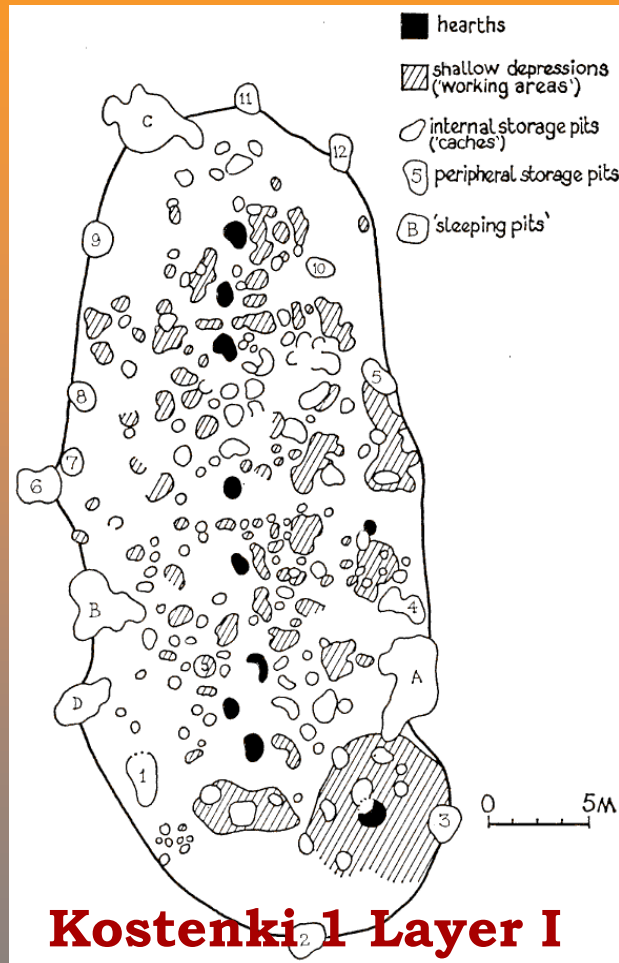
the pattern observed at Kostenki is also evident at other EUP sites on the East European Plain, such as Mira, Layer I



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



**“archaic” or “Mousteroid” forms
also found in later UP sites**



Efimenko 1958

The problem of the Initial Upper Paleolithic of Eastern Europe



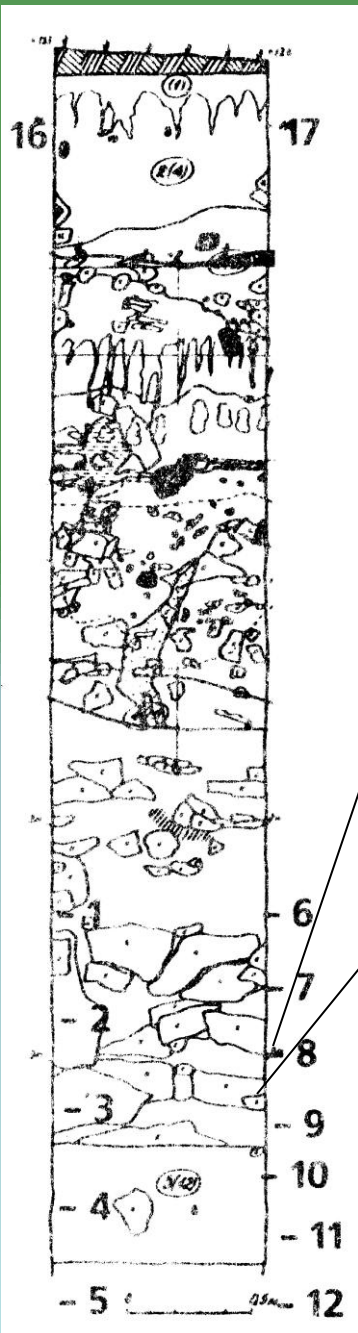
Kulychivka

Zvanovka

Shlyakh

**Molodova 5
Korman' 4**

**Initial Upper
Paleolithic sites of
Eastern Europe?**



Shlyakh Layer 8 contains an industry similar to the Emiran 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

Years cal BP	INDUSTRY	Caucasus Mountains	Crimea	Southwest Plain	Central Plain
20,000 – 12,000 cal BP	Epi-Gravettian				
30,000 – 20,000 cal BP	Late Gravettian (formerly “Eastern Gravettian”)			Molodova 5-VII	Kostenki 1-I Avdeevo Zaraisk
40,000 – 30,000 cal BP	Early Gravettian/Eastern Aurignacian?	?	Buran-Kaya III		Kostenki 8-II Mira II/2 Shlyakh-
42,000 – 40,000 cal BP	Proto-Gravettian	Mezmaiskaya Cave-1C Ortvale Klde-4d			Kostenki 14-IVb Kostenki 17-II
50,000 – 42,000 cal BP	Initial Upper Paleolithic	Monasheskaya Cave?	Shaitan-Koba? Kabazi II?	Kulychivka Molodova 5-XI? Molodova 1-IV?	Shlyakh-8

LGM

CI tephra



Mikhail Vasilyevich Anikovich (1947–2012)