The great North Black Sea region Early Upper Paleolithic and human migrations into the region from different territories

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"Methodologically, the absence of a continental or even intercontinental view restricts the scope of many archaeological interpretations and hinders their scientific evaluation. Archaeology, like geology and astronomy, is not an experimental science but must rely on controlled comparisons to evaluate hypotheses and isolate causes. When such comparisons are too local, control of many variables, especially those which transcend or transgress regions, is lost".

M. Otte & L.H. Keeley, 1990:582

Abstract: The Great North Black Sea region envelopes very most of the south of Eastern Europe. The Early Upper Paleolithic (EUP) starts at ca. 36 ky BP uncalibrated and Late Middle Paleolithic (LMP) only survives until ca. 36 – 35 ky BP uncalibrated there. The EUP period in Great North Black Sea region (ca. 36 – 28 000 BP uncalibrated) is represented by a series of various industries: "Eastern Szeletian" and "Streletskaya culture", Proto-Aurignacian, Southern Caucasus EUP, Late / Evolved Aurignacian, Levantine Aurignacian A, B & C types. The conducted comparative analyses allowed me to propose the following 8 (eight) EUP human migrations into the Great North Black Sea region: from the North, from East European Plain – for "Eastern Szeletian" and "Streletskaya culture" migration; from the West, from Europe – for two Proto-Aurignacian and one Late / Evolved Aurignacian migrations; from the South, from Caucasus – for Southern Caucasus EUP migration; from the South, from the Levant – for Levantine Aurignacian A, B & C migrations. As a result, the south of Eastern Europe was indeed a crossroad for a "crowd" of various EUP human communities.

Key-Words: Great North Black Sea region, Early Upper Paleolithic (EUP), "Eastern Szeletian", Proto-Aurignacian, Southern Caucasus EUP industry, Late / Evolved Aurignacian, Levantine Aurignacian A, B & C industry types.

1 INTRODUCTION

The present paper aims to discuss Early Upper Paleolithic data for the south of Eastern Europe aiming to show some comparable to the known in the region industries archeological materials in other territories, that could serve as indicators of some multidirectional human migrations into the discussing region.

Geographically, the south of Eastern Europe is actually the so-called Great North Black Sea region that formed a rather continuous belt of land in southern Eastern Europe, extending from eastern Balkans in the west to north-western Caucasus in the east, during most of the Würmian Interpleniglacial (Demidenko 2008). It was because of considerable lowering of the level of the Black Sea which was possibly down even to 60 meters comparing with its present day level (**figure 1**). The southern margins of the region were characterized by the total or partial absence of the water-filled basins of the modern Gulf of Odessa and Sea of Azov, among other marine features. Here it should also need to keep in mind that these water-filled basins were never very deep, except of Last Interglacial and only some Holocene periods. For example, the modern Kerch Strait, dividing Kerch peninsula of eastern Crimea and Taman peninsula of north-western Caucasus and being from 4,5 to 15 km wide with a maximum deep 18 meters at present time, was traditionally called by antique Greeks a "cow's ford / passing" ca. 2 000 years ago because of really shallow water there. The Crimea was not the modern peninsula at the Würmian Interpleniglacial but merely formed the central southernmost terrestrial area of the region connected to areas further west and east by the Danube and Kuban rivers (flowing from west to east and east to west respectively). For this reason, the Great North Black Sea region should definitely be included in any discussion of the eastern extension of the Early Upper Paleolithic "Danube Corridor" hypotheses (see Conard & Bolas 2003). Moreover, the terrestrial connection in between Crimea and north-western Caucasus and an easy access from the Caucasian territories into Crimea through Kuban river

FIGURE 1 Site location map of the Great North Black Sea region Early Upper Paleolithic.

valley does not exclude some Paleolithic human group penetrations into Crimea from the east either. Furthermore, the studied region is bounded to the north by various Eastern European upland chains along the courses of the Dniester, Southern Bug, Dnieper and Don rivers that also allow us to suggest some possible human movements into the region from the north following the river valleys during various Paleolithic periods.

Accordingly, the region's Early Upper Paleolithic record should be discussed not separately by an area but in common for a required better understanding of complex Paleolithic cultural processes there.

2 SOME NEWLY PROPOSED CHRONOLOGICAL AND ARCHEOLOGICAL DATA FOR LATE MIDDLE PALEOLITHIC (LMP) – EARLY UPPER PALEOLITHIC (EUP) TRANSITIONAL PERIOD IN THE GREAT NORTH BLACK SEA REGION

Now a new interpretation is on a way of development by the present author for the above-noted transitional period in the region. It significantly changes the previous 2000s concept proposed by Chabai (2000, 2003, 2004, 2008, 2011a) and also supported by me (e.g. Demidenko 2008, 2008–2009, 2012a). Briefly, the 2000s concept can be represented as follows. The region's LMP – EUP transitional period has been proposed to be viewed as a geochronological coexistence of two LMP and three EUP industries during the time interval in between ca. 32 and 28 ky BP (all dates given are uncalibrated) with its internal subdivision into two stages. The EUP industries were represented by so-called Szeletian *sensu lato* ("Eastern Szeletian" and "Streletskaya culture") industry's complexes starting from the 1st transitional stage, while two Early and Late Aurignacian complexes of Krems-Dufour industries / Proto-Aurignacian with Dufour microliths and Late / Evolved Aurignacian with Roc de Combe microliths have been only related to the 2nd transitional stage. At the same time, both LMP industries (Levallois-Mousterian and Micoquian) seemed well survived the whole transitional period, including its 2nd stage up to 28 ky BP. Thus, the transitional period has been seen as a "melting pot" of various LMP and EUP hominins in the region during no less than 4 ky radiocarbon years.

Now using new and/or reconsidering before received different interdisciplinary data and reliable uncalibrated AMS dates, as well as proposing some new archeological interpretations, for the region's three key sites containing both LMP and EUP components in Crimea (Siuren I rock-shelter and Buran-Kaya III grotto) and north-western Caucasus (Mezmaiskaya cave), the following industrial-geochronological EUP sequence can be suggested:

"Eastern Szeletian" in eastern Crimea

2.1 Stadial in between Hengelo and Huneborg / Les Cottes interstadials – Buran-Kaya III grotto, level C with radiocarbon age no younger 36 ky BP uncalibrated. Before the Buran-Kaya III "Eastern Szeletian" level C was related to the younger time period of Huneborg stadial preceding the Arcy interstadial, ca. 32 ky BP.

Proto-Aurignacian in western Crimea

2.2 Stadial in between Hengelo and Huneborg interstadials – Siuren I, Unit H and Huneborg interstadial – Siuren I, Unit G with radiocarbon age certainly older received AMS dates around 31 – 28 ky BP, possibly approaching ca. 36 ky BP as the European well-dated Proto-Aurignacian sites. Before the Siuren I Proto-Aurignacian Units were considered to be no older Arcy interstadial, ca. 30 ky BP.

Southern Caucasus EUP industry in both eastern Crimea and north-western Caucasus

2.3 Huneborg stadial – Buran-Kaya III, levels 6–5 through 6–2 (Crimea) and Mezmaiskaya cave, levels 1C and 1B (north-western Caucasus) and Arcy and Maisières interstadials – Buran-Kaya III, levels 6–1 and 5–2 (Crimea) and Mezmaiskaya cave, level 1A (north-western Caucasus), radiocarbon age in between ca. 35 – 31 ky BP and then around 28 ky BP (see new dates in: Prat *et al.* 2011; Golovanova *et al.* 2010a; Pinhasi *et al.* 2011). Before the Crimean Buran-Kaya III Southern Caucasus EUP industry from lower 6 levels (6–5, 6–4 & 6–3) was archeologically related to Aurignacian *sensu lato*, ca. 27 – 19 000 years BP, and from upper 6 levels (6–2 & 6–1) and level 5–2 were archeologically connected to Epigravettian, ca. 19 – 14 000 years BP (e.g. Yanevich 2000; Yanevich *et al.* 2009). Before the Caucasian Mezmaiskaya Southern Caucasus EUP industry was basically archeologically discussed as belonging to Levantine Early Ahmarian for the time range in between ca. 34 and 28 ky BP (e.g. Golovanova *et al.* 2006), although recently the Mezmaiskaya cave investigators started to underline more and more archeological similarities with EUP assemblages from Dzudzuana cave and Ortvala Klde rock-shelter located in western part of southern Caucasus (Golovanova *et al.* 2010a; 2010b), or well relating to *"characteristics of Epigravettian in the south of Eastern Europe"* (Chabai 2004:277). In this paper it is thus proposed to treat the Upper Paleolithic assemblages from the Crimean and north-western Caucasus sites as one and the same EUP industrial unit. The unit's already proposed name will be explained below during its discussion with the above-noted and some other sites with EUP assemblages known in southern Caucasus.

Late / Evolved Aurignacian in western Crimea

2.4 Arcy and Maisières interstadials – Siuren I, Unit F, radiocarbon age ca. 31 – 29 ky BP on ungulate bone samples and ca. 28 – 26.5 ky BP on bone artifact samples (Demidenko & Noiret 2012a; Demidenko *et al.* in preparation). Before the Siuren I Late / Evolved Aurignacian was archeologically considered the same but with radiocarbon dates only around 28 ky BP.

As a result, chronology for all the four now (sic!) EUP industries and industrial attribution for one of the EUP industries became older and different, both chronologically and archeologically. At the same time, the LMP (Micoquian of Kiik-Koba type) levels and/or separate finds at the two Crimean sites with EUP levels can be geochronologically connected to stadial in between Hengelo and Huneborg interstadials (Siuren I, Unit H) and to Huneborg interstadial (Siuren I, Unit G; Buran-Kaya III, layer B).

Following the EUP and LMP geochronology for Buran-Kaya III and Siuren I, it seems enough reasonable to suggest that Late Micoquian can be no younger Les Cottes / Huneborg interstadial (ca. 36 ky BP) but still geochronologically coexisting with both "Eastern Szeletian" and Proto-Aurignacian industries, while the Southern Caucasus EUP industry and Late / Evolved Aurignacian with Roc de Combe microliths were not coexisting with Micoquian. The latter possible situation well corresponds to the north-western Caucasus Mezmaiskaya cave archeolgical sequence where Micoquian level sequence seems to be ending during Les Cottes / Huneborg interstadial (see in Pinhasi *et al.* 2011).

If the new geochronology version for LMP – EUP interface at two key Crimean sites for the transitional period (Siuren I rock-shelter and Buran-Kaya III grotto) is correct, then the 2000s concept should definitely go through significant changes. First, both "Eastern Szeletian" and Proto-Aurignacian appeared in Crimea at about the same time and there is even a possibility that Proto-Aurignacian *Homo sapiens* of Siuren I, Unit H did come to Crimea before the Szeletians and we still do not have any clear signs who were anthropologically the Szeletian people, although the present author prefers to suggest that they were *Homo sapiens*,

too. Then, Late Micoquian Neanderthals were coexisting with the Szeletians and Proto-Aurignacians and people of the three industries did not survive in both western (Siuren I) and eastern (Buran-Kaya III) Crimea until appearance of both Late / Evolved Aurignacian and Southern Caucasus EUP industry *Homo sapiens*. From the anthropological point of view, we do not have actual human remains directly associated with the Siuren I Late / Evolved Aurignacian finds but only *Homo sapiens* are the only possible candidates for the industry's human makers, according to the all known physical anthropology data, while the Buran-Kaya III Southern Caucasus EUP industry was certainly of *Homo sapiens* work (Prat *et al.* 2011).

At the same time, no one archeological level at Siuren I and Buran-Kaya III did not contain Levallois-Mousterian cultural remains, remembering also their complete absence in north-western Caucasus, why their persistence in Crimea during subsequent Huneborg stadial and Arcy interstadial cannot be excluded, according to the 2000s concept (e.g. Chabai 2008, 2011a). On the other hand, stated by the 2000s concept presence of Late Micoquian Neanderthals at some other Crimean sites during Huneborg stadial and Arcy interstadial should be crosschecked. The indicative case with Siuren I, Units H & G AMS dating with too young results in ca. 31 – 28 kyr BP because of collagen problems in animal bone samples can also occur at some other Crimean AMS dated sites (e.g. Kiik-Koba grotto, upper layer – see Demidenko & Uthmeier in press).

All in all, the 2010s new data and considerations do "open a door" for a new geochronology and industrial structure for LMP – EUP transitional period in Crimea and north-western Caucasus influencing the whole region's respective data and interpretations.

3 LMP – EUP LOCAL CULTURAL CONTINUITY OR DISCONTINUITY IN THE REGION?

The above-discussed find complexes of the four Early Upper Paleolithic industries from the three Great North Black Sea region sites can also be added by five more sites still lacking secure geochronological data but, at the same time, having industrially indicative archeological assemblages: Biryuchiya Balka 2 open-air workshop site in Lower Don river area for Szeletian *sensu lato* ("Streletskaya culture"); Chulek I surface find spot in Lower Don river area for Proto-Aurignacian / Archaic Aurignacian, Kamennomostskaya cave, lower layer and Shyrokiy Mys surface find spot in north-western Caucasus for Proto-Aurignacian / Archaic Aurignacian; Gubski rock-shelter I, layer 2 in north-western Caucasus for Late / Evolved Aurignacain. Accordingly, the region's EUP data base becomes more variable and rich for further studies.

But before it is indeed needed to touch the question on a local cultural continuity or discontinuity for the region's LMP and EUP.

The Great North Black sea region LMP industries (Micoquian and Levallois-Mousterian in both Crimea and Lower Don river area, as well as still only Micoquian in north-western Caucasus) have to be considered as being local Middle Paleolithic industries underlying the transitional period from Middle to Upper Paleolithic there. Micoquian is known since the time of Last Interglacial period (ca. 120 000 years BP) and Levallois-Mousterian starts to occur at least from Hosselo stadial preceding Hengelo interstadial (no less than ca. 45 ky BP) (Chabai *et al.* 2005, 2006, 2008; Demidenko 2011a). Both of these LMP industries persist until the appearance of the different EUP industries in the Crimea but not in Lower Don river area and north-western Caucasus.

There are especially clear stratigraphy data for stating the geochronological coexistence of namely Micoquian, from the LMP side, and EUP human communities in the Crimea, when we have a co-occurrence of Micoquian and Proto-Aurignacian artifacts within one and the same levels of the 1920s excavations Lower layer and 1990s excavations Units H and G at Siuren I rock-shelter in western Crimea (Demidenko 2000, 2012b) and the Buran-Kaya III grotto situation where "Eastern Szeletian" level C is actually deposited below *(sic!)* Middle Paleolithic Micoquian layer B (see in: Chabai *et al.* 2004). On the other hand, Late Levallois-Mousterian human groups' geochronological coexistence with EUP humans in the Crimea and Lower Don river area does not have yet similar to the Late Micoquian stratigraphical interstratification support. But Crimean Kabazi II site Late Levallois-Mousterian occupations are still associated with Huneborg stadial and Arcy interstadial identified through AMS radiocarbon and ESR dates in between 30 and 33 000 years BP and the respective pollen studies (see in: Chabai *et al.* 2006), although some additional confirmation for such geochronology would be still very desirable. Such data are really needed as still accepting so late dates for the Crimean Latest Levallois-Mousterian, there is the clear situation with the geochronological coexistence during Arcy and Maisières interstadials (ca. 31 – 29–28 ky BP) of still surviving Levallois-Mousterian human groups, probably Neanderthals, along with already appeared the latest *(sic!)* for the Great North Black Sea region EUP *Homo sapiens* bearing Late / Evolved Aurignacian with Roc de Combe microliths tradition in one and the same small region of western Crimea, known for two sites situated in two rather close one to another Alma (Kabazi II) and Belbek (Siuren I) river valleys.

But coming strictly to the local cultural LMP – EUP continuity / discontinuity subject, it has to be necessarily underlined that there are no real concrete archeological data for any cultural / industrial successions in between LMP and EUP industries in southern Eastern Europe and it was well initially shown by Chabai in the early 2000s (Chabai 2000, 2003, 2004; see also Chabai 2008, 2011a; Demidenko 2008).

Indeed, no one of the LMP industries can be generically connected to any EUP industry in the Great North Black sea region. That's because through all the available archeological data, we do not see presence of any Upper Paleolithic techno-typological traits within the considering Micoquian and Levallois-Mousterian assemblages (even their possible proto-types!) and vice versa – no any Middle Paleolithic techno-typological traits within the EUP assemblages, when we deal, of course, with industrially homogeneous assemblages (e.g. see in: Chabai *et al.* 2004, 2006, 2008; Demidenko 2000, 2012b). Additionally, there is an anthropological factor – the bearers of LMP traditions were Neanderthals, while makers of EUP industries were *Homo sapiens*, basing from all data are available at hand. Respectively, it is very hard even to imagine an anthropological human transition from a Neanderthal man to a *Homo sapiens* man, going together with no (sic!) archeologically visible industrial transformation(s) of LMP complexes into EUP ones in the region.

As a result, there is no other way than to consider all the above-mentioned four EUP industries as being brought into the Great North Black Sea region by their *Homo sapiens* bearers from somewhere and, as strictly archeological artifact data indicate, not from just one but from several geographically different regions.

4 EUP HUMAN MIGRATION INTO THE GREAT NORTH BLACK SEA REGION: THE PROPOSED SUGGESTIONS BASED ON ARCHEOLOGICAL DATA

Thinking on any possible Paleolithic archeological connections in between archeological assemblages situated in various regions and suggesting human migration hypotheses in cases when not just a single / a couple artifact types are similar, otherwise, it might be a convergence or diffusion case, it is really necessary to take into consideration the pointed out by Otte and Keeley yet 22 years ago a need in *"a continental or even intercontinental view"* for *"controlled comparisons"* escaping too local only considerations (see the paper's epigraph). Also, proposing human migrations in Paleolithic, it is good to remember about real geographical barriers that humans were not able to cross or bypass during some Paleolithic epochs but were able to do it during other Paleolithic epochs. Additionally, an initial human migration from one region into another region(s) is also assumed through either the earliest dated such industry in a region or a suggestion on local origin of such industry in a region. On the other hand, absence of any archeological data on a local origin of such industry in a region is logical to view as a place where humans have moved from a source migration region. All "human migration conditions" are in a good correspondence with the present-day EUP record in the Great North Black Sea region.

Coming back to the paper's strict subject, the following directions for EUP human migrations into the regions are assumed now (**figure 2**).

Northern direction is associated with *"Streletskaya culture"* people movements from central part of Eastern Europe (Kostenki in Middle Don river area) down to Lower Don river area (Biryuchiya Balka 2 site) and further south to Crimea (Buran-Kaya III grotto, level C) (Demidenko 2008). There are the following similar features for the two Szeletian *sensu lato* industries (Crimean "Eastern Szeletian" and "Streletskaya culture") in Eastern Europe: absence of any true blade core reduction why blades are either totally or nearly absent being just accidental cases there; the common undeveloped core reduction methods (mainly, parallel rather primitive ones) that's why flakes and many flint plaquettes and even chunks were used for tool production; the common both occurrence of serial fan-shaped end-scrapers and, at the same time, nearly absence of any burins; presence of numerous bifacial points manufactured through Upper Paleolithic "bi-convex" manner and used soft-hammer technique with even sometimes additional pressure technique applied for finalizing a bifacial point fabrication that puts the discussing EUP bifacial tools in the same technological row with, however, chronologically much later Solutrean and Clovis bifacial point production manners and techniques; bifacial tool production was also leading to removing of flakes and chips that were then very often used as blanks for production of small-sized (!) bifacial and partly-bifacial points (the "Streletskaya culture" case) and partly-bifacial trapezes (the Buran-Kaya III case). Basically, the only typological difference for the discussing two East European Szeletian industries is restricted to presence of serial large-sized and small-sized bifacial / partly-bifacial triangular points with a concave base in "Streletskaya culture" assemblages and their absence (in the strict typological sense in the Crimean assemblage), although the partly-bifacial trapezes with a concave base can be well viewed as a modification (sub-type) of the Streletskaya small-sized points with a concave base (see in: Chabai 2004, fig. 8–3 on p. 275; 2011b, fig. 6 on p. 140).

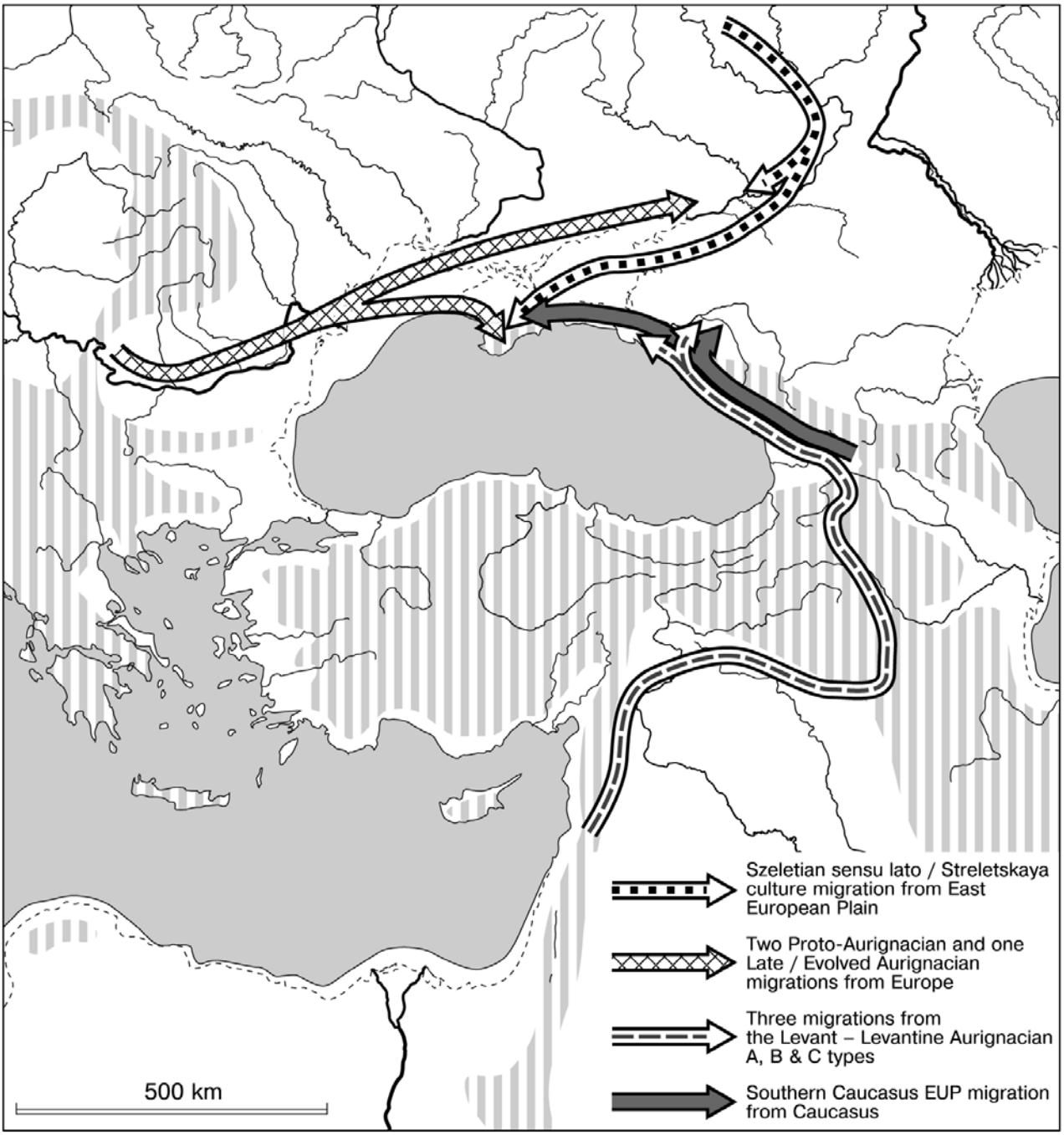

FIGURE 2 The proposed human migration directions into the Great North Black Sea region during Early Upper Paleolithic time period.

All the above-represented techno-typological data allow me to support the discussing human migration idea from Don river areas to the south, into Crimea, during a stadial (continental!) climate conditions in between Hengelo and Huneborg / Les Cottes interstadials, why some "Streletskaya culture" people had to move to the south for survival. By the way, it is of interest to note that the East European "Eastern Szeletian" / "Streletskaya culture" tradition to manufacture small-sized bifacial and partly-bifacial points on flakes and chips originating from large-sized bifacial point production and rejuvenation processes was also well noted by me in 1990 during studies of concrete materials coming from famous Szeletian Moravany-Dlha site at Nitra Archeological Institute and Piestany museum in Western Slovakia, excavated in 1943 by L. Zotz and in 1946 by K. Absolon (see Barta 1960), having numerous bifacial and partly-bifacial "bi-convex"

points with a convex rounded base, so-called "Moravany-Dlha leaf points of poplar type". Accordingly, such bifacial and partly-bifacial point making tradition with some shape variability for the points can be regarded as a common feature for a series of Szeletian industries in both Central and Eastern Europe.

Western direction is connected to *European Proto-Aurignacians* migrations to Crimea (Siuren I, Units H & G) and Lower Don river area (Chulek I) and *European Late / Evolved Aurignacians* with Roc de Combe microliths to Crimea (Siuren I, Unit F) (e.g. Demidenko 2000–2001, 2004, 2008, 2008–2009, 2009, 2011a, 2011b, 2012c, 2012d; Demidenko & Otte 2000–2001, 2007; Demidenko & Noiret 2012b).

According to artifact characteristics, *European Proto-Aurignacian Homo sapiens* penetrated into the southern territories of Eastern Europe in a view of two its *Homo sapiens* groups. One Proto-Aurignacians' group that is known for Siuren I respective Units H and G materials in Crimea does represent industrially the so-called classical European Proto-Aurignacian assemblages, like from Cueva Morin (Cantabria, Spain) in Western Europe and Krems-Hundssteig (Lower Austria) in Central Europe, taking just two good European comparable examples, is characterized, first of all, by numerous carinated cores and end-scrapers but not at all or very few carinated burins and also serial Dufour bladelets of Dufour sub-type and Font-Yves / Krems points. Another Proto-Aurignacians' group is recognized through Chulek I artifacts in Lower Don river area. In addition to the above-described common European Proto-Aurignacian features, the Chulek I assemblage shows a peculiar secondary modification of microliths – their basal ventral thinning, traced on 11 from all 39 microliths there (28.2 %). Such microlith basal ventral thinning yet 10 years ago I called *"Chulek I type"* (Demidenko 2000–2001:151) and showed its presence in such famous Proto-Aurignacian complex as Fumane grotto in Italy (Bartolomei *et al.* 1992, fig. 24:22–23; fig. 26:21, 27; see also Broglio *et al.* 2005, fig. 9, 30–35, 37, 39).

The appearance of *Homo sapiens*, bearing two possible sub-types of the European Proto-Aurignacian in the Great North Black Sea region (Crimea and Lower Don river area) could be explained through general occupation of southern European territories by the Proto-Aurignacian humans before Arcy interstadial (ca. 30 ky BP), where very most of their known sites are located in the same southern geographical band in Europe – somewhat between 40° N latitude and 46° N latitude. The seemingly only two exceptions in Central and Eastern Europe (Krems-Hundssteig and Chulek I) mark the northern extension of the Proto-Aurignacian to around 48° N latitude, that can be still explained as being within the range of a single common human adaptation system materially expressed by one basic flint and bone treatment and use tradition for survival in temperate climate of south European foothill forest and varying steppe landscapes with hunting of different ungulate species possibilities and access to river and/or sea aquatic resources.

European Late / Evolved Aurignacians with Roc de Combe microliths are well registered on the respective materials of Siuren I Unit F having the "complete package" of all carinated types' of pieces – cores, end-scrapers and burins (including busque ones), as well as numerous Dufour and pseudo-Dufour microblades of Roc de Combe sub-type. Exactly the same assemblages and at the same time range (ca. 31 – 28 000 years BP – Arcy and Maisières interstadials) are known in Western Europe where the Roc de Combe microliths and all the objects from which their blanks were flaked (carinated cores, end-scrapers and burins) have been actually identified. In contrast to the European Proto-Aurignacian, the Late / Evolved Aurignacian is not restricted to just southern territories in Europe, being well known throughout almost all the Europe for the noted time period.

At the same time, its particular variant with Roc de Combe microblades, because of site taphonomy, function and excavation techniques, is of rather rare occurrence, why the significance of the Siuren I, Unit F materials is so important, showing also dispersal of *Homo sapiens* of this type of Late / Evolved Aurignacian into the Great North Black sea region, too.

Southern direction is represented by 4 (four!) possible waves of EUP human migrations into the Great North Black sea region.

First migration wave (Demidenko 2008–2009, 2009, 2011a, 2011b, 2012c, 2012d; Demidenko & Noiret 2012b) is suggested for Archaic Aurignacians of Levantine Aurignacian A or Ksar Akil Phase 3 (see Williams & Bergman 2010), the best known on materials from the 1930s excavations levels XII and XI at Ksar Akil rock-shelter in Lebanon, also added by assemblages from Umm el Tlel, secteur 2, locus Sud-Ouest, couche 14'b'; secteur 2, locus Nord, couche II2b; secteur 5, couche P1c (see Ploux & Soriano 2003) and now also related to this industry type by me materials from Yabrud II, layer 3 in Syria and possibly lower levels of layer C at Shanidar cave in Zagros (Solecki 1955; Otte & Kozlowski 2007). The techno-typologically well comparable to them materials do originate from Kamennomostskaya cave, lower layer (north-western Caucasus, Russia) (Demidenko 2000–2001). Their common features are as follows: blade / bladelet core reductions, rare carinated end-scrapers, while carinated burins and lateral carinated pieces (!) are serially represented, why the microliths, bearing mostly dorsal retouch, often have twisted profiles and off-axis orientation.

Second migration wave (Demidenko 2008–2009, 2009, 2011a, 2011b, 2012c, 2012d; Demidenko & Noiret 2012b) is proposed to be viewed again for *Archaic Aurignacians* but of industrially different type – Levantine Aurignacian B or Ksar Akil Phase 4 (see Williams & Bergman 2010), and again the best expressed by materials from the 1930s excavations level X at Ksar Akil rock-shelter in Lebanon, as well as some other Lebanese materials from Antelias cave, level IV and Abu Halka cave, level IVc (see Azoury 1986; Bergman 1981, 1987, 2003). Much similar to these Lebanese assemblages are finds of Early Zagros Aurignacian (like the ones from Yafteh cave, levels 23 – 15) in Iran (see Otte & Kozlowski 2007; 2009; Otte *et al.* 2007; Bordes & Shidrang 2009) and Archaic Aurignacian finds from Shyrokiy Mys in north-western Caucasus, Russia (Shchelinsky 2007). There are the following uniting industrial features for the 3 assemblage groups here: numerous carinated cores and end-scrapers and a subordinate position of carinated burins for the Levantine assemblages and their nearly absence in the Zagros and north-western Caucasus assemblages, a small number of alternately and ventrally retouched microliths, including some "Abu Halka / El Wad variant" points with partial ventral retouch at proximal end (*sensu* I. Azoury and C. Bergman), many pointed bladelets and a majority of other dorsally retouched microliths with either projectile distal damage or Ouchtata fine retouch.

Third migration wave (Demidenko 2009) is possibly associated with *Late / Evolved Aurignacians* of Levantine Aurignacian C or Ksar Akil Phases 6 & 7 (see Williams & Bergman 2010) with lateral carinated pieces, as well as with carinated cores, end-scrapers and burins, to north-western Caucasus (Gubski rock-shelter I, layer 2) (see Amirkhanov 1986). It has to be made a reservation regarding the Cubski rock-shelter materials and their inclusion into the human migration hypothesis here. The rock-shelter's artifacts are stored in Maikop town (Republic of Adygea, north-western Caucasus, Russia) and only these EUP materials from the Great North Black Sea region were not studied by me personally, why published information was only used.

Finally, *fourth southern migration wave* was just proposed during the Liege May 2012 conference (Demidenko 2012e) for again newly defined industry in eastern Crimea and north-western Caucasus. Accordingly, it is suggested the Southern Caucasus EUP industry people movement from north-western Caucasus (Mezmaiskaya cave, levels 1C through 1A – dates between 33 – 28 ky BP) into eastern Crimea (Buran-Kaya III grotto, levels 6–5 through 6–1 & 5–2 – dates between 34 – 30 ky BP). The Caucasian and Crimean assemblages are similar by: flint artifacts – technologically, predominant primary reductions of both unidirectional bladelet cores and multifaceted (not carinated!) burins producing numerous incurvate and also often twisted narrow bladelets and especially microblades, and, typologically, a great prevalence of "non-geometric microliths" with a fine backed dorsal retouch where up to a half of them or even more is represented by points and among them occur many points with bilateral fine retouch; bone tools – numerous points and awls; personal ornaments – different and serial perforated shells, mammal teeth and even mammoth ivory beads (see Yanevich *et al.* 2009; Prat *et al.* 2011; Golovanova *et al.* 2006, 2010a, 2010b).

My migration idea for the discussing north-western Caucasus and eastern Crimean EUP industry humans (remembering here on *Homo sapiens* remains found in 2001 by A. Yanevich in level 6–1 at Buran-Kaya III grotto – Prat *et al.* 2011) further becomes more interesting as before colleagues working in northern and southern Caucasus also established a significant similarity in between the Mezmaiskaya materials and two sites in Southern Caucasus, western Georgia (Dzudzuana cave, layer D, dates between 32 – 27 ky BP; Ortvala Klde rock-shelter, layers 4d and 4c, dates between 38–34 – 30 ky BP) (Adler *et al.* 2008, Adler 2009; Golovanova et al 2010a; 2010b; Bar-Yosef *et al.* 2011; see also Bar-Ysofe *et al.* 2006). Moreover, one more site with similar EUP artifacts was reported by A. Kandel during the Liege May 2012 conference from Southern Caucasus but in southern Armenia, Aghitu 3 cave, with dates between 30 and 28 ky BP (Kandel *et al.* 2011, 2012; see also this volume). Having no any industrial roots for such EUP industry in Crimea and north-western Caucasus, as well as seemingly in the whole Eastern Europe, presence of the similar assemblages in Georgia and Armenia with some possible indications on the industry's survival later on there and, at the same time, possible presence of some more similar assemblages at very newly excavated sites in different regions of Iran (e.g. Ghar-e Boof cave, AH IV – III with radiocarbon dates in between ca. 37 – 31 ky BP – see Conard & Ghasidian 2011; Garm Roud 2 open-air site with a radiocarbon date ca. 30 – 29 ky BP – see Berillon *et al.* 2009), indeed allows me to name tentatively the industry as the Southern Caucasus EUP one and to propose its human bearers' migrations from southern to northern Caucasus and not *vice versa* direction. So, it is suggested to explain presence of the Buran-Kaya III EUP industry in eastern Crimea as a result of human migrations from southern Caucasus via north-western Caucasus to the Crimea, having even possibly its roots further to the south, remembering about the new discoveries in Iran.

5 SHORT CONCLUDING REMARKS

In total, there are suggested (**figure 2**) one human migration from the north, three human migrations from the west and four human migrations from the south for the Great North Black Sea region Early Upper Paleolithic.

Finally, now the geochronological sequence of the EUP industries and its peculiarities in the Great North Black Sea region are assumed to be as follows.

The "Eastern Szeletian" and Proto-Aurignacian humans surely geochronologically coexisted with Micoquian Neanderthals in eastern Crimea (Buran-Kaya III grotto's data) and western Crimea (Siuren I rock-shelter's data). These industries' time period might be connected to occupational hiatuses of archeologically sterile both level D between Late Micoquian and Southern Caucasus EUP industry levels at Mezmaiskaya cave and geological levels 13 through 9 between Late Micoquian archeological layer 1 and Late / Evolved Aurignacian archeological layer 2 at Gubski rock-shelter I in north-western Caucasus. Accordingly, the Southern Caucasus EUP and Late / Evolved Aurignacian humans were, high likely, living in the region with no any geochronologically contemporaneous for them Micoquian Neanderthals in between ca. 36–34 and 28 000 BP. At the same time, the geochronological positions of Levantine Aurignacian A-like materials from Kamennomostskaya cave, lower layer and Levantine Aurignacian B-like materials from Shyrokiy Mys site in north-western Caucasus still remain unclear within the region's EUP sequence.

Anyway, having such a "crowd" of different LMP and especially EUP human groups in the Great North Black Sea region, there is again, however, no one evidence on presence of any archeologically recognizable features due to mutual influence in artifact materials of the contemporary industries. Indeed, humans of no one either LMP or EUP industry borrowed any other industry's traits. Therefore, the term geochronological coexistence (Demidenko 2008) for Micoquian, "Eastern Szeletian" and Proto-Aurignacian industries in Crimea at best reflects the situation of probable movement of different human groups around with many chances not to meet each other in the region. As a result, any acculturation processes have been not noted there.

So, it is again, as already in the 2000s, but in a more detailed way possible to conclude that the south of Eastern Europe acted as a crossroad for migration routes of many EUP hominins making very complex the human history at that time there.

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