EVIDENCE OF MODERN HUMAN BEHAVIOR IN THE BAIKAL ZONE DURING THE EARLY UPPER PALEOLITHIC PERIOD

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ABSTRACT

The Baikal region is viewed as the easternmost territory where the Upper Paleolithic complex appeared the earliest. Its chronology is relevant in establishing the chronologies of its adjacent regions. The Baikal Upper Paleolithic sites are numerous and well-represented. The beginning of this period is well-defined by the dated profiles, detailed technical or typological characteristics of industries, elements of symbolic activity, and subsistence strategies. This paper will present some archaeological evidence, retrieved from my own excavations in the region, of Modern Human behavior in the area at around 40,000 BP.

Without written language, the creation of explanatory models for past events is a challenging task. The artifacts in the Baikal region, which were identified as ornaments, could be categorized as status symbols, individual or group attributes, spiritual items, adornments, and more. Prehistoric behavior, which follows certain intellectual actions, methods, and expressions, can be reflected in the production of artifacts. Also, symbols are special units of thought that stand between specific sensible images, material objects, and abstract concepts. Basically, there is evidence that the Paleolithic hominins in Siberia had an early form of symbolic activities and behavior.

The question of symbolic behavior is of particular interest within the wider discussion concerning the formation of culture in early modern humans (in Eurasia). The symbolic behavior typical for early *Homo sapiens sapiens* correlates with the Upper Palaeolithic context of the Eurasian highlands.

Some basic features in archaeological assemblages of early Upper Paleolithic that characterize modern human symbolic behavior (Mellars: 2005; d'Errico *et. al.*: 2003; Bolus & Conard: 2009; etc.) are:

- objects having unusual physical or casual/common anthropo- or zoo-morphic properties;
- pigments (ochre, hematite, limonite, etc.) and evidence of their use;
- marks (notches, retouches, cavities, use-wear traces, and residue on bones, stones, etc.);
- personal ornaments with decorations (perforated animal teeth, shells, stones, and bone pendants);
- art works, expressed in different forms (sculpture, painting, and engraving);
- musical instruments (whistles or flutes made of bird bones, percussion instruments, etc.);
- intentional burials of animal bones (storage of bones or secondary burials);
- human burials.

All of the abovementioned features can be found in the cultural layer that represents the initial stage of the Upper Paleolithic of Siberia, except for the human burials which are rare finds in Siberia, as in the case of the Malta site (classic stage of Upper Paleolithic, dated 20,000 to 22,000 years ago). The following are the common characteristics of the Early Upper Paleolithic of the Baikal area: presence of ochre, 'marks', personal ornaments with decoration, musical instruments and burial of animal parts (Figure 1).

The Baikal region is located in a contact zone of different landscapes in Northern and Central Asia. The territory lies within the limits of the Mongolia-Siberian folded mountain belt. Its environment (geological makeup, climate, bodies of water, biogeography and landscapes) shows enormous variation. The region is characterized by a combination of mountain ridges, watersheds, and intermountain basins oriented in a northeast direction. Studies of key geoarchaeological sections have made it possible to reconstruct the environmental conditions of human occupation during the Paleolithic period. Moreover, it helped in the formulation of a general geoarchaeological scheme for the major developmen-

Figure 1. Khotyk-site. Partial burial of Rino's foot (Level 3, 32,000 to 38,000 years BP).

tal stages of the culture in the region. It is important to note that the majority of the sites mentioned above were studied through a variety of scientific disciplines. Also, the results of have been confirmed by various dating methods (Derevianko 2009; Lbova 2008).

Recent discoveries of artifact assemblages from the Early Upper Paleolithic indicate the existence of symbolic activity. Currently, the archaeological assemblage includes more than 100 items made of bones, stones, and shells. The artifacts were unearthed from stratified sites such as Tolbor (Mongolia, excavation of Gladishev S.A.), Kamenka, Varvarina Gora, Khotyk, (Transbaikalia, excavation of L.V. Lbova), Podzvonkaya (Transbaikalia, excavation of V.I. Tashak), Voennyi Gospital, Pereselencheskyi punkt-1 (sub-Baikal region, excavation of D. Chersky - 1871, G.I. Medvedev, and E.A. Lipnina), Kara-Bom, Denisova Cave, Strashnaya Cave, (Altai-region, excavation of A.P. Okladnikov, A. P. Derevianko, V.T. Petrin, M.V. Shun'kov, and A.N. Zenin), Malaya Syia (Sayan-region, excavation of V.E. Larichev and Y.P. Kholushkin). All those sites are dated within the range of 30,000 to 43,000 years ago, and are related technologically to the initial stage of the Upper Palaeolithic period.

Basic archaeological research utilizes the chronological context (cultural layer, stratigraphic sequence, features, etc.), and the morphological, technological, and semantic features of the artifacts. Research on ancient human symbolic activity and on the origin and development of culture in the Early Upper Palaeolithic Siberia is based on the approaches mentioned above. This study also follows these approaches.

Use-wear analysis developed by S.A. Semenov and G.F. Korobkova and micropolish wear analysis by L. Keeley were employed, and well as the author's Siberian collection of standards of wear-analysis. The author also applied the synthesized tracing technique developed by P.V. Volkov, which was used in the analysis of the Paleolithic and Neolithic archaeological assemblages of North Asia (Volkov and Lbova: 2009). The study of artifact manufacture and traces of use-wear, along with experimental techniques, allows us to reconstruct the technological process of lithic artifact manufacturing.

In the course of studying the archaeological assemblage of Khotyk (Western Transbaikalia), dated to 35,000 to 40,000 to 25,000 to 28,000 years ago, Kuzmin *et al*. (2006) identified their manufacturing technologies, including flaking, drilling, carving, grinding, and polishing. A number of tools

Figure 2. Khotyk-site. Fragment of a fall ring (Level 3, 32,000 to 38,000 years BP) — Bar at base is 1 cm in length for scale.

were employed for the manufacture of artifacts: hammerstones, retouchers, bow-shaped and lathe drills, perforators, reamers, engravers, grinding tablets and hide scrapers. Judging by the impact marks on the working surface of the artifacts, advanced tools—such as drills with relatively narrow elaborated working edge—were used. All the remaining tools mentioned above were used in retouching and refining the edges. The time spent for the manufacturing of the examined tools was probably relatively short.

The artifacts can be divided in the following general variants, based on morphology and technology:

Variant 1 consists of items of oval form made from small and medium pebbles (or from halves of pebbles, made by longitudinal splitting), and blades. These artifacts were manufactured from soft rocks such as talc, agalmatolite and steatite of varying colors (milk-white, yellowish, pink, greenish, and black). It is interesting to note that practically all of the rocks possess the property of iridescence (mother-of-pearl surface), which is enhanced by water. All items were made using a similar technique: reduction of pebble surface (splitting or flattening), polishing of convex surface, and intentional drilling of hole(s) so that the item's lateral is parallel with the hole's rim or its center. Such objects have a crescent form, the shape of letter 'C', or 'horned oval' (Khotyk-site; Figure 2).

Variant 2 consists of rounded beads with holes in the center, which are manufactured from different raw materials – stones (rhyolite), bones, tusk, shell (ostrich or bustard), and clamshell. These are small flat pieces, about 10 to 15 mm in diameter. The holes were usually made by perforators (themselves made from relatively hard material), probably using a bow drill device. The artifacts were then ground with a hard abrasive and polished with soft skin. This form is usually found in Transbaikalia assemblages (Kamenka, Podzvonkaya, Khotyk, Voennyi Gospital, and so on) in the beginning of the Upper Paleolithic. It existed for a longer period of time; it is a characteristic of Mesolithic and Neolithic 'decorations,' as seen at many site collections and assemblages in Eurasia, Africa and America.

Figure 3. Khotyk-site. Ornamented pendant of talc (Level 2, 26,000 to 28,000 years BP)

Variant 3 has the same form as the previous variant, but it differs in size and technology. This variant consists of rings with holes of 10-30 mm in diameter. The production process includes drilling and carving of the center hole with an engraver using linear motions. This is followed by reduction along the perimeter. The item is then ground on a coarse-grained abrasive surface through alternating motions. Finally, it is polished on a relatively soft hide. Such items (or fragments of them) were found in Transbaikalia and Altai assemblages.

Variant 4 is comprised of flat polished objects with symmetrical shapes that are cut-decorated along the edge (Pereselencheskyi punkt-1). Some similarities can be found with the artifacts from the early Upper Paleolithic sites of South Siberia and Dnieper area (Eastern Europe).

Variant 5 consists of objects made of the cortical bones of birds, with the form of cylinders with rhythmic notches and with traces of polishing (both on the artifacts and their debitage). Their lengths vary from 3 to 35 mm while the sizes of the rhythmic marks made with a graver range from 1 to

Figure 4. Khotyk-site. Fragment of a flute (whistle flute) (Level 3, 32,000 to 38,000 years BP)

2 to 5 to 7 mm. The notches and the cuttings, distinguishable technologically, have a clear geometrical rhythm of intervals and form various compositions of graphic lines (Kamenka-A, Denisova Cave, Podzvonkaya, and so on). A sense of rhythm, counting, and abstraction, demonstrated through graphic marks, point to the generated area of elementary aesthetic perception of reality. There are various analogies to ethnographic and other archaeological material in a wide chronological and territorial context.

Several unique artifacts with different geometrical forms and morphological features form a special group. The group includes a triangular bead made of pink talc a lenticular cross -section and a biconical hole, and a unique elongated pendant with central biconical hole, radial incisions on the "head," and an ornamented "body" that resembles an anthropomorphic figurine (Khotyk, level 2). The other artifacts are a figurine pendant with a notched decoration along the edge and a biconical hole (Pereselencheskyi punkt-1), and a squarish bone bead (Strashnaya Cave, Tolbor).

Decorated stone pendants appear in the archaeological collection dated between 25,000 to 30,000 years ago (Khotyk, level 2, Pereselencheskyi punkt-1; Figure 3). However, the use of decorations did not occur in the earlier assemblages, dating between 35,000 and 40,000 years. A considerably primitive type of decorative pattern is evident; it is characterized by regular notches that shape or alter the basic elements of the item. By treating the decorative pattern as a special form of art, one can argue that it is the most expressive, clear, and frequent method used to express abstractions on objects in the classic stage of the Upper Paleolithic. The decorative patterns on bone items from Siberian sites—such as Voenniy Hospital, Malta, Ostrovskaya (Stoyanka Talickogo), Achinskaya sites, and others—include: spirals on the surface that were made with stroke-ornamented technique, and spiral lines, girded stems, wave and parallel lines that were made in a thin continuous line. These designs demonstrate a diversity and variability in geometric form. Compositions of flat pit-point rows, regular rhythmic cuttings, oblique and straight lines, chevrons, zigzags, filling certain surfaces and belts are numerous. The organized decorative pattern adorns bone and tusk items, disks and laminates, spatulas and awls, and the so-called 'rod of chiefs' artifacts of Upper Paleolithic in Eurasia (Abramova 1995).

The highlighted elements of the decorative pattern correlate with the anthropomorphous elements of the Gravettian 'Venus' (20,000 to 27,000 years ago). Among the known samples of cultural communities (Pavlov – Villendorf – Kostenki – Avdeevo) the following parts of clothing were ornamented: bosoms, belts, and caps. It can be assumed that anthropomorphism appeared, as shown by the "belt" image on an object from Khotyk on the bosom and a "hair-do" image (or a cap). The discovery of such ancient ornamented items is a unique occurrence in the Paleolithic period in Siberia. The decorative elements and morphology of the pendants add to the importance and relevance of the Khotyk and Pereselencheskiy punkt-1 site assemblages for the Upper Palaeolithic.

Separate consideration should be made of the recovery of musical instruments in the cultural layers of the early Upper Paleolithic in Baikal-zone. The author classified these findings as fragments of a flute (Figure 4; Khotyk, pic. 3) and a whistle (Kamenka-A). These artifacts are contemporaneous with the ones recovered from excavations of Aurignacian sites in SW-Germany (Hohle Fels, Geißenklösterle, Vogelherd) (Conard *et. al.*: 2009) and Belgium (early Aurignacian period layers of Spy-cave).

CONCLUSION

The decorative complex, along with the evidence of symbolic behavior, sets the early stage of the culture formation of early modern man in the Baikal region to approximately 40,000 years ago. The early Upper Paleolithic materials in Siberia fit into the regional context. The appearance of decorative traditions in the Early Upper Paleolithic accompanies the development of early figurative art and numerous other innovations, including a wide array of new forms of personal ornaments, and new lithic and organic-material technologies. These artifacts indicate the presence of an advanced manufacturing and processing system for the most ancient assemblages of objects in Eurasia. The evidence of symbolic activity in the lives of early Upper Paleolithic people does not directly suggest a more effective subsistence economy and greater reproductive fitness. However, viewed in a wider behavioral context, early Upper Paleolithic symbolic activities could have contributed to the maintenance of larger social networks, and have helped facilitate the demographic and territorial expansion of modern humans in Siberia in relation to the culturally more conservative and demographically more isolated populations.

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REFERENCES

Abramova, Z. A. 1995. *L'art paléolithique d'Europe orientale et de Sibérie*. Grenoble: Jérôme Millon (in French).

Conard N., Malina M., Mu¨nzel S. 2009. New flutes document the earliest musical tradition in southwestern Germany. *Nature* 08169:1-4.

d'Errico, F., C. Henshilwood, G. Lawson, M. Vanhaeren, A.M. Tillier, M. Soressi, F. Bresson, B. Maureille, A. Nowell, J. Lakarra, L. Blackwell, and M. Julien. 2003. Archaeological evidence for the emergence of language, symbolism, and music - an alternative multidisciplinary perspective. *Journal of World Prehistory* 17:1–70.

Bolus, M. & Conard, N. J. 2009. What can we say about the spatial-temporal distribution of early Aurignacian innovations? *Eurasian Prehistory* 5:19–29.

Derevianko, A. P. 2009. The Middle to Upper Paleolithic transition and formation of *Homo sapiens sapiens* in Eastern, Central and Northern Asia. Izd. Novosibirsk: Instituta Arkheologii I Etnografii Sibirskogo Otdeleniya Rossiiskoi Akademii Nauk (in Russian).

Kuzmin Y. V., Lbova L. V., Jull T. A. J., Cruz R. J. 2006. The Middle-to-Upper-Paleolithic Transition in Transbaikal, Siberia: The Khotyk Site Chronology and Archaeology. *Current Research* 23:23–26.

Lbova L. 2008. Problems of dating of the Upper Palaeolithic in the Transbaikal region. In A. P. Derevianko, M. V. Shunkov (eds), *The current issues of Paleolithic studies in Asia*, pp. 78-82. Novosibirsk: IAET SD RAS.

Marshack A. 1972. Upper Paleolithic notation and symbol. *Science* 178:40–63.

Mellars P. 2005. The Impossible Coincidence A Single – Species model for the Origins on Modern Human Behavior in Europe. *Evolutionary Anthropology* 14:12–27.

Volkov, P.V. and Lbova, L.V. 2009. Manufacturing technology wearable jewelry at an early stage of the Upper Paleolithic (based on the western Trans-Baikal-region). *Vestnik of Novosibirsk State University*. Seria: History and Philology 8(5), Archaeology and ethnography: 62-73 (in Russian).