

3. New Developments in Siberian Archæology

CHESTER S. CHARD

The very extensive archæological field work that has been carried out in recent years in Siberia will inevitably change as well as fill out our picture of the prehistory of this important area, so relevant to the course of human history in East Asia and the New World. Inevitably, it will take time before the data of this work can be fully analysed and made available. In March 10-19, 1960, sessions of the First Scientific Conference on the History of Siberia and the Soviet Far East were held in Novosibirsk, Tomsk and Irkutsk; it was attended by most of the Soviet scholars active in this field, including archæologists, ethnographers and physical anthropologists. Abstracts of the field reports and new opinions which were expressed at the conference were made available to me through the kindness of Professor A. P. Okladnikov, one of the leading participants. The volume has been microfilmed for the Library of Congress and the Arctic Institute of North America (Montreal) under the title: *Nauchnaia Konferentsiia po Istorii Sibiri i Dal'nego Vostoka. Sektsiia arkheologii, etnografii, antropologii i istorii Sibiri i Dal'nego Vostoka dooktiabr'skogo perioda*, Tezisy dokladov i soobshchenii, Irkutsk 1960. Brief reports of the proceedings of the conference have also appeared in *Sovetskaia Arkheologiia*, 1961, 1: 312-316, and *Sovetskaia Etnografiia*, 1960, 5: 111-117. From these sources, some of the more significant new developments in Siberian archæology are outlined below.

M. M. Gerasimov (Institute of Ethnography, Moscow) reported on the results of his latest excavations at the important Palæolithic site of Mal'ta near Irkutsk. In his opinion, the geological, stratigraphic and faunal evidence establish this as one of the oldest sites in Siberia. The distinctive features of the stone and bone artifacts, as well as of the representational art, provide a basis for defining the 'Mal'ta culture', represented by this site and the roughly contemporary but probably slightly later site of Buret' in this same general area. It is possible that the rather obscure Military Hospital site in Irkutsk also belongs in this category. The only possibly earlier trace of human occupation is at Malyi Kot on the lower Kuda River (also in the Angara valley), where two large implements of chopper type were found with the remains of Middle Pleistocene *Elephas trigontherii*; however, the site has not been adequately investigated. Gerasimov is also of the opinion that the lower level of the site at Pereselencheskii Punkt in the environs of Irkutsk belongs to the same period as Mal'ta but to an entirely different culture which is genetically linked with the later culture of Afontova Gora and other sites in the Yenisei and Angara valleys. (This site is better known as Kaiskaia Gora in order to avoid confusion with the famous Pereselencheskii Punkt site opposite Krasnoyarsk on the Yenisei.) As to the ancestry of the Mal'ta culture, Gerasimov finds no corroboration of Okladnikov's

hypothesis of a Western (European) origin. He feels that certain elements of the flint tool inventory, as well as of the art, indicate the distinctive nature of this culture and give grounds for advancing the hypothesis of a southeastern origin.

Z. A. Abramova reported on the activities of the Palæolithic Section of the Angara Archæological Expedition during 1958–1959. Work was continued at the new site of Krasnyi IAr which had been discovered in 1957 by A. P. Okladnikov at the juncture of the Angara and Osa Rivers. Three clearly stratified horizons have been identified here, evidently belonging to a single culture later in time than that represented by Mal'ta and Buret'. The upper horizon, discovered at a depth of 2.4 m. in the southeastern part of the excavated area, takes the form of thin and very diffuse hearth spots that are filled with tiny fragments of burned bone. Finds consisted of individual quartzite tools, tiny chips of the same material and fragments of horn bearing traces of working. Below this, separated by a sterile layer of sand 45–50 cm. in thickness, lay the main occupation level which covered the entire excavated area (260 sq.m.). This deposit was comparatively thin (5–7 cm.) and thickly filled with scattered fragments of burned fuel shale; these sometimes formed round hearth spots 40–45 cm. in diameter and lenticular in section. A number of small pits 8–12 cm. in diameter and up to 15 cm. deep were revealed in the process of stripping the occupation level. The Krasnyi IAr culture is characterized by flint core-scrappers of typically Siberian appearance and the miniature lamelles which had been removed from them; also by the occurrence in large numbers of chisel-like implements with bifacial trimming on the working edge, scrapers and cutting tools. Particularly noteworthy are the miniature perforators evidently used for fine work on bone. Bone artifacts include thin, carefully made needles with eyes and awls of cruder workmanship. There are distinctive beads, rectangular with a round hole in the centre, made of enamel from the teeth of large animals. A singular find was a bone figurine, schematically treated, somewhat reminiscent of similar objects from Magdalenian sites in western Europe. The fauna of this horizon is predominantly wild horse, with occasional reindeer, hare, arctic fox and ptarmigan. Remains of a third horizon were uncovered at a depth of 3.15–3.25 m. in the north-west portion of the excavation. It contained slabs of red sandstone (almost completely decomposed), individual *skreblo* (large scrapers) of quartzite, fragments of the same material and tiny unidentifiable bits of bone; there was a complete absence of charcoal.

A separate group of the Palæolithic Section carried out excavations at the Fediaevskaia site on the left bank of the Angara in the region of Svirsk. Cultural remains typical for the late Palæolithic of Siberia were found here in a stratum of pale yellow sandy loam at a depth of 25–80 cm. from the surface. Quartzite *skreblo* predominated in the stone inventory, which included types with straight, concave and convex working edge—the latter being especially numerous. Forms with double semi-lunar cutting edges also occur, as well as with straight edges perpendicular to one another. In addition there was a series of core-scrappers of miniature size (10–15 mm.) along with the microblades struck from them; crude lamelles and cores also occur. In majority, the tools are of gray, translucent or white quartzite, although slate, coarse siliceous rocks and occasionally jasper were also used. The

fauna consists of numerous reindeer remains, also moose, horse, ox and arctic fox. This site is viewed as representing the cultural and temporal stage of the Cis-Baikal Palæolithic which followed that of the middle horizon at Krasnyi IAr. Together, they illuminate the nature and distinctive features of the period which succeeded the Mal'ta-Buret' culture. Abramova emphasizes that the western analogies which Okladnikov sees in the stone artifacts and art of Mal'ta and Buret' continued to exist in the culture represented at Krasnyi IAr.

G. I. Medvedev (Irkutsk Regional Museum) reported on the results of a re-study of the Verkholskaia Gora site, 3 km downstream from Irkutsk. The stratigraphy and dating of this site have remained in dispute due to the inadequate field methods employed and the fact that the materials were never studied carefully and only an insignificant portion were published—not enough to define the culture of the site adequately. Analysis was confined to gross typological comparisons. Medvedev reviewed the published data and examined the collections themselves, of which there are over thirty in the Irkutsk Museum dating back to 1897—the bulk were surface finds. This was the first time that the material from the site had ever been studied as a whole and divided into functional groupings. To test the validity of the conclusions, experiments in making and using the tools were carried out. Of especial interest was the complex of tools for working wood. These studies revealed the unity of the inventory from the site, which basically represents a single culture—the only extraneous element being an insignificant number of Neolithic objects. Having obtained a clearer conception of the Verkholskaia Gora culture, it was possible to find analogies in other sites of the region: Badai, Lisikha and the lower levels at Ust'-Belaia. Comparisons with levels IV–VII at the latter site raise the possibility of more precisely dating Verkholskaia Gora. Excavations were also undertaken in 1959 to check the stratigraphy of the site; their results show that the site cannot be considered as stratified. It was further determined that the site is not on a terrace, as previously reported, but on the mountain slope covered with talus deposits. All the strata at the site, which lie on a base of marine sandstones, can be divided into an upper and a lower bed. The lower (50–75 cm. thick) consists of ancient *balochnyi* alluvium of proluvial type. The upper bed (95–110 cm. thick) is of loess-like loam: pale yellow-calcareous and yellowish gray, enriched with humus and containing the cultural remains. This upper bed is overlain by 15–20 cm. of recent soil. In Medvedev's opinion the site occupies an intermediate position, culturally and stratigraphically, between Mal'ta and the Neolithic sites of Cis-Baikal, and must be assigned to the Mesolithic—not that it is typologically similar to the Mesolithic of the west, but in the deeper sense of corresponding in economic life, in adaptation to new post-glacial environmental conditions, and in the process giving rise to elements of the later Neolithic culture. (It has been the general Western view, of course that Verkholskaia Gora was contemporary with the Mesolithic of Europe although culturally belonging to the Palæolithic tradition.) Medvedev thinks that an analogous culture is represented at a number of sites, mainly in the Angara-Belaia group, such as the upper horizon at Mal'ta, Badai, Cheremushnik, Ust'-Belaia IV–VII, Peresheek and Ponomarevo. Subsequent investigation may define more precisely the area of distribution of this culture and its local variants.

V. V. Svinin described M. M. Gerasimov's 1957-1959 excavations at the stratified site of Ust'-Belaia, which is located on the 8-metre terrace of the Angara at the mouth of the Belaia River and covers some 200,000 sq.m. The site was originally found in 1934 by A. P. Okladnikov; it was investigated in 1936 by Gerasimov who identified four horizons at that time: Iron Age, late Neolithic, preceramic Neolithic and late Palæolithic. Further study was not possible until 1957, when L. IA. Krizhevskaja and N. N. Gurina of the Bratsk Archæological Expedition (directed by A. P. Okladnikov) carried out excavations, and Gerasimov resumed his investigations with the assistance of the archæological section of the Bratsk Geological-Palæontological Expedition from the East Siberian Branch of the U.S.S.R. Academy of Sciences. Gurina, who dug at three points near the river mouth, encountered only a Neolithic level; Krizhevskaja dug in two places and identified four levels. Gerasimov continued work in the two succeeding years and was able to gain a comprehensive picture of the site and its contents, identifying no less than seven cultural horizons. Special attention was given to the careful cleaning of each separate horizon, its documentation, and the nature of the deposits containing cultural remains. The extent of each horizon was ascertained, and the geological structure of the 8-metre terrace worked out. This terrace is formed of riverine deposits and rests against the 15-metre terrace. The alluvium on the portion excavated by Gerasimov in 1957-1959 was clearly divisible into three facies: river-bed material, riparian and flood-plain proper. The latter consists of a compact, silty, layered sandy loam, divided by thin seams of fine-grain sand into a series of horizons; and it is with these horizons that the cultural remains of the lower five levels are associated—belonging to the late Palæolithic and Mesolithic. The alluvium is overlain by a scanty deposit of humus-filled sandy loam containing remains of the Neolithic and metal periods. The lower five cultural horizons are directly superimposed and were encountered only in the areas dug by Gerasimov and Krizhevskaja. The metal-age finds (mainly attributed to the Kurykan culture) also occur only in these areas. On the other hand, the Neolithic level is observable over the entire extent of the site; it is rich in remains representing a mixture of several Neolithic cultures and cannot be subdivided stratigraphically. The cultural horizons of the epoch transitional from Upper Palæolithic to Neolithic, however, are clearly separated by sterile layers, which make it possible not only to form a summary idea about this prolonged epoch but also to trace the dynamics of culture, the tenor of life, environmental conditions and relationships with other sites of Cis-Baikal. Ust'-Belaia thus represents to quote Svinin: 'a rare case of a combination in one site of such temporally diverse cultures as late Palæolithic, Mesolithic, and Neolithic, and is a splendid example of their interrelationships and succession. It is, so to speak, the connecting link between the very early and very late sites of this area, and to a certain degree affords the possibility of verifying or refining the existing dating of a whole series of archæological sites in Cis-Baikal, while at the same time providing a basis for solving a number of historical problems of this area.'

L. IA. Krizhevskaja confirmed the existence of several older horizons under the Neolithic level in her excavations at Ust'-Belaia. These horizons were separated from each other and from the Neolithic level by sterile layers. The cultural remains

secured from them differ, in her opinion, from both the Palæolithic and Neolithic of the Angara valley, and she labels them Mesolithic. A typical feature of these horizons is great abundance of bones of roe-deer scattered haphazard and forming real heaps in some places. Also encountered are stone features and hearth arrangements. The stone artifact inventory is characterized by an abundance of miniature lamelles; bone artifacts are limited to occasional awls. It is felt that the origins of the early Neolithic cultures of the Baikal region (Isakovo, Serovo) must be sought in a local Mesolithic stage which is at present the least-known period here.

M. M. Gerasimov also presented some rather sensational conclusions arising from his 1959 excavations in the Neolithic Second Fofanovo cemetery on the Selenga River in Trans-Baikal. After studying the materials from previous excavations in the area and from his own observations, he expressed doubt on the validity of the current periodization of the Baikal Neolithic which was formulated more than twenty years ago by A. P. Okladnikov. He thinks that the sites of Kitoi type (Okladnikov's third stage) existed earlier than the Serovo (second stage) and even the Isakovo (first stage) sites. In view of this, a review of the existing dating is called for. In Gerasimov's opinion, all of the recognized stages of the Baikal Neolithic are included within the 3rd and 2nd millennia B.C.: the oldest, whichever culture it may turn out to be, can be no older than 3000 B.C. at the earliest. (It may be noted that this latter view coincides with the chronology advocated by myself in recent publications.) A lively debate followed the conclusion of Gerasimov's paper, in which Okladnikov stoutly defended his sequence and chronology.

A. I. Kazantsev reported on his study of cranial materials from Kitoi-stage Neolithic burials in the Angara valley. He concludes, as the result of craniometric and cranioscopic investigations, that the majority of the crania show characteristics typical of the Mongoloid type; only those from the sites of Tel'ma and 'Iarki' (near the Kitoi River) display structural features approximating the Europeoid type. He suggests that an amalgamation of these two types may have been taking place at this period.

M. I. Rizhskii (Chita Pedagogical Institute) gave a general survey of archaeological work in Chita Province (eastern Trans-Baikal) during 1957-1959. He pointed out the great importance of this area, which was subject to influences from Mongolia, China, the Maritime Territory and Yakutia, and offered them a passage route to areas beyond. All in all, it probably holds the key to many historical problems of northeastern and central Asia. In scope and results the field work of 1957-1959 exceeded all the archaeological work previously done in this province. It resulted in the discovery of the enigmatic Palæolithic site of Titovskaia Sopka in the city of Chita; the location of a whole series of Neolithic sites and pictographs depicting hunting scenes; recording of a large number of slab graves, some of which were opened; the excavation of a cemetery of the hitherto unknown early Iron Age with eight burials near Oloviannaia Station, dating from the first half of the 1st millennium A.D. and very different culturally from the slab graves (it may most probably be attributed to the Hsien-pi 鮮卑)—all of this was done under the direction of A. P.

Okladnikov. The Mongol Expedition under S. V. Kiselev carried out work of great significance, excavating two fortified towns (*gorodok*) of the Mongol period (Kondui and Khir-Khirin) and made a reconnaissance in the southern districts of the province, chiefly along the Onon River, where many slab graves were examined. Of particular interest is the discovery of a series of Neolithic sites by Okladnikov, Larichev and Rizhskii near the Beklemisherskie chain of lakes because little was known about the Neolithic stage in Chita Province—only the Shilkinskaia Cave site having been scientifically excavated, studied in detail and published.

V. E. Larichev commented on the investigation of the sites at Lakes Kenon and Irgen' in this group. They are the remains of a culture of hunters and fishermen of the sort familiar in Cis-Baikal and even more familiar in Yakutia. The sites are located on low sandy terraces; the finds are distributed in spots which evidently represent temporary camps of fishermen who wandered from lake to lake. Most of the finds were picked up on the surface of an eroded layer or in sandy pot-holes; they are attributed to the upper humus stratum which overlies the sand of the terrace. In this respect the conditions of deposition resemble those of the Neolithic sites of Mongolia and northwestern Manchuria. Because of the mixed nature of the remains, only the pottery and certain of the older types of flint artifacts can be dated or differentiated into complexes with any degree of certainty. Some of the stone tools could just as well have been used in the Bronze Age. The bulk of the flint inventory is reminiscent of the Neolithic of Cis-Baikal and Mongolia, but there are some distinctive traits, such as the 'Daurian' side-notched points, blades with steep (almost blunt) retouch, shouldered perforators, etc. Items of lower Amur and Maritime provenience also occur: for instance, distinctive triangular knives of 'Mousterian' type, or knives with a handle—attesting cultural contact with these more distant regions. The pottery presents a greater contrast to Cis-Baikal. There is a complete absence of the familiar Serovo net-impressed ware, and the sherds in majority were decorated by the 'retreating spatula' technique so reminiscent of the upper Amur (e.g. Shilkinskaia Cave). Hair-tempered sherds of Yakutian type also occur. The Neolithic culture found at Lakes Kenon and Irgen' is thus a distinct culture, although related to those of the Baikal area.

A. N. Lipskii (Abakan Regional Museum) reported the discovery of new sites of the Afanasievo period in the Minusinsk basin that make it necessary to review our picture of this culture in many respects. The economy reflected is rather complex, with hunting occupying the predominant role in conjunction with farming and stock-raising. Metallurgy attained a high development with the appearance of quite complicated copper-bronze artifacts. It is also deduced, on the basis of the cranial index, that the Afanasievo population of the Minusinsk basin was not homogeneous: a brachycranial type was mainly concentrated in the southern portion and a dolichocranial one in the north. The most important of the new sites is the Tas-Khaza cemetery, where the grave superstructures differed from those previously described for this culture although typical Afanasievo pottery and other artifacts are present. Outside influences are evident from such items as Glazkovo points, a Chinese pot, etc. The consistent burial of men and women in the same grave—there

were found no single male burials—is viewed by Lipskii as ‘proof of the establishment of male supremacy in Afanasievo society’. A completely new feature for this period was the discovery of pictures engraved with fine lines or pecked in relief on sandstone slabs; they depicted various human figures (in particular, some with high head-dresses), human figures with heads resembling eagles or ibis, eagle-like birds, masks with two rays and a ‘sun deity’. All these pictured slabs had served as material in constructing the graves, and thus their provenience is beyond question. Some of the motifs are forerunners of those typical in later periods.

V. P. Alekseev discussed the racial types of the Altai-Sayan uplands during the Neolithic and Bronze Age. On the basis of geological and palæo-climatic evidence, he feels that the initial human settlement of the area could have taken place as far back as the Lower Palæolithic (which in Soviet usage includes the Mousterian). Judging by the Afontova Gora II cranial fragment, the Upper Palæolithic population evidently must be assigned to the Mongoloid race. The Europeoid component begins to penetrate into certain areas during the Neolithic—especially into the southern part of the Krasnoyarsk Territory. Alekseev identifies in this latter area a morphologically Negroid type which would indicate contact with southern regions. In the Afanasievo period the Europeoid component becomes predominant, while the physical similarity of the Afanasievo population with that of the ancient Yamno culture of the South Russian steppes evidences their kinship as well as the western origin of the bulk of the Afanasievo population. The formation of the racial type characteristic of the Andronovo period probably took place in the region of Kazakhstan and the Altai in pre-Andronovo times, with subsequent penetration into the Minusinsk basin. The basic type of the Karasuk population, in Alekseev’s opinion, is a brachycranial Europeoid one; hence the origin of the Karasuk people is not linked with China but with eastern Turkestan and the southern regions of Soviet Central Asia.

G. A. Maksimenkov presented new data on the archæology of the Krasnoyarsk region, which has been very little studied—especially the Bronze and early Iron Ages. Older workers, basing their views only on chance finds, introduced the idea, now firmly established, that the Krasnoyarsk region continually lagged behind the Minusinsk basin and was subject to strong influences from the latter. For example, it was held that Krasnoyarsk had no bronze culture of its own prior to the appearance of the Tagar culture which spread north from Minusinsk. Now we have two hoards and two burials that cast new light on this whole period. Thus Maksimenkov is lead to conclude that there was an independent development of Bronze Age culture here in the forest-steppe that paralleled that of Minusinsk. In his opinion a distinctive variant of the Karasuk culture, with a number of specific traits, existed in Krasnoyarsk, and out of it grew a special culture of the late Bronze and early Iron Ages which had definite links with Minusinsk but was not just a province of the Tagar culture.

N. L. Chlenova dealt with the complex problem of the origin of the Tagar culture of southern Siberia. This was the Siberian contemporary of the Scyths,

Sakas, Massagetae, etc. of the steppes; in many respects the culture is very similar and its origin must be closely bound up with theirs. The Tagar are also identified as the Tingling 丁靈 of Chinese history. One of the components of the Tagar culture is to be found, she believes, in a complex of sites which existed in the Minusinsk basin during the Karasuk period, differing from typical Karasuk culture and instead related to Neolithic and Bronze Age sites in the forest zone of central and eastern Siberia. This complex she has termed the Lugavskii. The second component was the Andronovo culture of Kazakhstan and to some extent the Andronovo of the northwestern part of the Minusinsk basin. She thinks that the immediate predecessors of Tagar, the Karasuk population, on the other hand, did not play a major role in the ethnogenesis of the Tagar tribes. However, various cultural achievements of the Near and Middle East that had been brought to Minusinsk in Karasuk times were taken over by the Tagar culture.

E. F. Sedianka described 1959 work by a section of the Bratsk Archæological Expedition which excavated an Iron Age Turkish settlement in the valley of the Unga River, 6 km northwest of Balagansk—a forest-steppe region. The site, which covers 9,600 sq.m., is along the Zalarinsk highway at the foot of Ulan-Bor Mountain and contains two levels of different periods. The upper level (7th–9th centuries A.D.) comprised economic and dwelling complexes, including a large shed for sheep covering 120 sq.m. and roofed with larch bark, above-ground dwellings of wattle-and-daub and wood construction with vertical posts, and an adjacent smelting furnace with remains of blast pipes. Numerous millet grains and farming tools indicate that the inhabitants tilled the soil, but stock-raising played a major role, as attested by the numerous bones of horse, sheep and goat. A number of finds show the existence of close links with the west, as far away as Soviet Central Asia. The lower level (6th–7th centuries A.D.) at a depth of 1.3 m. contained a dwelling complex: an oval pit-house, 5 m. in diameter and 1 m. deep, and alongside a storage pit with bones of four sheep, five cows and five horses, plus a thin, plain, black pottery. Culturally, this level is similar to the Ust'-Tal'kin site located 15 km east. The latter is also situated at the foot of a slope and is characterized by visible depressions of round pits up to 9 m. in diameter and 1.5 m. deep. Over forty pits were counted, in haphazard arrangement; fourteen were investigated and all yielded identical material.

Of particular interest was the report of N. N. Dikov of the Chukotka Regional Museum at Anadyr, who stated that the museum's field work in 1956–1959 produced evidence which in his opinion confirms the hypothesis of the initial settlement of the Chukchi Peninsula (Chukotka) in the Upper Palæolithic. (No details are available.) Their investigations also covered new sites of the continental Neolithic of Chukotka such as the Ust'-Bel'skii cemetery (dating from the end of the 2nd and beginning of the 1st millennium B.C.) and other sites of the same age and later on the banks of the Anadyr and Amguema Rivers. The result of the investigations revealed new features of this hunting-fishing culture: the hunting of seals on the Anadyr with toggle harpoons, close contacts with east-central Siberia and the use bronze artifacts along with stone. In this connection problems arise on the nature

of the Bronze Age in Chukotka, its subsequent isolation and the reversion of the inhabitants to the Stone Age. In Dikov's opinion, the work of recent years makes for greater probability that there was a genetic link between the continental culture of Chukotka and the subsequent Palæo-Eskimo sea-hunters.

R. V. Vasil'evskii (Magadan Regional Museum) reported on the results of the museum's field work in 1956-1959, during which the coast from Magadan eastward to Srednaia Bay was investigated, as well as the P'iagina Peninsula and the terraces near Iamsk at the mouth of the Iama River, which lie still further to the east. Excavations established the form and plan of the semi-subterranean 'Koryak' dwellings, revealed hearths and obtained much artifactual material whereby it is possible to define both the ancient 'Koryak' culture as a whole and also the distinctive features of sites in various regions. [Work prior to 1958 has been previously reported in the *Anthropological Papers of the University of Alaska*, 8(1).] The 1958 work set out to establish the distribution of 'Koryak' culture north of Srednaia Bay. It centred on the P'iagina Peninsula, where a number of settlements were discovered; almost all were on ancient marine terraces 7-10 m. above sea level. The typical pottery is check-stamped. The characteristic features of the sites make it possible to distinguish them as a special P'iagina group—representing either a new stage in the development of 'Koryak' culture or a local variant of it. A reconnaissance of the Iama River terraces near Iamsk led to the discovery at Cape Travianoï of a site characteristic of late, protohistoric 'Koryak' culture (16th-17th centuries). In 1959 intensive excavations were carried out on some sites previously discovered. At Atargan four semi-subterranean houses with vertical hearth slabs were dug out. Food remains included seal, whale, reindeer and molluscs. Of especial interest were forms of toggle harpoons unknown either in the Far East or the Bering Sea region. One with a bone shank and metal point was the first find of iron on the Okhotsk coast, according to Vasil'evskii. Also of interest were the bone plates for protecting the thumb in bow shooting; their decoration has elements in common with that on Eskimo materials. (Similar objects are reported from Punuk sites.) This greatly facilitates dating the whole complex and indicates connections between the Okhotsk coast tribes and those of the Bering Sea. Analogous dwellings to those at Atargan were dug out at Rassvet Bay and Zav'ialova Island.

Of interest are G. F. Debets' views on the problem of the peopling of the New World; in his conclusion routes other than Bering Strait played a very insignificant role, and all involved the Pacific only. The oldest population may have had a non-Mongoloid element akin to the Ainu. Settlement was not a process extending over millennia, but simultaneous and brief, and took place, most probably, about 25,000 years ago. All or almost all of the New World population, he thinks, stems from one very small tribe; possible later infiltrations from Asia did not affect the basic situation. The fact that the Palæo-Asiatic groups show no direct relationships to Indians in their blood groups fully agrees with this hypothesis. With fuller data it should be possible to determine the probable appearance in northeastern Asia of a small group with a distribution of blood types such as could have produced the combinations observed in America.