

With the writing of this article Vasil'ev obviously completely forgot that in 1996 he complained of the “poor interpretation” by researchers of the Late Paleolithic of Siberia and considered it impossible, “if one looks truth in the eye,” to speak seriously about a Middle and Early Paleolithic in North Asia. Well, and how would it be possible to distinguish, “without the interpretation of materials” as early as the 1960s, the entirely new, for North Asia, Late Paleolithic Dyuktai culture—the only culture he examines for the “resolution” of the problem of man’s settlement of America? And how was it possible, simply in “pursuit of sensation,” to discover and interpret Diring Yuryakh, which Vasil'ev considers a site of the Early Paleolithic, and “forces us to reexamine the ideas of the movement of the ancestors of man that have been developed”?

We note one more detail characteristic of “archaeological figures” of Vasil'ev’s type. Describing (or copying, as some students) Dyuktai and Diring and publishing illustrations of tools of these sites, the author does not cite the monograph *The Earliest Stages of Settlement by Man of Northeast Asia* and *The Earliest Paleolithic of Diring and the Problem of a Nontropical Homeland for Humanity* (published by Nauka in 1977 and 1992), but instead the short articles published in Yakutsk. Vasil'ev, who so stingingly regretted in 1996 the lack of monographic publications on the Paleolithic of North Asia, does not cite them because he understands: It is easier for members of different backgrounds to consult a monograph than an article, and after this, obtaining a grant to create a compilation will be problematic.

In order not to overload an already overloaded report, we will limit ourselves to the cursory reiteration that we have succeeded over many years in studying the Paleolithic of Northeast Asia. The primary results of our work are presented in plates of illustrations of the Paleolithic cultures of this area. Up to the present, because of the lack of generally accepted archaeological nomenclature, the illustrations and photographs remain as the unique reliable and accessible language of archaeologists just as Latin names of different taxa for biologists and formulas for mathematicians.

## IV. Cultural Chronology of Northeastern Siberia

Hypotheses regarding man’s settlement of America from Northeast Asia, and about a nontropical origin for humanity, began to be supported by the facts only after the discovery of a consistent chain of the archaeological cultures of Yakutia: Diring (Earliest Paleolithic, 3—2.5 to 1.8 million years; Plates 1–6); Allalai (Early Paleolithic, 1.8 million years to 150,000 years; Plates 7–10); Kyzylsyr (Middle Paleolithic, 150,000 to 35,000 years; Plates 11–19); Chirkuo (Middle Paleolithic or beginning stage of the Late Paleolithic, similar to the Ordoss culture at Shuidungou; Plates 20–24); Dyuktai (Late Paleolithic, 35,000 to 10,500 years; Plates 25–33) (Figures 7, 17); Sumnagin (Latest Paleolithic, 10,500 to 6,500 years; Plates 34–40; Figure 18); Syalakh (Neolithic, 6,500 to 5,200 years); Bel’kachi (Neolithic, 5,200 to 4,100 years); Ymyyakhtakh (transitional stage between the Neolithic and the Bronze Age, 4,100 to 3,300 years); Ust’-Mil’ (Bronze Age, 3,300 to 2,500 years); various cultural complexes including the Eskimo; Early Iron Age (2,500 to 500 years). The strati-

graphic position and chronology of the late Pleistocene and Holocene archaeological type sites of these cultures are shown in Figure 19.

All these cultures were distinguished and studied by the archaeological expedition of the Yakutsk Science Center, Northern Branch, Russian Academy of Sciences, which from 1958 to 1964 was called the Vilyui Archaeological Expedition (VAE), and from 1965 to the present the Prilensk Archaeological Expedition (PAE)—and which operated all these years and continues to operate under the leadership of the authors.

For the study of type (stratotypical) sites of some cultures, all of which are located in the modern cryolith zone, the authors have worked out a new special method of studying them. It is simple but labor intensive. It basically deals with opening up a site over a large area. This leaves some parts of the excavation to natural gradual thawing and draining of the frozen soil without disturbance of the structure of the culture-bearing layers. This method permitted for the very first time—first, at the alluvial sites of Bel'kachi I (Figure 20) and Dyuktai Cave (Figure 21), and then at other places—to open up archaeological sites in the cryolith zone to any necessary depth and to obtain all necessary information with the study of them. In order to determine the areas of early cultures, and the exposure of possible local variants of these cultures and their coordination with special geographic regions, our expedition, beginning in 1965, proceeded toward complete archaeological investigation of Yakutia and adjacent territories. Thus, special geoarchaeological work was begun. To the present time the extent of survey routes of the PAE exceeds 50,000 km (see Figure 3). In an area of about five million square kilometers, practically all the different regions of Northeast Asia were studied from the point of view of the possibility of their settlement by man during different periods of preliterate history: innercontinental and maritime; taiga and tundra; lowlands, high plateaus, and mountains; valleys of large and small rivers; large and small taiga and tundra lakes. Finally, a “transect cross” was accomplished: north-south, west-east. Thus by 1981 crews of the PAE had surveyed from the islands and shores of the Arctic Ocean to the Amur Basin and from the Yenisei Basin to Chukotka, Kamchatka, Priokhot'e, and the Shantar, Kurile, and Commander Islands.

As a result of geoarchaeological work it was shown that, with the exception of some mountain regions episodically covered with ice, beginning in the Earliest Paleolithic there were no uninhabited places in Yakutia. Everywhere that large animals, such as the mammoth, rhinoceros, bison, horse, reindeer, saiga, and so on, could go—animals that were not “rock climbers” such as snow sheep and mountain goats—man could also freely go.

Supported by concrete archaeological materials, it is now possible to confirm that the population of Yakutia over a larger part of the history of humanity, up to 10,500 years ago, did not lag behind at the level of development of culture in populations of the remaining regions of the human Ecumene [permanently inhabited portion of the earth—*Trans.*] and was developed autochthonously. In some periods the population migrated, following the North Holarctic “mammoth” fauna south to the right bank of the Khuankhe and northeast to Beringia, and through it to America. Meanwhile it has been established that the most widespread migrations were connected with the Dyuktai culture (see Figures 7 and 18).

The question of an autochthonous origin for the Dyuktai culture in Northeast Asia was demonstrated in 2000, after the discovery—by S.A. Fedoseeva at the mouth of the Mungkharyma, a tributary of the Vilyui (64 degrees north latitude)—of a site that belongs, based on technical-typological data, to the beginning stage of the Middle Paleolithic. Stone tools and bones of mammoth, woolly rhinoceros, and other Pleistocene animals lay in deposits of the Vilyui terrace. The age of the layers underlying the cultural finds has been determined by a radio-thermoluminescence dating to  $600 \pm 150$  thousand years (RTL-957), and the stratum covering it to a date of  $150 \pm 38$  thousand years (RTL-958).

The chief defining feature of the Kyzylsyr Middle Paleolithic (proto-Dyuktai) culture are bifacially worked tools (bifaces): quartzite hand axes, spear points, knives, and skreblos (Plates XI–XIX). Based on the completeness of their form and the technique of manufacture, these artifacts are in no way inferior to standard Middle Paleolithic forms of Europe.

After the discovery in 1982 in Yakutia of a site of the Earliest Paleolithic at Diring Yuryakh (Figures 22–26), many Russian and foreign scholars began to accept the concept of a nontropical origin for humanity—and not as scientific nonsense but as a serious hypothesis—the basis of which has not only theoretical development but also factual data. In the resolution of the All-Union Conference, which was held in 1988 at Diring Yuryakh, it was noted (“Recommendations . . ., 1988:4): “Sites of the Diring Yuryakh culture of the Earliest Paleolithic, being studied by the Prilensk Archaeological Expedition (PAE), are not only national property but that of all people on the planet. Their multidirectional study can have important future significance in world science on the origin of humanity and substantially refine ideas about general laws of evolution of the whole organic world.”

Resolute opponents of an early age for Diring, even of the possibility of posing the question of a nontropical origin for humanity, appear in the voice of A.P. Derevyanko and the archaeologists subordinate to him. “The Diring Yuryakh stone tool complex,” writes Derevyanko and his coauthors (2000:217), “produces the impression of deep antiquity and, in Yu. A. Mochanov’s opinion, are comparable in technical-typological features only to collections of stone inventory of the Oldowan culture in Africa, which is 2.5 to 1.7 million years old [we note that the authors do not have citations to our specific works in the list of literature; not only a description of stone tool is given in our works but also detailed studies of the geology; geomorphology; cryolithology; and paleomagnetic, radio-thermotuminescent, and other data on the age of Diring—Yu. M. & S.F.]. But subsequent absolute dates [note the term “absolute dates”—Yu. M. & S.F.] refute such an early age for Diring Yuryakh. The stratum that covered the artifacts has an age of  $267 \pm 24$  thousand years, while a date from an ice wedge is  $366 \pm 32$  thousand years. The reliability of these dates is not doubted; therefore the question of a ‘nontropical origin for humanity’ can be removed.” Thus, the following must work: Does it suit you? means “this is correct”; does it not? means “it is not correct.”

At the present time, about 150,000 cubic meters of frozen ground have been opened in the excavations, trenches, and test pits at Diring Yuryakh. The culture-bearing layer was broken down into an area of 36,254 square meters. Fifty-one clusters of cultural remains have been found, the total quantity of which amounts to 4,782 items.

With the investigation of Diring we strove from the very beginning toward maximal attraction of all specialists who by various methods would help us zero in on the age of the culture-bearing layer. However, in order to analyze the data obtained by various methods, it was necessary first to know the limits of possibility and error of these methods. Among the various physical-chemical methods used for determining the “absolute” age of the different strata at Diring were radio-thermoluminescence and thermoluminescence, as well as paleomagnetism.

On the basis of his investigations conducted at Diring Yuryakh, A.V. Peh’kov (1992:185) came to the following conclusion: “Magneto-chronological estimates of the profile at Diring have a probabilistic character. It is most definitely possible to exclude assessments of an age of less than one million years. The least contradicting to the whole complex of presently available paleomagnetic information is the variant of the upper boundary of the age of the culture-bearing layer at about 3.2 million years (earlier Mammoth episode of the Gauss period).” Agreeing with this conclusion is the conclusion of geologists-lithologists A.V. Korobitsyn and T.I. Komzina (1990:108), who conducted multiyear investigations at Diring Yuryakh: “The ascribing of deposits containing the culture-bearing horizon to the different facies of alluvium of the earliest Lena terrace—Tabagin—does not contradict the dating of archaeological materials to the range of 3.2 to 1.8 million years, which is proposed for the Diring site by the researchers of PAE.”

Important data were obtained by geologist-permafrost specialist N.N. Romanovskii for reconstruction of the natural environment in which the Diring people lived and regarding the time of their occupation of central Yakutia. He clearly demonstrates that, during the formation of all the Diring deposits except Layer 3 (Figure 22), constant permafrost existed; that is, the average annual temperatures were below freezing. In the conclusion to his report about the work at Diring, Romanovskii (1993:28) noted: “We are inclined to join the position of Yu. A. Mochanov and A.V. Pen’kov on the age, conditions of deposition, and genesis of the deposits in the Diring profile, having added to this that a natural environment of the region, caused by a different type of circulation of the atmosphere, was different from the environment of the Pleistocene and Holocene. And restructuring of the circulation requires changes in the macroorography of Eurasia, which, judging by known information, also occurred at the end of the Pleistocene.

The radio-thermoluminescence dates of O.A. Kulikov contradict somewhat the earliest variant of the Diring date (Figure 22). However, they are important for refutation of assertions of some geologists, for example, M.N. Alekseev et al, (1990:43), about the fact that deposits of the Diring terrace were formed in two stages separated by a long break. To the “first stage” they assigned Layers 2 and 3, to the “second” all the remaining layers. The first stage, in their opinion, dates to a time earlier than 2.5 million years, and the second to less than one million years.

Data obtained in the U.S. (Waters et al. 1997:1281–1284) are not at all in agreement with the age, which was established by different methods. The dates and method of obtaining it that are given in this article were subjected to critical analysis in an article by Canadian and English physicists (Huntly and Richards 1997:48–49). The physicists came to the conclusion that the method of obtaining thermoluminescence dates for Diring by the researchers in the U.S. suffered from many errors. In their opinion, the age of the deposits of the different strata at Diring should be earlier

than that proposed by the authors of the article in *Science*. To this conclusion can be added the opinion of the greatest specialist in the Earliest Paleolithic sites of southern Siberia, G.I. Medvedev (2001:271), who noted: “*The material from Diring Yuryakh is undoubtedly earlier than the dates obtained in the laboratories in the U.S., but by how much is unclear.*”

Any specialist who uses different physical-chemical methods to determine “absolute” age of geological and archaeological objects knows well that the thermoluminescence method for determining the age of specimens that come from deposits older than 100,000 years is the least developed and the most controversial. It is no accident that specialists from Moscow State University had to say about this method: “The thermoluminescence method of dating does not have up to now a firm methodological basis. The variances present frequently have the primary character. In the opinion of some specialists, the age frame of the method reaches several million years, others using the same mineral limit it to several hundred thousand years. Such contradictions attest rather well to the inadequacies of the theoretical-experimental process providing the dependable base for the method” (Shakhovets and Shlyukov 1987:197).

In its time the Dyuktai culture and the biface and uniface cultural tradition that we distinguished for the Paleolithic of North Asia brought on bitter criticism. Leading this criticism were Z.A. Abramova and A.P. Derevyanko. The latter wrote (Derevyanko 1975:196): “All discussions regarding the Dyuktai culture [Mochanov 1970, 1972, 1975]—being wished for, are not corroborated by any serious arguments.” Even more “weightily,” Abramova (1981:115) stated: “Mochanov’s assertion—that the distinction of two traditions is most fruitful for clarification of different aspects of the earliest past of North Asia—has no basis. The lack of historical support of the concept being proposed is not fruitful; rather it hampers the further development of science, putting it in a blind alley.”

It is quite amusing that now almost all archaeologists, including Abramova and Derevyanko, “victoriously march” precisely along this “blind alley,” finally turning attention to the border along the Yenisei, to the west of which bifaces were not characteristic during Sartan times, and to bifacially worked stone points and knives as the leading types of classification, and distinguishing the different biface communities such as the “Ust’-Karakol’,” “Malysheva,” and “Selemdzhin” cultures.

Now it is evidently their turn to criticize the Kyzylsyr’ Middle Paleolithic proto-Dyuktai culture. But this is not terrible—they criticize, they wait for some time and begin to rename the Kyzylsyr’ culture as they think it should be, and they think this will be favorable to them. But for all the specialists who are occupied by the problem of the settlement of America, the Kyzylsyr’ culture will surely have important significance. Now the position of archaeologists (including the authors) who believe that there could have been proto-Dyuktai migrations (Mochanov 1969p) to America before the Dyuktai migration is substantially strengthened.

At present it is possible to consider as potential migrants to America—besides the proto-Dyuktai people and Dyuktai people—the Sumnagin people, Bel’kachi people, and Ymyyakhtakh people (Fedoseeva 1999; Mochanov and Fedoseeva 1976). However, archaeological materials of Yakutia point only to potential possibilities of the appearance of man in America, which after the discovery of the Earliest Paleolithic of Diring become, in our opinion, boundless. The precise number of migrations from Asia to America and the time of their accomplishment can be determined



only by American archaeological materials, which can be interpreted at a sufficient level only by researchers discovering and studying them.

In themselves the archaeological materials of Yakutia now are of definite value not only for the resolution of man's settlement of America, of the problem of a nontropical origin for humanity, and of the division of special groups of archaeology—geoarchaeology and cryoarchaeology—but also for an understanding of the general regularities of formation of the noosphere and neogenesis. At least they help clear up the fact that the severe conditions of life and struggle with adversity is not the route to extinction but the only possibility for well-deserved life.

H.G. Wells (1866-1945) described this excellently at the end of the nineteenth century in the novel *Time Machine*: “It is a law of nature we overlook, that intellectual versatility is the compensation for change, danger, and trouble. An animal perfectly in harmony with its environment is a perfect mechanism. Nature never appeals to intelligence until habit and instinct are useless. There is no intelligence where there is no change and no need of change. Only those animals partake of intelligence that have to meet a huge variety of needs and dangers.”

We understand that beyond our discoveries it is necessary to trace new, broader and deeper archaeological works, both in Yakutia and in all the remaining territories of the modern and ancient cryolith zones. If one compares the archaeological investigations of PAE in the northern cold belt with the history of the discovery of Antarctica, it can be said we only saw the archaeological mainland. Its investigation is still before us. Especially important for the Paleolithic will be the study of caves, and for all the cultures, investigation of burials, which, unfortunately, are most often discovered by chance.

For all those who will take part in these investigations, it is necessary to remember the words of Norbert Wiener (1967:310–311): “Important is the fight for knowledge, but not the victory .... The very understanding of victory is dissolved at the very moment when it is attained.”

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