

III. Cold Climates and Human Origins

Many geologists, paleogeographers, paleontologists, and biologists (neontologists) find important significance in the influence of cold on all organic evolution in the study of cold periods in Earth's history. For example, B. Dzhon (1982:9) writes: "Glaciations were accompanied by extinctions of a large number of species of plants and animals. Many species, under the influence of mechanisms of 'glacial stimulation,' had to adapt to severe and quickly changing climatic conditions, and with this the species diversity of organisms increased. If man can be called a product of the present glacial period, then many other species by analogy should be considered products of more ancient glacial periods."

Darwin (1952:376) wrote as early as 1859 about the important significance of cold, "the more active productive centers of the north," and tendencies of various species of plants and animals to move "from north to south, and not in the opposite direction." With regard to the original homeland of humanity, he adhered to another view. Relying on the morphological similarity of man with the gorilla and chimpanzee, he placed this homeland in the south—in Africa or some other "hot country," of which he wrote in 1871 in his work *The Origin of Man and Sexual Selection* (1953:265). Many of Darwin's followers, as he himself, have not given special significance to an African location for the original homeland of humanity. Primary for them was the morphological similarity of man with various species of humanoid apes and their ecology, connected with a tropical or subtropical climate.

E. Gekkel', one of the greatest Darwinists of his time, hypothesized as early as 1876 the place of the original homeland for humanity as southern Asia. He believed that man was morphologically closer to the gibbon, rather than to the gorilla or chimpanzee. Based on these assumptions, he believed that a land was once located in the Indian Ocean that stretched from Indonesia along southern Asia to the east coast of Africa. "This large land that once existed here," he writes, "which the Englishman P.L. Schlater called—owing to the characteristic semi-apes that lived on it—Lemuria, was perhaps the cradle of the human species, which developed here from anthropoid apes" (Gekkel' 1914:256).

Another adherent of the tropical concept was F. Engels, whom the majority of Soviet anthropologists consider the creator of the "working theory of anthropogenesis." Following Gekkel', he writes in 1876: "An unusually highly developed species of humanoid ape lived somewhere in the hot zone—in all probability in a huge land that is now at the bottom of the Indian Ocean. Darwin gave us an approximate description of these our ancestors. They were completely covered with hair, had beards and sharp-pointed ears, and lived in troops in the trees" (Engels 1987:144). These views of Engels probably had considerable influence on the ideas of most Soviet archaeologists, physical anthropologists, and ethnographers regarding the placement of the original homeland of humanity in a hot (thus not in a cold) zone of our planet.

In 1871 M. Vagner (Mochanov 1992:150–160) hypothesized a nontropical original homeland for humanity that was located in a cold zone. This in fact was an alternative to the Darwinian hypothesis or concept, just as there is a fundamental difference in the significance of "disputes" between adherents of different variants of the "tropical concept" or between the adherents of the "tropical"

and the “nontropical” concepts. Many arguments in Vagner’s concept (the ecosystematic approach, sharp changes in the environment and change in the adaptive zone, geographic isolation, hunting, meat food, fire, tool making, collective work, and so on) were used and are now used, and most often without reference to the author, by adherents of the different variants of the tropical concept.

In distinction from Darwin and other adherents of the origin of man in a hot zone, Vagner devoted chief attention to the influence of the sharp restructuring of the surrounding environment toward cooling in the origin and evolution of man. “It is amazing,” writes Vagner,

that Darwin in his most recent book [*The Descent of Man*, 1871—Yu. M. & S.F.] does not mention the influence that the advance of the glacial period undoubtedly must have rendered on the development of man The continuation of a paradisiacal life in the always-green, fruitful forests became impossible for Pliocene anthropoids of Europe and northern Asia with a gradually cooling climate. The struggle for existence and work interfered with worldly pleasure, and along with this began the development of thinking Only constant struggle and unbroken labor could perfect such a marvel. Only with the appearance of man in the world is an entirely new epoch in the life of nature begun. This is the epoch of reason and culture.

Vagner did not localize the place of the original homeland in Europe or Asia in any definite regions outside the Tropics. He only notes that it was located in Europe north of the Alps and the Caucasus, and in Asia north of the Himalayas and Kunlun.

At the end of the nineteenth and beginning of the twentieth centuries, Vagner’s concept found resolute adherents, among whom, in the first instance, were I. Muller, A. Quatrefage, L. Vil’zer, and D.N. Anuchin. The last writes (Anuchin 1922:232):

When the theory of the glacial period was established in geology, according to which in the geological epoch preceding the present one a gradual cooling of the climate followed—formerly warm over the whole globe—then it has to be supposed that precisely to this time must be ascribed the development of plant and animal forms of temperate and cold climates. These forms must have emerged in proportion to the whole large cooling of the polar north, in proportion to the spread of the temperate and cold zones at the expense of the tropical zone and the spread ever farther south of the ice cover that was concentrated around the northern cold point. Included in these forms could also have been man, who also must have spread from north to south and gradually settled the vast expanse of Asia, Europe, and America.

The following, for example, attests to the broad distribution of the concept of a nontropical original homeland for humanity in the scientific domain. In 1914, the editor of the Russian publication of Gekkel’s book *The Natural History of World Creation*, doctor of botany from Petersburg University, A.G. Genkel’, notes on the page dedicated to tropical Lemuria as the original homeland

of humanity: “At the present time, ever more and more this view breaks through that man became freed from an animal state under the influence of increased cold during the ice age. Only the necessity to preserve fire, which all animals in general fear, probably forced the humanlike being to actually take up the cultural forms of man” (Gekkel 1914:256).

In general, Vagner’s ideas permeate many works dedicated to the original homeland of humanity. But they are most clearly manifested in the works of adherents to the Central Asian variant of a nontropical concept. The first to turn attention to this was our greatest historiographer of the Paleolithic North, Central, and East Asia, V.E. Larichev (1969:235): “The problem of Central Asia as a distinctive center for development of life on earth,” he wrote, “emerges basically on those same principles from which grew the idea of the special role of North Asia in the evolution of the animal world and man. What is more, the creators of the new theory undoubtedly constructed its fundamental position by borrowing almost completely the principles worked out by Vagner and I. Myuller. The hypothesis developed as if from a preceding theory, at first not separated from it. North Asia is even mentioned in it together with Central Asia, but later its creators completely forget about their predecessors.”

It is remarkable that the concept of a northern origin for humanity is also supported by V.I. Vernadskii (1991:35). “It is possible,” he writes, that “the glacial period, the first ice covering of the Northern Hemisphere, began at the end of the Pliocene, and at this time a new organism was brought to light under conditions in the biosphere that approached severe glaciation. This organism possessed an exceptional central nervous system that led finally to the creation of reason, and is now manifested in the transition from the biosphere to the noosphere.”

Reading the works of Vagner and his followers, one always wonders why, as Laricnev (1981:4) writes, “they became the domain of the history of science a long time ago” and not its modern weapon? Perhaps it is possible to deliver the hypotheses into the archives of science only because there are no facts to substantiate them? In general, do we have many facts for outlining the specific area of aboriginal humanity? Indeed, up to 1891 there was no *Pithecanthropus*, but Gekkel’ anticipated its discovery; before 1960 there was no *habilis*, but L. Leakey believed that it existed. Vagner also believed, of course, in facts, which in the future will confirm his hypothesis.

Facts in archaeology and paleoanthropology are not only “stubborn things” but also are often “unrealized hopes.” It is necessary to search for them and find them and to add the very difficult work of excavation, that is, highly skilled excavation. In order to reject a scientific hypothesis, if it does not contradict the basic postulates of science, one must not refer to the absence of facts but rather to find facts, indisputable facts, that would refute this hypothesis. Meanwhile, if this is not done, any hypothesis has the right to exist. The concept of a non-tropical origin for humanity was turned aside, not because it contradicted the ideas of general regularities of development of the organic world but because no facts were found that would confirm it.

Characteristic examples of the “critique” of Vagner’s concept can be found in the works of biologist-primatologist M.F. Nesturkh and Quaternary geologist I.K. Ivanova. “The hypothesis of a North Asian homeland for humanity of Vagner-Myuller cannot be rejected in orderliness and coherence,” writes Nesturkh (1964:16).

Of special interest is the attempt to connect the transition from anthropoids to man with an increase in the unfavorable influence of a cooling of the external environment and the necessity of a special course of adaptation of a poorly protected organism to the use, and then the creation, of tools and weapons. However, this hypothesis also encounters objections. Throwing of objects is not characteristic for apes. In northern Asia the remains of humanoid apes have not been found [though they were not even sought here.—Yu. M. & S.F.] On the whole, Vagner's hypothesis bears a somewhat mechanical tinge.

I.K. Ivanova went even further. She believed, altogether, that facts favoring Vagner's hypothesis not only were not found but could not be found. "The hypothesis of a North Asian homeland," writes Ivanova (1982:135), "was connected with glacial theory—the appearance of man owing to sharp changes in the natural environment, which forced the inhabitants of a tropical forest to radically change their way of life and to lead a fierce struggle for existence Naturally this hypothesis could not be corroborated by any factual material." Many question marks could be placed here, especially regarding the word "naturally." Concerning the tropical concept, it is not so blameless from the point of view of evolutionary theory and is based chiefly on very effective—but far from convincing facts—as they are seen by the majority of researchers.

It is no accident that up to now there are no convincing answers to the question: What were the primary moving forces of transformation of any species (all species?) of primate into man? No one contests the position that work created man. But why did *Dryopithecus*, *Ramapithecus*, *Australopithecus*, or any other ancestor of man begin to work, constantly perfecting tools? This is the question of all questions. Meanwhile, science has only various versions of the answer to this question.

Meanwhile, the most important aspect of the problem of the origin of man is determination of the place (places?) where this event occurred. The extremely fragmentary archaeological, paleoanthropological, and paleontological finds, as well as paleogeographic data, do not yet permit definitively outlining the original homeland of mankind—even though some researchers do outline it. All constructions in this regard are at present only in the hypothetical stage. Therefore, forgotten hypotheses of concepts of a nontropical homeland for humanity have no less right to existence than, for example, hypotheses about an African homeland.

The practical significance of a nontropical concept is also great for the medical-biological problem connected with the study of ecological-physiological features of man's adaptation to environments of the north. Accepting the position of physicians that "adaptive remembered structural traces have important biological significance" and that the "idea of the adaptive features of man ... is necessary to lay at the base of the thinking of each physician" (Agadzhanyan and Petrova 1996:9), we should acknowledge that without study of the history of the formation of the northern adaptive type its perception cannot be sufficiently complete.

Perhaps medicine, having realized the significance of stress and cold for the formation of the gene pool of humanity, will find new approaches to the treatment of people and will create a new direction—cryomedicine.

The study of all aspects of the possibilities of the biocultural adaptation of man to natural conditions of the north becomes especially crucial because of the approaching demographic crisis of humanity. The subtropical and temperate zones of the earth become more and more overpopulated. Before very long, the peoples of such countries as Russia will have to realize that the huge unoccupied northern territories were not only and not so much a raw material base but rather a region that it is necessary to become completely adapted to and become its permanent residents. Ideas about the “comfort” and “discomfort” of life in the north must radically change. The study of the history of settlement and mastery by man of the north can play a major role in this, especially in that region where the cold point is found.

Based on modern views, the north zone is among those that create the greatest discomfort for the habitation of man. Various maps show which regions are favorable and which unfavorable for human life. On D. Khorabin’s (1924:12) map practically all of the cryolithic zone of the Northern Hemisphere is described as a “region in which man either cannot live at all or lives under very difficult conditions” (Figure 8). On his map Yu. P. Parmuzin’s (1981:52) assigns almost all of northern Asia east of the Yenisei to “continental” or “sharply continental” climate zones (Figure 9). Parmuzin (1981:56) writes: “The sharp continentality of the climate and the fierce frost ... require from man, who arrives here from more favorable places, special training. Not everyone can adapt to a drop in temperature and atmospheric pressure, to the sharp difference in light and long ultraviolet deficiency.”

On a map of the “Comfortableness of the Territory of the USSR by the Degree of Favorableness of Natural Conditions for the Life of a Population,” which L.V. Maksimova (1979:61) published, all of Northeast Asia is assigned to regions of “little favorable” and “not favorable” for life (Figure 10). With an examination of the different factors of “anthropoecological conditions” of comfortableness, Maksimova (1979:60) notes that the presence of man’s adaptiveness to a new environment of habitation is determined largely by his adaptiveness to the former environment of habitation. She further emphasizes (Maksimova 1979:64): “The situation of stress can be created not only as a result of excessively unfavorable conditions of the environment but also in connection with the perception that it is extremely unfavorable.” This conclusion is important for understanding how in the history of humanity different migrations from “favorable” regions to “unfavorable” ones could be carried out; this is especially important for an examination of the problem of the settlement by man of the north. Even more significant is the following conclusion by L.V. Maksimova and E.L. Raikh in “Extreme Natural Conditions of Life” (1979:80): “Analysis of the problem of man’s adaptation to the environment shows that its most important constituent is adaptation to unfavorable natural conditions. Precisely this form of adaptation serves as the chief moving force, which activates the work of biological and nonbiological mechanisms of adaptation.”

It is interesting to note that the same conclusion about the influence of the climate of central Yakutia on the health of man had been made in the nineteenth century by the German scholar G. Hartwig in *Nature and Man in the Extreme North*, published in Russia in 1866. In it Hartwig (1866:167, 168) writes: “It is asked how man bears such severe cold. Amazing acclimatizational capability gives him the possibility of coming out of the struggle victorious Not only native Siberians but also travelers quickly become accustomed to winter cold Great cold is tolerated

by the fact that it acts on the health more favorably than detrimentally.” It is remarkable that this conclusion was made by Hartwig at almost the same time as the appearance of Vagner’s work on a nontropical homeland of humanity. However, in the scientific circles of “civilized” countries located in temperate and subtropical zones, the opinion of the unfavorable influence of cold on man and of cultural backwardness among northern peoples prevailed. This traditional opinion goes back to the early Greeks, Romans, and Chinese. In Europe it finds its beginnings in the works of Heroditus, Strabo, and Ptolemy.

The ideas of scholars and laymen about unfavorable northern conditions for the life of man have probably been influenced by the stories of various travelers regarding their impressions of circumpolar countries. The Russian mariner and traveler F.P. Wrangel, who worked in Yakutia from 1820 to 1824, expressed them very graphically. He writes (Wrangell 1948:136): “How did man get here? What could have lured him here, into the grave of nature? In vain will we look for an answer to our question: no monument, no legend speaks of what was in the past.”

In 1775 I. Kant, in “On the Different Races of Men,” notes that the “band of the earth between the 31st and 52nd degrees of latitude” is the most favorable for life of man. He thought that people moved into the north “relatively recently from lands with milder climates” and that cold contributed to the “expiration of life forces” (Kant 1964:2:449,456, 459). The clearest ideas about the “nonhistoric character” of northern peoples were expressed by G. Hegel in lectures on the “philosophy of history,” which he delivered at Berlin University between 1818 and 1831. Examining the history of different countries in Asia, Hegel (1935:94) noted: “Above all, the north slope—Siberia—should be noted. This slope, beginning in the Altai mountains, with its beautiful rivers falling into the Arctic Ocean, is on the whole not in the least interesting to us here since the northern zone lies outside history.”

Among Soviet archaeologists who were convinced of the negative influence of natural conditions in the north on the lives of people was A.P. Okladnikov. Speaking of the ancestors of all the peoples of Northeast Asia, he noted: “Over the course of time all these tribes—ancestors of the most recent Eskimos, Chukchi, Koryak, Yukagir, and Evenk—having reached a certain level in their adaptation to the surrounding realities, are as if this exhausted all their strength and possibilities. They reached some kind of deadlock” (Okladnikov 1943:54). He had the same pessimistic view in relation to the Yakut people. “The Turkic colonists moved to the north,” Okladnikov (1943:72) writes, “forgot about bread, and for hundreds of years lost former agricultural skills. They lost their camels and herds of sheep. The curve of their economic life dropped sharply. The old trade connections were broken. The direct routes by which influences from the foremost countries of the east penetrated were cut Thus, the pulse of cultural development gradually began to die away under conditions of isolation from related tribes and the cultural centers of the world. The twilight of the Arctic night covered the ancient culture.”

Okladnikov demonstrated especially clearly his relationship to northern peoples in his answer to A. Ya. Bryusov in his review of the monograph *The Neolithic of Baikal*. In it Okladnikov (1952:201) wrote: “Taking completely into account the peculiarity of the historical course of northern peoples that has defined their backwardness, avoiding any kind of unfounded exaggeration of their modest historical role and relatively limited cultural-historical merits, I do not believe that I have the right

to deny them—*this part of humanity that was illfated in the past* [emphasis ours—Yu. M. & S.F.]—recognition of the right to adequate participation in history.”

Thus, pretentiously declaring himself from all platforms the champion against assignment of northern peoples to “nonhistorical,” Okladnikov in fact presented the strongest argument

(since he was ostensibly supported by archaeological facts) in favor of the ideas of Hegel and others that the northern peoples were found “outside history.” All Okladnikov’s subsequent activity after completion of work in Yakutia attests to the recognition that in his heart he shared this opinion. From 1947 to the end of his days (1981) he preferred to work in southern Siberia, the Far East, Mongolia, and Central Asia—where, according to his ideas, it was probably possible to find traces of “historic peoples.”

Despite the fact that Okladnikov—after his defense in 1947 of his doctoral dissertation on the ancient history of Yakutia—turned from archaeological investigation of northern regions, he recalled with pride his work there during the years of World War II: “It is impossible to forget,” wrote Okladnikov (1950a:23),

that there stand before researchers special difficulties connected with the specific conditions of the extreme north: with its colossal territorial expanse and sparse settlement, with its severe climate and impassibleness. Simple archaeological survey in the tundra or along the great Siberian rivers is often transformed there into a scientific feat, and even with stationary investigations very unexpected and insuperable difficulties of another order sometimes occur. It is sufficient to remember, for example, how much of a hindrance permafrost is No less important are the extremely compressed time period and tempo of the work But all the more valuable is each, even single, site of the past in the north, each fact dug up from the north’s severe and sparing nature.

Okladnikov’s ideas about the negative influence of northern conditions on the life of man are at present shared and taught by his student A.P. Derevyanko, who also prefers to work in the southern regions of Siberia and Central Asia. This is evidenced by his statement about the level of material culture of the Earliest Paleolithic of Diring: “Concerning the archaicness of this complex of stone artifacts: it is made archaic by the especially complex natural-climatic conditions of Northeast Asia” (Derevyanko et al. 2000:217).

Of the physical anthropologists, V.P. Yakimov came forth most sharply against a nontropical origin of man and stressed the unfavorable influence of cold northern conditions on the evolution of humanity. He writes (Yakimov 1951:64): “Substantially greater is the basis for suggesting that in the early stages of the anthropogene, when external conditions and in particular the geographic environment undoubtedly had substantial significance for determination of the tempo and direction of the processes of evolutionary development of hominids, under the best conditions groups of primitive people were found who lived in a milder climate. Contrary to the assertions of some researchers (A. Hrdlička, H. Weinert, and others), the worsening of conditions of habitation, and in particular the advance of the ice age, played a negative role in the process of the anthropogene.”

Yakimov (1951:85) extended this conclusion to the further evolution of people in the transition from the Middle to the Late Paleolithic as well. “Most successfully,” he noted, “the process of evolutionary transformation of primitive people into people unified in ‘clan’ societies originated in the broad expanses of Afreurasia, located outside the sharp influence of glaciers.” In another work Yakimov (1972:52) stressed: “Cooling by no means contributed to the progressive development of man. The severe conditions of life made the physical type of the Neanderthal people cruder.”

We frequently cite in this report rather long quotations from various works “for” and “against” the beneficial influence of cold northern conditions on the origin and evolution of humanity, as well as quotations about the significance of archaeology for this problem, in order to help our readers form their own opinions and in order to somehow contain the spread of compilation and plagiarism. In addition, we would like to bring up the significance of facts and the opinions about these facts for the resolution of various problems. This issue was raised in our science long ago. For example, H. Obermaier (1913:451) writes: “There is no realm in science in which a persistent struggle did not have to be carried out against the substitution of precisely established facts by ‘views regarding them and interpretations of them’—and only by means of this struggle is it possible to be freed from the reign of fantasy and to establish in place of it cold but reliable inductive thinking.” We will examine shortly the question of the facts about times and routes of man’s settlement of Northern Eurasia and America.

One would think the hypothesis of a nontropical origin and the influence of cold on the creation and evolution of humanity, which finds itself in good agreement with the basic positions of modern evolutionary study and is supported by many scholars, would first have to be added to the arsenal of archaeologists who are occupied with the study of the preliterate history of northern Eurasia. Indeed, only their expeditionary investigations could clearly establish whether or not there are indisputable sites of the early periods of the Paleolithic in northern Eurasia that would permit resolving the puzzle of the time of man’s settlement of the north and authorization of the existence of the concept of a nontropical origin for humanity. Unfortunately, this has not happened. And Russian scholars, regarding the problem of the origin of humanity, have become not the leaders but the led.

All archaeologists in our country and abroad, up to the discovery in Yakutia in 1982 at 61° north latitude of the Earliest Paleolithic site of Diring Yuryakh, believed—and most of them continue to believe—that man’s homeland is located in the warm regions of our planet—in Africa and southern Asia (Figure 11)—from where the human population began gradually to move around the earth and reached the cold zone last. With this they have cited and continue to cite the presence in southern regions of the multitude of sites of people of the Earliest and Early Paleolithic and the lack of them in the north, as well as the presence in Africa of fossil remains of the presumed ancestors of man.

The views of various researchers on the origin of humanity are reflected on the map (see Figure 11). With examination of the map it must be noted that, regarding the inclusion of Russian territory in the realm of the original homeland of humanity, V.A. Gorodtsov (1908:184) notes: “Within the boundaries of Russia sites of the early period of the Paleolithic epoch have nowhere been found. It is possible that they do not exist at all, but it is even more possible that they exist but have not yet been found. In any case, both at the end of the Tertiary and at the beginning of the

Quaternary geological periods, the territory of European Russia was an entirely favorable arena for the life and activity of man.” Gorodtsov bases his conclusion the fact that during the time he indicates, which he considers “preglacial,” a warm climate was characteristic of the territory of “European Russia.” Therefore, Gorodtsov can be considered one of the first Russian supporters of the “northern variant” of the tropical origin. Later, practically all archaeologists followed his lead—including the southern territory of Russia, especially the Transcaucasus, in the supposed region of the homeland of humanity. The most extended view of the “northern variant” of the tropical concept is given in the works of Efimenko (1953:89), where he includes in the “zone of possible humanizing of apes” the whole area of the Black Sea and the Sea of Azov, and all the Caucasus and Central Asia up to the Aral Sea in the north.

Our outstanding physical anthropologist G.F. Debets was the last of all specialists to examine the problem of possible inclusion of some regions of the Caucasus, Central Asia, Kazakhstan, and Mongolia in the area of the origin of humanity from the position of the concept of a nontropical homeland. “The desert-steppe zone of Central and West Asia,” he writes (Debets 1952:16), “was not, of course, especially favorable for the spread of primates. The climatic conditions, especially in winter, were evidently already rather severe even at the end of the Tertiary period Therefore, the expansion of the late Pliocene and early Pleistocene steppes and semi-desert in Central Asia does not at all oblige us to expect the expansion into these same regions of early anthropoids. But, those anthropoids who were for this or that reason in this zone found themselves, according to P.P. Sushkin’s theory, in favorable conditions to develop the biological prerequisites for becoming human.”

Debets’s views had no influence on the frame of mind of specialists who occupied themselves with the problem of the origin of humanity. Most scholars believed that because of lack of facts corroborating a nontropical concept, it was not enough to resolve the problem of the origin of humanity. Soon followed remarkable discoveries by physical anthropologists and archaeologists in Africa, and this continent for a long time attracted the attention of specialists. Disputes between them, if they occurred, were only within the framework of the concept of the tropical origin of humanity. In addition, along with archaeological and paleoanthropological facts, some researchers even try to bring in physiological data to support the tropical concept.

In this connection the following statement by D. Harrison and his coauthors merits attention (1979:74): “All paleontological, archaeological, and even physiological data point to the fact that the evolution of hominids began in tropical regions, located beyond the boundaries of the zone directly experiencing the influence of glaciation It is evident that man was able to become adapted to a cold climate only at the end of the Pleistocene.” It would be most interesting to examine the “physiological data,” since if they were found to be indisputable, then they are a weighty argument in favor of localization of the origin of humanity in a tropical zone. However, in their book, *The Biology of Man*, we were unable to find any very convincing physiological data. It gives the impression that it is not physiology that substantiates the necessity of life of the hominids in the Tropics but vice versa: the existence of hominid bone remains in the Tropics substantiates their physiological predisposition toward tropical conditions of existence.

This paradox is obvious in the works of T.I. Alekseeva (1977, 1986). Dedicated to different adaptive types and the time of their appearance, these works should contain clear biological facts supporting the antiquity of this or that type. The author even brings in a schematic illustration that shows when this or that type emerged (Figure 12). As might be expected, Alekseeva considers the earliest type tropical. From it arise all other types distinguished by her: humid, continental, temperate, high-mountain, and arctic. By what kind of data does the biologist substantiate the antiquity of the “tropical adaptive type”? The author refers to the bone remains of Australopithecines, Oldowan stone tools, and the data of paleogeographers about reconstruction of the environment of the “immediate ancestors” of man in Africa.

Again there is no biological basis for the antiquity of the “tropical type” but rather a basis for its biological antiquity based on nonbiological data. Of course, T.I. Alekseeva (1977:258) notes:

Extrapolating these observations, which were made on physiological adaptive complexes in a modern population, to a population of Australopithecines, we can think that, among Australopithecines within the boundaries of their entire area, adaptive reactions were limited by the adaptation to climatic conditions in the tropical zone and living within the bounds of a medium elevation above sea level. Specifically, this could be expressed in tendencies toward a lowering of the fundamental metabolism, a diminishing of the thickness of the fatty layer, an increase in the content of the gamma globulin fraction of the albumin in the blood serum, in an increase in the perspiration factor, a lowering of the body temperature, and a reduction in the number of heart contractions per unit of time, that is, in the development of that physiological complex that now prevails among inhabitants of the tropical zone.

The list of traits looks imposing. But what does it represent, and what does it prove? Only that among residents of the Tropics such physiological signs are present and no more. T.I. Alekseeva does not cite any physiological data indicating that the tropical type is maternal for all remaining types. And, it is evident, she cannot cite any. This is confirmed, as it were, by V.P. Alekseev’s (1985:192) following “reservation”: “Physiological and genetic features of early hominids remain unknown to us, and all the extrapolations in this area have only tentative outlines.”

An examination of the works of T.I. Alekseeva is fundamental for understanding that physical anthropologists, in spite of all their attempts to occupy the leading position in the system of sciences on the origin and evolution of humanity, cannot prove by purely biological methods (with which they have to occupy themselves) either the antiquity of the “tropical” adaptive type of humanity or the youth of the “arctic” type. All of their arguments about this have in the best case, as some of them have acknowledged, “only tentative outlines.”

What archaeological data does science have at its disposal for an answer to the question, when and how was northern Eurasia settled, and when did the possibility appear for humanity to settle America? Archaeological data about man’s settlement of the northern part of Europe are shown on the map (see Figure 6, composed by I.K. Ivanova et al. 1989:50). Publishing this map, the authors note that “the territory of the USSR does not belong, as is well known, to the number of regions that

might be viewed as the place of origin of people.”⁹ They do not view the possibility of the Earliest Paleolithic sites being here at all. The earliest sites are considered to be Acheulean, which are not spread “north of the 48th parallel.” The climatic conditions of the Riss-Wurm interglacial, according to their opinion, permitted people in Mousterian times to settle on the Russian Plain substantially north—to 54° north latitude. “The late Paleolithic population,” they write (Ivanova et al. 1989:54), “sharply increased in comparison with the Mousterian and penetrated farther, though not uniformly, to the north. The northernmost site (Byzovaya) in Eastern Europe is 175 km south of the Arctic Circle. People are already completely adapted to conditions of a severe climate of Wurm-Valdai times The climatic minimum (18,000 to 20,000 years ago) apparently resulted in some outflow of the population to the south People, however, were already so well armed against unfavorable natural conditions that they could maintain the primary areas of their habitation.”

Modern ideas about the beginning stages of settlement by man of Europe north of 60° north latitude are most clearly stated by P. Yu. Pavlov (1991:109–111). He proposes subdividing the process of man’s settlement of northern Europe into the stages “penetration,” “opening up,” and “settlement.” In addition, he notes that natural conditions, “analogous to modern arctic,” were widespread in the middle and upper Pleistocene to 55° north latitude, and therefore this entire region can be considered “Pleistocene Arctic.” He cites the following data for various stages of opening up the “Pleistocene Arctic”:

The penetration of man into arctic latitudes was obviously episodic, short-term, and did not require deep adaptation. In the period of mastery, that is, relatively permanent occupation, a distinctive experiment occurred, directed toward a search for specific adaptive mechanisms With a correctly elaborated strategy the next stage emerges—settlement, that is, permanent occupation by man in this region with securing and developing of expedient mechanisms of adaptation

Based on available preliminary data, man’s penetration into northeastern Europe, including northern subarctic regions (Kharuta—66° north latitude), belongs to the beginning of the middle Pleistocene (Mindel-Riss, Likhvin) and hardly occurred under severe climatic conditions. ... The penetration of some early Paleolithic communities [here the Middle, and not the Early, stage of the Paleolithic of our periodization is meant.—Yu. M. & S.F.] did not have a stable character. Characteristic for this stage was adaptation of the first order: fire, clothing, and dwellings. It is also possible that during this time the search for functional adaptive mechanisms began.

The beginning of man’s true mastery of the Pleistocene Arctic in northeastern Europe occurs in the second half of the late Pleistocene and is correlated with Upper Paleolithic

⁹ The expressions “as is well known” and “usually accepted” are very widespread in our literature. V. I. Lenin’s statement about “sensible meaning,” as about “prejudices of its time,” suits their appraisal quite well (Lenin 1978:245). Whoever does not understand this should not occupy himself with science.

times The maximal development of culture in the Upper Paleolithic of northeastern Europe was attained in the middle Valdai [this climatolith is assigned to 50,000 to 25,006 years ago and corresponds in time with the North Asian Karginsk.—Yu. M. & S.F.]. Upper Paleolithic communities during this time were possibly adapted to the subarctic conditions of the region in a most adequate form The following stage of opening up and further settlement of the territory of northeastern Europe was connected with the Pleistocene-Holocene boundary and the Paleolithic-Mesolithic.

Paleolithic sites of Europe have, of course, vital significance for the study of the stages of man's settlement in the north. However, they are not fundamental for substantiating the problem of a non-tropical place of origin for humanity. This can be explained by the fact that significant areas of Europe, especially its northern part, were periodically covered by glaciers (see Figure 5). Therefore, based on the study of the Paleolithic in Europe, the schema "arrival-departure-arrival" of man into a territory and from a territory that was periodically being opened up and covered with ice sheets was worked out.

For Europe this schema is completely logical. Of course, it has one essential deficiency since it does not explain how the "departure" of people occurred into an already settled region. Who waited for them there? Settling in an already populated region could occur only through armed clashes and force or extermination of the original inhabitants by the new arrivals. This is a very important problem. The Paleolithic materials of Europe that are supported by facts do not at present permit resolving it, but it is necessary—at least for those who adhere to the schema "arrival-departure-arrival"—to reflect upon it. Unfortunately, ideas logical for Europe about the late settlement of "cold regions" and the schema "arrival-departure-arrival" of the population by many researchers were also transferred to the Paleolithic of all northern Asia, including its northeastern region, a large part of which was not covered by glaciers.

In general, all the thought and conclusions about the earliest stages of man's settlement of northern Asia before the opening of the Paleolithic in Yakutia were based on materials obtained in southern regions of Siberia. In most cases they were studied as early as the 1930s (Figure 13). It is remarkable that upon publishing this map V.E. Larichev (1969:386) notes: "1930 was a distinctive turning point in the study of the whole North Asian and East Asian Paleolithic Finds in severe taiga regions of Siberia have not corroborated the hypotheses of French and German researchers regarding the exclusive role of this region of Asia in the formation of early cultures of the Stone Age of the Old World." Here one should turn attention to the fact that all the Paleolithic sites of Siberia discovered by 1930, in regions that Larichev calls "severe taiga," are generally located south of 55° north latitude and are assigned by L.V. Maksimova (1979:61) to the zone of "most favorable and favorable (comfortable) natural conditions for the life of a population" (see Figure 10). It is precisely under these conditions that all Paleolithic scholars of Siberia have worked and continue to work.

The only specialist who tried to break out of this zone was Okladnikov, who from 1941 to 1944 led specific investigations for the Paleolithic along the Lena to approximately 60° north latitude. However, study by geologists of Paleolithic sites on the Lena led me to the following conclusion: "A.P. Okladnikov's data, about the Paleolithic of the Lena, cannot at present be used

for stratigraphic purposes since the precise geological position of these sites is presently unclear” (M.N. Alekseev et al. 1962:54).

In spite of the very limited facts about the Paleolithic of northern Asia, especially about the region located north of 55° north latitude, some archaeologists have tried to use these facts to draw very responsible conclusions. For example, S.N. Zamyatnin (1951), relying on the preliminary conclusions of G. Merkhart (1923) and Sosnovskii (1934), drew a “generalizing conclusion” about the *sharp* distinction in all the primary characteristics between Late Paleolithic Siberia and the European Paleolithic (Figure 14). No less “indicative” is the conclusion of Okladnikov (1966), who, using conclusions by G. Merkhart and Kh. Movius (Figure 15), assigned all of northern Asia to the “eastern cultural-historical region,” where development of the Paleolithic was clearly distinct from the “western cultural-historical region” from the very beginning (Figure 16). P.I. Boriskovskii (1957:178, 179) drew the same “important” conclusion about man’s settlement of all of northern Eurasia and America. “Quite large territories, judging by the data available to us,” he writes, “were not accessible to people even in the Late Paleolithic. These are all of the expanses of the European part of the USSR and Siberia north of approximately the 60th parallel. Some of these expanses were covered with ice during the last glaciation, and some were probably not settled by people because of extremely severe climatic conditions Late Paleolithic people also did not settle America and Australia.”

All these “generalizing conclusions” did not endure the test of time and would not even be mentioned were it not for one circumstance connected with them—which up to the present hinders the development of archaeology on the whole and Paleolithic studies of northern Eurasia in particular. All the above-enumerated conclusions are based not on facts but on the lack of them, that is, on an incomplete archaeological chronicle, which our scholars either did not take into consideration or did not want to consider. .

Thus Zamyatnin (1951:122), evaluating his conclusions about the Late Paleolithic of Eurasia, writes: “In essence, all the expanse occupied during the Late Paleolithic in this or that degree has been studied today It is now difficult to expect any new discoveries, which would force a change in the presently developed picture in a basic way.”

Okladnikov (1950b:154, 155) was inclined to substantially overestimate the degree of study of the Paleolithic in Siberia as well. “As is well known,” he writes, “

in the region of Siberia no traces have been found of the existence of any primates, from which man emerged, that could be found in connection with the relatively severe climate of these regions at the end of the Tertiary and beginning of the Quaternary periods It is entirely natural, therefore, that the process of settlement of severe and huge expanses of northern Asia could begin only in relatively late times The most appropriate time of the widespread movement of primitive man was the period of existence of the highly developed hunting culture of the Upper Paleolithic Of course, it is permissible to suppose that, in Siberia, sites of the Paleolithic earlier than Mal’ta and Buret’ may still be found. But as we know, the basic regions of distribution of the Paleolithic in Siberia have been studied no less fundamentally than the other most important, in this regard, regions of the Soviet

Union [the author dared to write such in 1950!—Yu. M. & S.F.], and in any case better than, middle Asia for example, where whole clusters of first class Mousterian sites were found with the first systematic searches. From this it follows that the possibility of discovery in Siberia of sites of Mousterian times and, even more, of preceding epochs of the Paleolithic is not very probable.

In this regard we mention that as early as 1935 Efimenko (1935:12) wrote: “It cannot be doubted that by middle glacial times (Riss times) more southern regions of the USSR from the Ukraine to the Far East were settled by primitive hordes of Neanderthals. Of course, for Siberia this assertion is based chiefly on the wide spread of remains here from later periods (Upper Paleolithic), which obligated assigning the initial settlement of the country to a significantly earlier time. As it happens, Okladnikov, 15 years after Efimenko’s prophetic prediction, was also unable to find sites earlier than Late Paleolithic in Siberia and therefore decided to declare that it was impossible for them to be there.

Striving to overestimate the completeness of the archaeological chronicle is also characteristic of P.I. Boriskovskii. In the preface to the concluding collective monograph *Paleolithic of the USSR*, which was published under his editorship, he states (1984:15): “The regions of our country that could have been inhabited in the Paleolithic—though no or almost no reliable and compelling sites of these periods are found there—are few in number and relatively small.” And this he wrote at the time when the whole huge territory from the Urals to Chukotka located north of 55 degrees north latitude, except Yakutia, remained completely unstudied in Paleolithic regard! This was written by the head of the Paleolithic branch of the Institute of Archaeology of the Academy of Sciences, USSR! That was, and is, the state of affairs in our science!

But perhaps S.A. Vasil’ev, a member of the Paleolithic sector of the Institute of Archaeology of the Russian Academy of Sciences, outdid them all in ambitiousness. His chief merit in the study of the Paleolithic of Siberia is concluded by the fact that he “heroically” examined the left bank of the upper Yenisei over the course of 12 km and excavated two or three sites there ordinary for this region. And what did this archaeologist tell us? This: “And now in Siberia simply a ‘general flight’ to the Lower Paleolithic is observed,” he writes (Vasil’ev 1996:197).

Of course, everyone wants to find in the territory being examined the earliest of all possible sites and, in fact, here sensation follows sensation and a whole stratum of formerly unknown cultures is revealed to us. However, looking truth square in the eye, one will not soon be able to definitely judge the chronology or variants of the Mousterian and, even more, the Acheulean, of Siberia or the features of transition from Mousterian to Upper Paleolithic, and so on. In fact, the long years of dispute concerning these problems will bear in many ways a speculative character. At the same time, in the Late Paleolithic of Siberia, especially in its final part, we already have at our disposal a splendid stock of material; it is truly huge. Another affair, that it is scattered about, is very selectively and incompletely published and poorly interpreted.

This is how it turns out: all Paleolithic scholars except Vasil'ev work from palatial sea-front St. Petersburg. They strive beyond sensations and scatter materials about, and they do not turn them over to Vasil'ev for preservation and processing. They have a poor record of publishing materials, and, most chiefly, are unable to comprehend the materials.

But what do we see in five years after Vasil'ev's extravagant conclusions about "huge and poorly interpreted material" of the Late Paleolithic and of the "impossibility of interpreting earlier materials"? We see his article "Siberia and the First Americans" (Vasil'ev 2001:66–73), written "with the support of the Russian stock of primary investigations." This article is notable in that it gives an idea of the kind of factual and interpretational baggage—for resolution of the most important questions on the origin and evolution of humanity—with which Siberian Paleolithic studies entered the twenty-first century. The primary questions that can and should be resolved based on the Paleolithic materials of northern Asia are connected, from our point of view, with problems of a non-tropical origin for humanity and the initial stages of man's settlement of America.

What do we find out about this from the article by Vasil'ev? "It is clear that in the search for the ancestors of the American Indians, it is worth turning to the archaeology of Northeast Asia. Siberia," writes Vasil'ev (2001:69),

is uncommonly rich in sites of the Old Stone Age. But they are found mostly in the southern part of Siberia (the Altai, upper Yenisei, Pribaikal'e, Zabaikal'e) and rather far from the places interesting us. The extreme Northeast Asian mainland, a huge region lying north of Baikal, remained for a long time a blank spot on the archaeological map. Only in the 1960s, by the powers of Yu. A. Mochanov was the Dyuktai culture revealed, the clearest manifestations of which are bifacially worked spear and dart points. Sites of such type are located not only in the valleys of the Aldan and Lena but also far to the north, beyond the Arctic Circle. The Dyuktai sites are primarily dated to a range of 11,000–10,500 to 18,000–17,000 years ago.

The continuation of investigations in Yakutia led to still more sensational finds. On a high—over 100 m—bank of the Lena, close to the entrance of Diring Yuryakh Creek into it, unusually archaic stone artifacts were found Mochanov, the initial discoverer of the site, was carried away by the theory of a so-called 'nontropical origin of humanity,' ascribing a completely fantastic antiquity (more than 1.8 million years) to Diring, comparable to the age of the earliest sites in Africa. Recently a group of American scholars were able to obtain a series of dates that permit determining the approximate age of the deposits containing cultural remains. The published figures (from 250,000 to 350,000), of course, are not so impressive as the declared millions, but even so such dates force us to reexamine the ideas of the movement of the ancestors of man that have been developed The discovery of such an early site in Northeast Asia speaks of the reality of the opening up of this territory by the Lower Paleolithic and the principal possibility of the penetration of man into Beringia.

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-