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### Notice of Prehistoric Implements Found in Siberia

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<sup>a</sup> from the original contribution to the  
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## NOTICE OF PREHISTORIC IMPLEMENTS FOUND IN SIBERIA.

[Translated by the Rev. S. S. LEWIS, from the original contribution to the Society of Natural Science of Neuchâtel, by E. DESOR.]

Now that prehistoric studies are the order of the day, we ought not to be surprised to see whole races and civilisations resuscitated, as it were, under the eye and the pickaxe of the archæologist in countries which we should least have suspected of having been the cradle of primitive humanity.

Of this we have now the opportunity of recording a striking example. Siberia has just offered us the following contribution to the new science.

A student of the Academy of Neuchâtel, M. P. Morel, who, like many young men of West Switzerland, where French is spoken, had devoted his life to tuition abroad, did not object to accept the office of tutor in the family of a mine-owner on the banks of the Jénissei. There, in the middle of the steppes of Tartary, he remembered the instruction he had received, and found it available when his attention was drawn to some antiquities which appeared to him in some measure to resemble those of our lake dwellings. He met at Krasnojarsk those who shared the same tastes; a Russian engineer, M. Lapatine, well known to geographers by his travels in Siberia, had made a collection of such objects, which he was kind enough to entrust to M. Morel for our examination.

These antiquities are all of bronze. They consist of a number of arms, utensils, and ornaments, viz., 2 poignards, 2 celts, 6 knives, a chisel, a pickaxe, a bit, and 5 buckles or fibulæ (belt fasteners). It is evidently quite a little set of personal implements which lead us to think more highly of their former owners, inasmuch as it bears evidence on their part of varied requirements and tastes very different from those of the wandering tribes which now inhabit the same district. The celts (fig. 4) remind one, in certain respects, of those from the lake dwellings, with this difference—the



1. A horse's bit.

2. Poignard.

3. Knife.

4. Socketed celt.

5. Pick.

6. Buckle.

7. Plate of a buckle.

PREHISTORIC IMPLEMENTS, ETC., FOUND IN SIBERIA.

socket is much larger. The figures on fig. 4 somewhat resemble the chevron ornaments on those of our pile dwellings. The knives are characterised by a striking peculiarity, the back being convex and the edge concave, the reverse of our lake knives. The handle is not distinct from the blade, and it needs no further mounting, at the same time it is elegant and often ornamented with figures on both sides (fig. 3). The bit (fig. 1), proves that horses were even then in use for riding. Its proportions indicate a horse of medium height.

M. Lapatine, who has been so good as to send us the above-mentioned collection, obtained them all from parties of wandering Tartars, who found them in the steppe when seeking pasture for their flocks. They may occasionally have used these implements for domestic purposes, but this was quite accidental, and they have no claim to be looked upon as national utensils. They are much too elegant and too carefully wrought for the Tartars, who always much prefer a simple iron knife to the most beautiful bronze blade. Most of these implements are covered with a beautiful brown patina ; only a few have the green patina (fig. 3) like that on the antiquities found in our tombs.

We may further add, that according to the chemical analysis, made at our request by M. R. de Fellenberg, of one of these implements—the poignard—the bronze is of the best quality, presenting the following result :

Copper . . . . .	87.83 per cent.
Tin . . . . .	11.50 „
Nickel . . . . .	— .67 „

M. de Fellenberg adds, “These proportions show that the purest materials were used in the composition of the bronze. The copper especially must have been of extraordinary purity, for I can discover in the material analysed neither lead nor silver. As to the nickel containing traces of iron, it is known to exist in the purest copper.”

It is not necessary to be well versed in archæology to discern that this collection proves great advance in civilisation—even higher than that of the occupants of the lake dwellings of the bronze age. The objects are not only correct and elegant in form, and ornamented with varied designs, but the greater part of the ornaments have a dis-

tinctive character, and represent, under varied aspects and modes of workmanship, the forms of animals, many of which may be easily recognised, such as the wild goat (fig. 5), the stag, and the wolf (fig. 2), &c.

There are others which it is more difficult to identify—a kind of large cat (fig. 7), the body of which is very characteristic, but the muzzle is lengthened in the form of a horn, so much so that many persons would be inclined to discover in it a resemblance to the mammoth. We prefer, however, until we receive more ample information, to consider it as a fanciful animal, such as people of all nations have been fond of idealising.

The interest of this collection is further increased by the fact that the same implements are found, in part, up to the western slopes of the Ural, in the government of Perm, as may be seen by examining a collection of casts in the museum of St. Germain, and which have been described by M. G de Mortillet.<sup>1</sup> More particularly we find there the same type of poignards and celts, so that we may presume that the same degree of civilisation extended not only over Siberia but that it even crossed the Ural.

To what civilisation, then, can we ascribe the utensils in question? There is nothing modern about them, as is shown by their antique patina. They have nothing in common with the classic style, nor with that of the prehistoric periods of Europe: they are of a totally different stamp from the implements of China. We are unable to discover in them traces of the Hindu type, and unless one can prove that they refer to the ancient civilisation of Turania or of Persia, we are led to the conclusion that they belong to an *indigenous* civilisation. This conclusion seems to be confirmed by the tombs (*kourgani*) found in great numbers on the banks of the Jénisseï, and which, in the opinion of Pallas, belonged to an ancient people. This people would have completely disappeared had not its civilisation been attested by a tolerably complete series of funereal articles, many of which are similar objects to those now under our own observation.

It is also worthy of remark that these *tumuli* are frequently surrounded by large stones, which must have been

<sup>1</sup> "Promenades à l'Exposition," p. 131. The originals of these casts are in the museum at St. Petersburg.

brought from a distance, as is the case with the *cromlechs* of the north of Europe.

It is certainly a very interesting problem for us to solve how this people of an Asiatic race, at the foot of the Altai, could have attained such a remarkable degree of civilisation without leaving behind them any traces either in chronology or history. We might possibly here recall the vague reports which tradition appears to have preserved in Northern Asia of a people of Tschoudi, whose power must have been considerable and whose influence extended even to the confines of Europe. Besides their ethnological interest, these antiquities raise a wider and more general question concerning the physics of the earth. It may be asked, with reference to these evidences of a bye-gone civilisation, whether such an advanced degree of it as they reveal could be possible under the present conditions of climate, in the middle of plains where the temperature falls every year below the point at which mercury freezes,<sup>3</sup> and where the mean annual temperature fluctuates about zero, while the mean winter temperature sinks as low as 20 centigrade.

We are justified in feeling doubtful on this point, and with reference to this particular case, we are led to ask whether, when the civilisation in question was to be found on the banks of the Jénisseï, the climate may not probably have been milder? If this conjecture is once allowed to be admissible, another question suggests itself as its natural appendage: where must we seek for the cause of this immense change in the climate of Siberia since the appearance of man in prehistoric times?

At the present day, when we do not admit the probabilities of sudden changes and violent revolutions, and when we are accustomed to ascribe to gradual modifications those changes to which the surface of the globe is subject, there is a solution which naturally occurs to the mind of the thoughtful geologist. It is that which arises from the distribution of land and sea. We are the more disposed to employ this theory, because it is sufficiently demonstrated that the sea has in general the effect of moderating the extremes of cold and heat. Therefore, without fear of contradiction, we may admit that if, by a gradual sinking of the earth, the northern

<sup>3</sup> Last winter the temperature at Krasnojarsk sank as low as 40 R., and at Menusinsk to 35 R.

part of Siberia were in our day to be submerged, the northern slopes of the Altai would enjoy a much milder climate.

We certainly know nothing positively as to the time when the upheaval of these great Siberian plains took place. But we may with certainty regard it as occurring at a comparatively recent geological period. To establish this as an incontrovertible fact, we ought to be able to appeal to the presence of marine shells in the superficial deposits. And it is here that we see so large a field open to future research. In the mean time we are not left entirely without information on the subject, and if the banks of the Jénisseï have hitherto given no evidence, it is worthy of remark that the presence of marine oysters has been ascertained on the banks of the Ischim, one of the affluents of the Irtisch, nearly under the same latitude as Krasnojarsk, which is a proof that the sea extended here since the last great revolution of the globe.

Perhaps we shall be asked, how this fact is compatible with the large quantity of mammoth bones which are buried in the superficial deposits of the soil of Siberia? This is doubtless a difficulty, and it would, in fact, be insurmountable if we considered (as up to recent times has too often been done) that the alterations on the surface of the globe have been brought about by some sudden revolution. The difficulty disappears if we suppose that the upheaval proceeded gradually and gently. According to this hypothesis the climate may have retained for a series of centuries a temperate character, which would have enabled herds of mammoths and rhinoceros to live on the land reclaimed from the Siberian sea; while at the present day, according to the accounts given by all the inhabitants of these regions, the soil of the steppes would not furnish sufficient nourishment for large herds of elephants. If the course of events really happened in this manner, there is nothing to prevent our believing that man was contemporary with the mammoth at the foot of the Altai.

However attractive such an hypothesis may appear to the eyes of the geologist and the palæo-ethnologist, as it opens new and wide horizons for their researches and speculations, it appears to us that we ought not to conceal the doubts we have as to this explanation, and which are founded on the following considerations.

Not only would the first appearance of man be thrown



back to a very considerable distance, but hitherto the only men we have known as living under a colder climate were of the palæolithic age or that of chipped stone—namely, the troglodyte of the Belgian caverns, of Wurtemberg, of the South of France, and even at the foot of the Saleve, who were contemporary with the reindeer and the cave bear. In this particular case it was not the hunter and the savage that we find in company with these denizens of a colder climate, but it was a civilised population appreciating beautiful forms, possessing luxurious tastes and the means of satisfying them. Now would it not be somewhat rash hastily to admit such important inferences ?

What still more increases our doubts is the relatively modern appearance of most of the objects under consideration, as well as the description given by Pallas of numerous tombs where similar objects were found in compartments separated by wooden beams and partitions. Perhaps I shall be met by the argument that if the flesh of the mammoth has been preserved, there is no reason why wood should not equally have resisted decomposition. The question raised on this point remains, and will long remain, open to discussion.

Finally, we cannot lose sight of one fact inherent in human nature—so long as hunting, pastoral life, or the culture of the soil furnish the sole means of subsistence, man naturally partakes of the conditions of the climate. He seeks, by preference, good climates, and abandons those which impose privations upon him, or are of a nature to injure the fruits of his labours ; or else, if he makes up his mind to struggle against the inclemency of the climate, he is obliged to devote his whole time to satisfy his most pressing wants, and he will hardly find leisure to cultivate his superior faculties ; or, in other words, he will only attain a very imperfect degree of civilisation.

The case is otherwise if he have the prospect of amassing treasure. No obstacle then stops him ; neither the heat of the torrid regions nor the searching cold of frozen lands. The thirst for gold is a stimulant, sufficiently powerful to make him set aside all the rules of health and comfort, and to impose on himself the severest privations : the miner will go and settle where neither the agriculturist nor the shepherd could prosper. Now as rich gold mines are to be found in the neighbour-

hood of the ancient tombs on the banks of the Jénisseï, why should we not suppose that colonists, setting out from some civilised country of Asia, came and settled in the middle of the frozen regions of Siberia, just as the present landowners have done, and as the owners of the famous Hallstadt salt mines did even in prehistoric times, who submitted to live in a climate of extraordinary severity (owing to its great elevation), in order to keep their riches, but who at the same time knew how to procure all the luxuries which the industry of the age could offer ?

If this last explanation be the true one, there would still remain the inquiry—who were these colonists who thus represented civilisation at a period entirely lost to history ? Perhaps this question may even yet be answered, now that such interest is aroused upon prehistoric questions of every class. What appears beyond a doubt is, that the actual indigenous population, the nomadic Tartars, own no relationship to the ancient inhabitants of these regions, who belonged apparently to a different race. They must be as distinct one from another as the Indians of North America appear to be from the ancient mound-builders.

I have felt it my duty to advance these two suppositions in the hope that they will provoke new discussions and perhaps new researches.

#### EXPLANATION OF THE PLATE.

1. Horse's bit.
2. Poignard, ornamented with a wolf's head on each side.
3. Knife, with the figure of an animal at the top of the handle, and on each side four figures of stags one above the other.
4. Socketed celt, with chevron ornaments.
5. Pick (with chequered designs), representing a wild goat.
6. Buckle, representing an eagle's head.
7. Plate of a buckle or clasp, representing an animal with a trunk.