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A "TUNDRIC LANGUAGE FAMILY" TO REPLACE "URALIC LANGUAGE FAMILY"

FROM A BROAD ORIGINS INTERPRETATION OF THE "URALIC LANGUAGES" DENDROGRAM

The science of historical linguistics analyzes surviving languages today, to determine their relationships to one another, and to reconstruct their evolution from proposed earlier "proto" languages. The results may be presented in a tree diagram, a dendrogram, that describes a sequence of branchings from parental languages. Traditionally, linguists then try to interpret the linguistic findings, and link the abstract tree diagram to actual geography and human behaviour. But the linguistic analysis and interpreting them in terms of actual geographical locations and historical events like migrations, are two separate things. Interpretation of the indigenous languages of northwest Eurasia by 19th century linguists was done at a time when there was very little evidence yet from archeology and other sciences to assist in interpretation, and the linguists largely made it up using popular stereotypical notions. The resulting interpretation that has become entrenched in the past century, and never updated, has been to view the "Uralic" languages to have had a 'tight' origin near the Ural Mountains, and then expanded from there in a series of migrations radiating generally westward and giving rise to new languages. However this idea of a tight origin and migrations has never found support in the archeological information that has accumulated in the past century, and that, based on the behaviour of nomadic boat-using hunter-gatherer peoples, such as recent Canadian Algonquian Native peoples, the correct interpretation is a 'broad' linguistic foundation, a single language throughout the entire region from Scandianvia to the Urals, which over the millenia became dialectically subdivided from natural boundaries and a reduction in the nomadism until modern settled life. The following article presents a broad-foundation interpretation. Because a broad-origins approach no longer places orgns in the narrow location of the Ural Mpuntains, it is proposed to replace the name of the "Uralic" family with "Tundric" based on origins in tundra peoples in the late Ice Age.

1. INTRODUCTION

For the last century, there has existed in the realm of historical linguistics, a model for the evolution of the indigenous languages between the Baltic and beyond the Ural Mountains. This model gave birth to the concept of the "Uralic Language Family" and its interpretation in terms of parent languages near the Ural Mountains and a sequence of migrations.

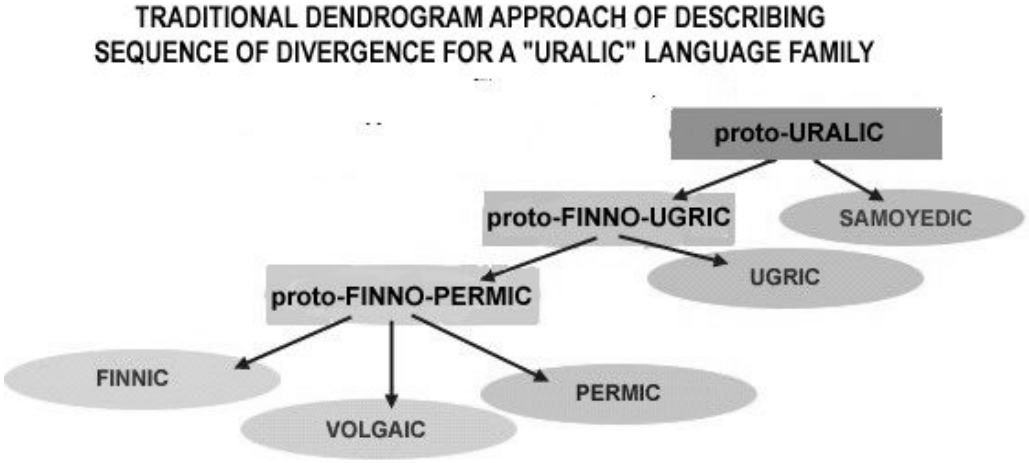
The problem with this description was that, as knowledge from archeology and other sciences accumulated, the original interpretation from the 1800's failed to be supported by those other sciences, or else the other sciences have assumed the

linguistic interpretation was correct and tried to bend their results to try to accomodate the linguistic theory is if it was fully proven and not simply a naive century old interpretation. Linguists do not understand that the issue is not particularly in the linguistic work, but in the interpretation the results. Just as linguistics needs trained linguists, so too, interpreting the result according to real events as revealed by archeology and other sciences, also needs experts, and linguists cannot presume to be qualified to do so themselves, unless they have substantial experience in those other applicable sciences. (For example, all Uralic linguists who I have dialogued with have only a student-level understanding of population genetics, archeology, and other sciences, and yet speak as if they have university degrees in them. I have kept quiet, so as not to upset them.)

2. THE "URALIC LANGUAGES" DENDROGRAM THAT IS TO BE INTERPRETED INTO PAST REAL-WORLD EVENTS

Historical comparative linguistics uses methodology that looks for closeness between languages, and groups together the similar languages into families and then determines how distant the apparently related languages are to each other and perhaps talks also of apparent systematic shifts that suggest how one language could have diverged from another. Figure 1 shows this dendrogram as it exists today, changed little over the past century. It involves imagining intermediate languages, shown in the rectangles. Since only the language families in the ovals are represented in real languages today, we can certainly question the validity of the imagined intermediate languages in the rectangles and offer an alternative dendrogram. But this is not a linguistics article, so we will assume the diagram of relationships is roughly correct after a century.

Figure 1



However, the interpretation of the language tree in terms of **real events** in the geography, climate, populations, cultures, etc **is a completely different thing that has to be pursued by experts in the applicable sciences**. Linguists generally are not even aware that the mere interpretation of the location of the languages or their distribution in the geography represents looking at information outside linguistics. Strictly speaking the results of linguistics is abstract and all beliefs concerning distribution, movements, etc of the speakers over time, is outside the linguistic field Even if the linguistics results are perfect, the interpetation made by those with little expertise in other sciences, can turn good linguistic work into garbage – especially if the interpretation contradicts, as the old naive interpretation does, archeological and other applicable knowledge. The challenge is not so much the linguistic analysis of language data, but in interpretation. What does a century of accumulated information about northwest Eurasia tell us that require us to interpret the linguistics in another way?

A century ago, when a dendrogram like the one shown in Figure 1, was developed, there was very little known about the actual past of the region concerned, and the interpretation the linguists developed was based on very little information. Basically, beyond the linguistic data, the 19th century linguists only knew the geography and perhaps some anthropological information. For example, there was no knowledge of the archeologist-defined "Maglemose" and "Kunda" culture, nor the nature of the boat-oriented hunter-gatherers, nor even the manner in which climate changed and glaciers withdrew. Thus the 19th century linguists, lacking any other information than mainly geography, simply *'borrowed'* an interpretation in the world of linguistics applicable to settled peoples who are forced to migrate – such as refugees who load up a wagon and migrate elsewhere. As we now know, this behaviour is not applicable to nomadic northern hunter-gatherers. Early northern humans moved widely in the sparse landscape, family groups or bands moving from campsite to campsite in a traditional hunting territory, arriving back at the same place only a year later. They ranged over an enormous geographical area and also gathered often annually with other extended family groups to affirm the tribal social unit. Neighbouring tribes too met up with each other to further enlarge the geographical region containing that same culture. Natural geographical boundaries confined some of them, and promoted more divergence than convergence in this process. Millenia later when such peoples established permanent settlements, men went hunting or fishing and had to return within weeks and not a year later. Then the range was greatly reduced, and that was the beginning of stronger dialectic divergence that register as related languages – such as the Baltic-Finnic languages, or Volgic languages. The development of dialects and dialects becoming related languages was the conseqence of the behaviour of the original population becoming 'tighter'

Some Finnish linguists in the early 1900's intuitively realized that the original interpretion was somehow not in keeping with the reality of northern hunter-gatherers but the politics in the science of linguists prevented more intelligent interpretations from being heard. Objectors were stonewalled or mocked and still are today – such as the late Kalevi Wiik who sensed the "Uralic" languages covered all of northern Europe in the late Ice Age, and raised controversy.

Today much new information has accumulated about real events since the Ice Age; however, traditional Uralic linguistics has held firm. The traditional interpretation has been around a century and is deeply ingrained in all textbooks.

To summarize, the old 19th century interpretation, of the dendrogram of Figure 1, they assumed the "Uralic" parent had a tight origin – as is needed for settlement peoples who never travelled more than 10km away in their lives – not the proper broad origin such as that advanced by Wiik. The old interpretation thus claimed there had been an original parent language somewhere near the Ural Mountains, in a very narrow location. The speakers according to that interpretation, divided into two groups, and they became separated from one another. Ceasing communication with each other the languages of each group diverged from one another. Then another split and migration arose from that. Since each step required a migration, the linguists had to choose the original location and where they migrated with each step. Eventually a migration reached the Baltic, originally thought to be about the Roman Age. While this would be a pausible interpetation for settled peoples in, say Asia Minor, it was completely wrong for northern nomadic hunter-gatherer peoples.

Divergence requires two descendant groups to become communicatively separated, but this does not require migration. Any circumstance in which two peoples stop communicating with each other will do. The mechanism of divergence that is applicable for nomadic northern hunter-gatherer people, is for a broad distribution of a language to break up into dialects *in situ* (without there being any migrations).

If we assume the parent languages in Figure 1– the languages in the rectangular boxes in the dendrogram – were NOT confined to a tight area, but were broadly distributed, then the migrating-apart approach will not work, and the only way for dialects and languages to develop was for *in situ* subdivision. This is well understood from history, such as the colonization of North America, where a settled area beginning with a single language, subdivided into regional dialects.

A broad-origins approach will look for divergence arising from *in situ* dialectic fragmentation. This approach is the more natural, more applicable, approach for the early nomadic hunter-gatherers.

Before presenting diagrams for this approach, it is necessary to argue how and why a founding language can be broadly distributed, and not need to be confined to a tight geographical area.

3. BROAD-BASED ORIGINS OF PROTO-FINNO-UGRIC SPEAKING BOAT PEOPLES

The broad-origins of a founding language differs from the tight origins of a founding language primarily in terms of scale. I mean that a tight origin versus a broad origin is the same thing – except in one, the people are spread out, while in the other, the people are confined to a tight settlement area. The key difference between considering a broadly distributed base language, and a local, tight, base language, is that in one case, languages can develop from dialectic subdivision owing to circumstances, while in the other case everyone is confined to such a tight area, that dialectic subdivision is very difficult.

In other words for a tight origin, a breakaway group has to migrate away, while for a broad origin, a breakaway group develops *in situ*, usually passively from geographic or man-made subdivisions. There can of course be a mixture of the two, such as if marten fur traders of the Ob, set up colonies in southern Europe and the colonies became Huns or Hungarians, or amber and fur traders established Veneti colonies.

So the issue is how one people can have a language distributed over 1000's of km, while another (farmers) have it confined to 10's of km. Obviously if the people in question are by nature ranging over a vast area, the concept of breaking away from the parent peoples makes no sense, since the migration would have to be a thousand km in order to break contact with the parental region. It is easier to subdivide the parental region.

Among the nomadic hunter-gatherers, as populations grew, it was desirable for the originally widely ranging tribe, to subdivide internally as they also found a 'tighter' way of life around settlements.

Thus, let us say that the Proto-Uralic founding language became quite rapidly distributed from Scandinavia to the Urals and was originally relatively uniform throughout. Then that would represent a broad-origins founding language. Circumstances then develop within this broad origins, that cause subdivision into internal dialectic regions.

The first subdividing is caused by the way of life interracting with geography. If the way of life involved travelling around in boats, canoes, then the limits to where boats could easily travel became a geographic boundary promoting dialectic subdivision according to the water basins within the broad area. Speaking of the region between Scandinavia and the Urals, three natural subdivisions for boat peoples might be the water basins of the Baltic, Volga, and Kama. And that is today reflected in the linguistic groupings into Baltic-Finnic, Volgaic, and Permic subdivisions of the Finno-Ugric languages.

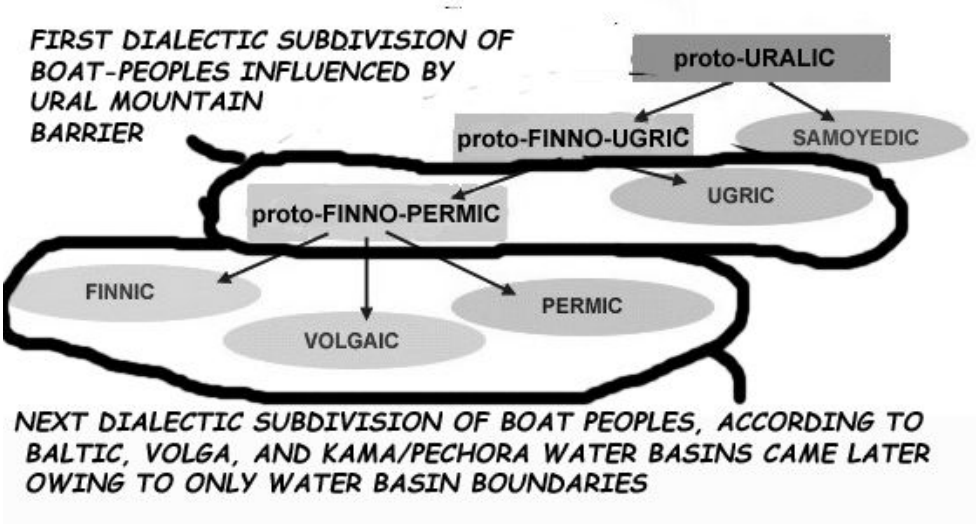
Thus it is legitimate to consider an ancient broad "proto-Finno-Ugric" base language between Scandinavia and the Urals, which over the millenia subdivided

primarily according to the water basins draining towards the east Baltic, the water basin of the Volga, the water basins of the Kama and Pechora, and of course the Ob River water basin to the east of the Urals. Only the water basin boundaries affected the Baltic, Volgic, and Kama/Pechora peoples, the Ob Ugrians versus the Kama/Pechora also had the Ural Mountains barrier, which would suggest that the division between west and east of the Urals – namely the Proto-Finno-Ugric dividing first between the east and west Proto-Finno-Ugric.

For boat-oriented peoples, the Ural Mountains was a significant barrier, since boats would have to be portaged. There was no smooth crossing. For this reason, the first *in situ* dialectic divergence in the Proto-Finno-Ugric would have been between west and east of the Urals. The combination of water basin boundaries and the additional barrier of a mountain range, would have ensured the first subdivision of the "proto-Finno-Ugric", was earlier and more dramatic - stronger divergence between Permic and Ob-Ugric than between Permic, Volgic, and Finnic. This would explain why the linguistically determine dendrogram shows the "proto-Finno-Ugric" divide first between the "Ugric" and "proto-Finno-Permic"

The following graphics of of Figure 2 show this event, as well as the slower subdivision to the west of the Urals where the geographical boundaries are only the water basins and do not involve also the Ural Mountains

Figure 2



If indeed we are dealing with an expansion of boat-oriented hunter-gatherers throughout the region from Scandinavia to the Urals, then the above interpretation of the linguistic dendrogram in terms of subdivision is quite obvious.

This is so simple, that there is no need to debate it even. The real question pertains to how we involve reindeer peoples into our interpretation. Proto-Finno-Ugric versus Samoyedic involved two different ways of life, one involving boat-oriented hunter-gatherers on rivers, and the other involving tundra reindeer herds,

on tundras of open mountain sides. Let us review the two groups – boat peoples, then reindeer peoples – in turn to understand what actually would have happened in the real world, and infer some linguistic conclusions from it.

4. THE BOAT PEOPLES: ORIGINS AND EXPANSION

According to accumulated archeological investigation over the past century, there is no doubt that there was a major expansion of boat peoples from Europe reaching the Ural Mountains. This knowledge was already available in the 1960's as shown by the following passage from a respected textbook by Grahame Clark.

"... reindeer hunters of western and northern Europe during the period between ten and fifteen thousand years ago provide a well-documented example. Analysis of the larger game animals represented in the food-refuse of the Late-Magdalenians who sheltered in the south German cave of Petersfels for example, shows that they obtained four-fifth of their meat from reindeer. And even greater concentration can be seen on the summer hunting stations of the Hamburgian and Ahrensburgians sited on the margins of glacial tunnel-valleys in Schleswig-Holstein. In that case over 99 percent of the larger game animals were of a single species. The evidence suggests that other animals were the victims of chance encounters and that the only serious quarry was the reindeer...By attaching themselves to a herd of reindeer a group of hunters would not only possess themselves of a walking larder, comparable up to a point with a domesticated herd, but also a source of many of the most important raw materials they needed, skins for clothing and tents, antler and sinew for hunting gear. ... quite suddenly, in the course of a few generations the ecological setting changed: as Late-glacial gave way to Post-glacial climate and glaciers entered on their final retreat, forests encroached rapidly on the open grazing grounds formerly occupied by reindeer. ... the hunting people of the North European Plain reacted in part by reverting to a mixed hunting economy ... but in part by developing special skills in fishing and winning food from the seashore." (Clark 1967: 73–74.)

The archeological culture that arose from the Hamburgian and Ahrensburgian cultures was, as we mentioned earlier, called the Maglemose culture . The author continues:

"The Neothermal inhabitants of this region [North European Plain most severely affected by environmental change at the close of the Pleistocene] had to adapt to a landscape transformed from park-like tundra into closed forest. ... People could no longer support themselves hunting a single species. ... Information is particularly rich in this respect of the Maglemosians who take their name from the big bog (magle mose) at Mullerup where their culture was first recognized. Their hunting grounds on the North European Plain extended in the west to eastern England and Flanders with outliers as far as Ulster and were centered on

the marshy region now covered by the North Sea, and North German Plain, and the west Baltic area including Denmark and south Sweden; in the east they occupied parts of northern Russia as far as the Ural mountains. Over the whole of this territory they were fond of camping along river banks and lake shores on the margin of the encompassing forest, a favoured resort of certain game animals, including notably elk (= moose), as well as of wild-fowl, water-plants and fish." (Clark 1967: 79.)

Knowledge about the expansion of the boat-oriented hunter-gatherers has of course been refined over the past decades, but the story is basically the same – an expansion of nomadic hunter-gatherers in a way of life involving northern forests and dugout canoes. Today, remains of the ancient way of life can still be seen in the Ob-Ugrians. See for example the film entitled "Toormi Pojad" ("Toorum's Descendants" by Lennart Meri in the 1980's in which the film crew visited a traditonal camp of Hanti/Khanti/Ostyaks.

The following map shows the regions covered by the Kunda, Volga, and Kama-Pechora cultures.

Figure 3

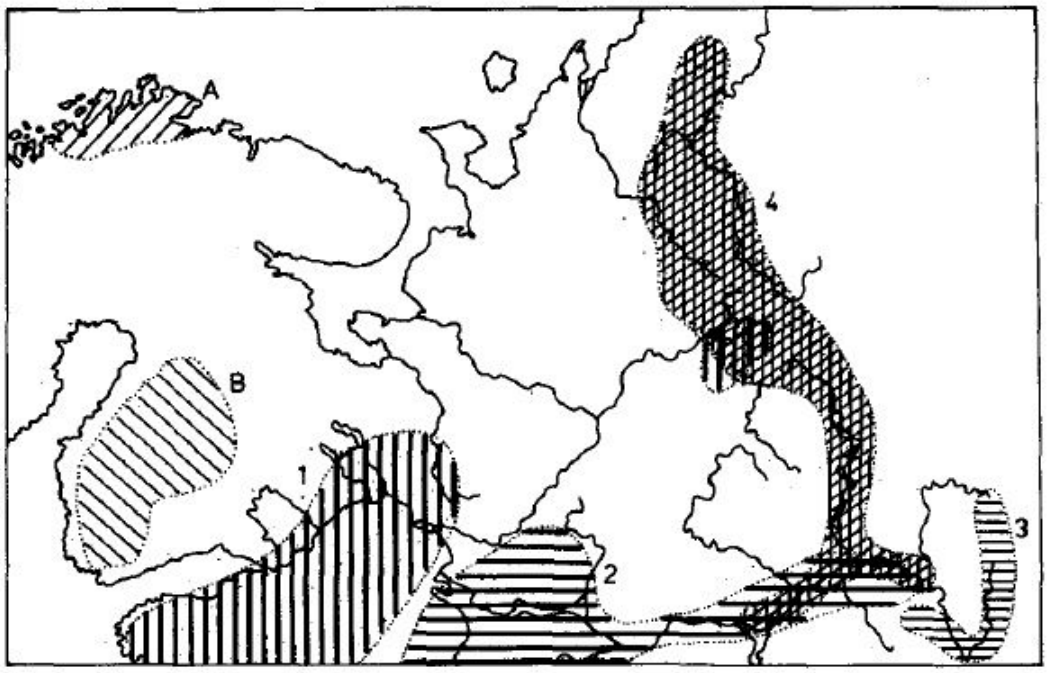


FIG. 14. **Early Holocene cultures in northeastern Europe: 1 - Kunda; 2 - Upper Volga; 3 - Yangelka; 4 - Kama; A - Komsa; B - Suomusjärvi (Kozlowski, 1975).**

from Kozlowski J, and Bandi H-G 1984

The above map covers the results of the expansions of boat-oriented hunter-gatherers comprising events developing between 10,000-8,000 years ago, even if its beginnings went back to as early as 12,000 years ago.

The map in Figure 3 references information from Kozlowski J, and Bandi H-G (1984) which summarizes accumulated archeological findings up to the 1980's. See our references section at end for another useful source (Jaanits, L. et al, 1982) but which is in Estonian.

The map also shows three regions beyond the expansion into Volga and Kama, not involved in our discussion, as follows:

The "Komsa Culture" shown in the map in arctic Norway, can be argued to originate from Kunda Culture descendants that originally seasonally migrated between Lake Onega to the White Sea, and even arctic Norway, to harvest sea life. This scenario is strongly suggested by rock carvings of the same skin boat with moose-head prow located as far apart as Lake Onega, and arctic Norwegian islands. Eventually some of them did not return for the winter, but stayed through the winter, and that gave rise to the "Komsa Culture".

The "Suomusjärvi" peoples of Finland too of water-filled prehistoric Finland were obiously boat peoples from the same origins. They could be a branch of the Kunda culture that adapted to post-glacial lakeland, or more directly from the Maglemose.

The "Yangelka Culture" boat peoples shown on a branch of the Volga, were probably Volgic boat peoples who did not continue north on the Kama.

Our interest here is mainly in the "Kunda", "Volga-Oka", and "Kama-Pechora" cultures. Archeologists including more than one water basin in their material culture definition simply means there was an absense of strong divergence. The tribes in each remained in strong communication.

Note that the "Kama Culture" covers both the Kama and Pechora water basins. Note the vertical hatching of "Kunda" in the middle.

For further insight, I quote from Koslowski and Bandi. My underlining is added to notable portions.

"*A new wave appeared* [in the Ural Mountains area] *only at the beginning of the Atlantic (period), in the* ***upper Kama basin****, and then advanced northward, reaching the Petchora and Vytchegda basins. This wave is represented by the Kama culture (Bader, 1966; Bourov, 1973)..."*

This text continues to mention that artifacts associated with the Kunda Cculture that also reached the Pechora.

"....The other (perhaps earlier) wave advanced from the western Russian plain across the Dvina basin, and is ***associated with the Kunda culture which represents the last descendants of the Swiderian. The two waves met in the Petchora basin****, where the discoveries of Vis Pea Bog I, dated at 8080 +/- 90 yr and 7090 +/- 70 yr BP, give the most complete adaptation to taiga conditions, including many elements of the Kunda culture such as tangled points. Objects of*

wood and bone are preserved, including bows and arrows of wood. elements of skiis and sledges, bark receptacles and nets.

As we see from the archeological evidence, the Dvina and Pechora regions recieved the expansion of the Kunda culture coming from the west. The authors do not link the Kama Culture to the Kunda, but it is obvious it came via the Volga by boat from the Baltic. The mention of Kunda does not exclude the Maglemose, since they were close enough to be closely related. (Even gathering at the meeting place of the east Baltic and south Baltic). The "Maglemose" culture was situated from southern Scandinavia east along the south Baltic and was more or a marshlands culture, whereas the Kunda culture adapted to hunting in the sea, along the edge of the glacial meltwater sea, and was able to easily move into open seas, such as Lake Onega, and the arctic ocean.

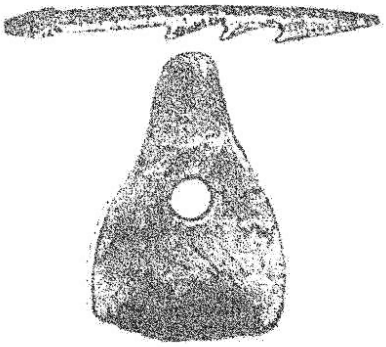


Figure 3a

A harpoon head and adze head of the Kunda culture reveal both the hunting of seals, etc, and the making of dugouts (dugouts were made by burning and adzes were used to chop away coals in the direction desired for burning)

The material culture differences that archeologists use to identify different material cultures – Kunda, Maglemose, Volga-Oka, Kama-Pechora, etc – are mostly practical adaptations to new environment and basically the boat-oriented way of life remained the same. There may have been slight dialectic variations, but we can believe that the entire region spoke the "Proto-Finno-Ugric". Applying it to the dendrogram of Figure 2, it means the "Proto-Finno-Ugric" language was spread over a couple thousand km. This is important because it means, the language at the Baltic was the same as at the Urals before the first divergence at the Urals, and subsequent divergences in the Baltic, Volga, and Kama. No migrations. All divergences are in situ from the expanded boat peoples settling down into water basins and to each side of the Urals.

Since today humankind lives very compactly in cities, we have little idea of how a small population could be so widely distributed and maintain a single language with small dialectic variation over such a vast region. For that reason, let us look at an example of a such a nomadic boat-people in a similar post-glacial water-filled environment that existed only a few centuries ago in Canada. The northern Algonquian cultures were at such a primitive stage, that they did not have any permanent settlements, and followed a nomadic way of life where they did not arrive at the same place until a year later. This permitted widest nomadism, and

greatest scale of a broadly distributed base-language. As we will in our discussion of the Algonquian example, their dialectic subdivision was determined by water system boundaries. The second stage of permanent settlements and a smaller scale of nomadism had never occurred in Canada. With colonization of North America from Europe, the Algonquian peoples were forced into settlements and a non-mobile way of life by colonial governments. But before the actions of the colonial governments, the following shows a primitive situation that reflects the situation between the Baltic and Urals around 10,000 years ago.

5. RECENT EXAMPLE OF EXPANSION OF NORTHERN BOAT PEOPLES IN THE ALGONQUIAN NATIVES OF CANADA

The Algonquian cultures of native North America are those made famous with the birchbark canoe. If we are speaking of those tribes who were located towards the north, we find a people almost identical in way of life to the "Maglemose" and "Kunda" culture of over 10,000-5,000 years ago in northern Europe. They both accessed the flooded post-glacial landscape through mastering the use of canoes, and harvesting aquatic plants and animals. The only real difference is that the Algonquians developed the birchbark canoe, but towards the south, where there were no birch trees, and Algonquians further south had dugouts too.

Therefore the Algonquians of the east half of Canada are a perfect model for the expansion of the Maglemose and Kunda boat peoples from the Scandinavian and Baltic area eastward to the Urals.

The distance in a straight line between the Baltic and Urals is close to 2000 km. The distance covered by the Cree speaking peoples of the Algonquians around the south half of Hudson Bay, similarly covered about 2000 km, consisting of the water basin of the southern Hudson Bay. The single Cree language was only broken up into about three dialects, one at about three major river systems.

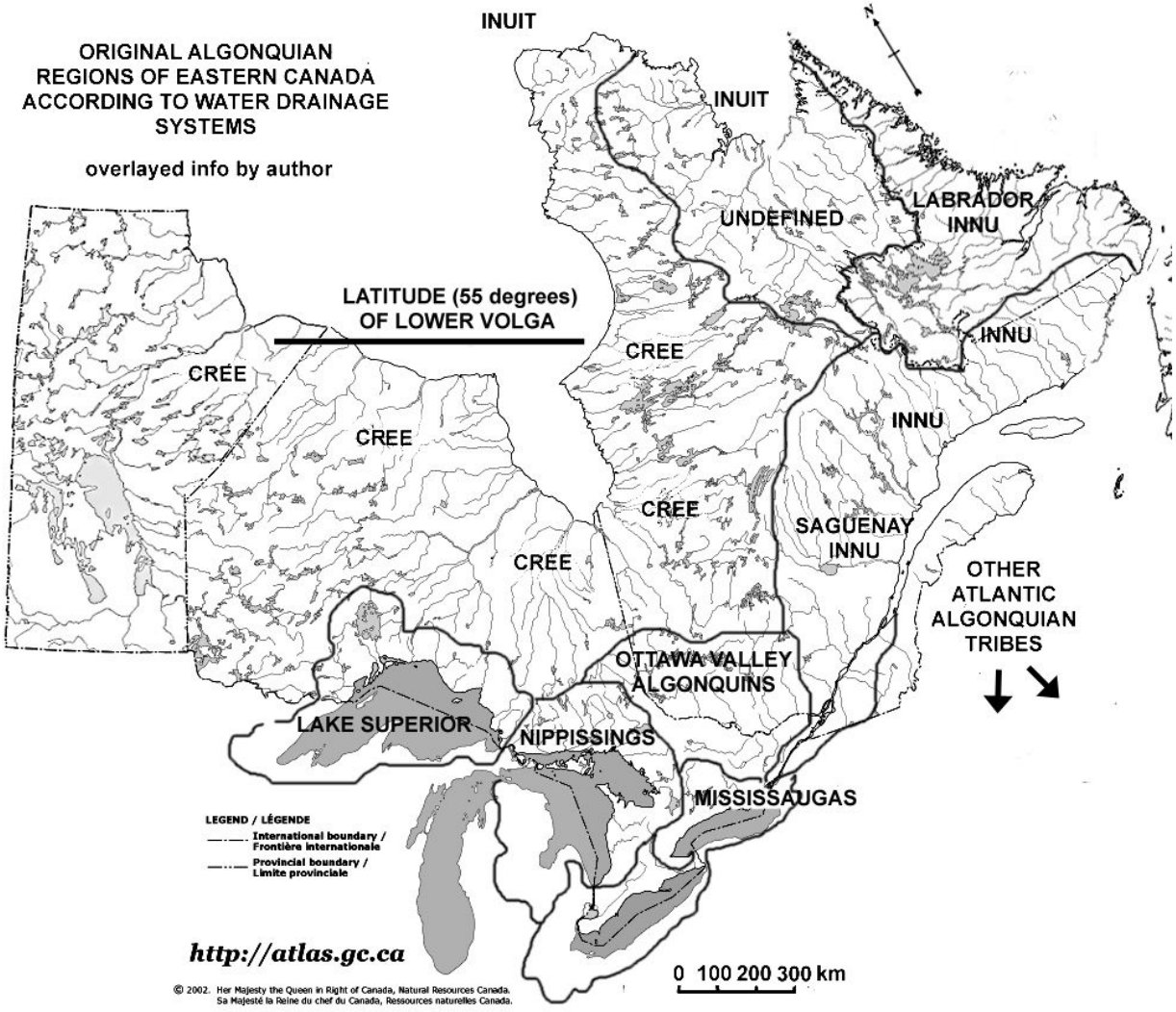
Figure 4 is drawn on top of a government water drainage map, drawing lines around the water basin. I then added historically identified peoples, which suggest regions of associated clans and tribes, and their common culture and language.

The Cree distribution over a vast region, we note, is confined by the waters flowing into Hudson Bay. The Cree language does subdivide a little into dialects, according to several major rivers, but it appears all share the fact that all the rivers flow towards Hudson Bay, which means there were contacts, such as multi-tribe gatherings, using the coast as an easy means of contact.

Figure 4 shows how towards the south, the degree of dialectic subdivision is stronger. As dialects become strong, they become related language. But usually neighbouring peoples are close dialectically and language distinctions can be defined further apart. The Cree speakers would probably find it difficult to communicate with, for example the Micmac or Maliseet of New Brunswick. But

looking at Figure 4, we can see that from the Great Lakes dialects to the Atlantic dialects, we are only speaking of only about 5 dialectic steps!

Figure 4



EXAMPLE OF LANGUAGE DISTRIBUTION OVER A BROAD GEOGRAPHY

THE *IN SITU* DIALECTIC SUBDIVISION OF ALGONQUIAN BOAT PEOPLES ACCORDING TO WATER BASINS IN EASTERN CANADA

Water basins are shown by the added lines. Like in the proto-Finno-Ugric cultures, The social and political organization of all the Algonquian (canoe-using) boat peoples were determined by the natural heirarchy of water systems. The social and political units ranged from extended families, to tribes made up of 5-6 families in a river system, and several tribes in a larger system formed a 'nation' and all people of a similar language was a 'people' We are interested in the fact that the Cree language forms a single language with only dialectic variation, that covers about the same distance as the distance between the Baltic and the Urals, thus proving that it is possible to have a very broad origins, that then over time can break up dialectically over time, some dialects becoming extreme – ie languages. The Algonquians did not break up dialectically further as a result of lack of civilization influences until recent European colonization.

The expansion of the Algonquian boat peoples originated near the Altantic, and obviously expanded via the water systems. Archeology reveals there were some early hunter-gatherers, but probably the flooded post-glacial landscape was empty because without sophisticated boats, it was difficult or impossible to live in it. Perhaps like the Maglemose and Kunda cultures of Europe south of the glaciers, the Algonquian boat-oriented way of life was not attractive until the North American glaciers too had melted and created a flooded landscape of lakes.

The reader is asked to project this recent example into the Proto-Finno-Ugric boat peoples of aroud 10,000 years ago.

The original single Proto-Finno-Ugric language between the Baltic and Urals probably, like the Cree dialects, also had mild dialectic difference in 3-4 steps - Baltic, Volgic, Permic, and Ob-Ugrian. The dialectic subdivision would have occurred naturally, primarily according to the water basins of the east Baltic, the same as in the Algonquian dialectic subdivisions.

The story of the expansion of the proto-Finno-Ugric boat peoples is very clear, and so is the dialectic subdivision according to major water geography divisions. It should be so obvious there needs not be a debate. Archeologists could use the Algonquian information to analyse their archeological data in terms of behaviour patterns. European scholars have not made much effort to look for examples in North America. Care must be taken that boat people examples come from boat peoples not from farming peoples like the Iroquoians. Iroquoians lived in villages surrounded by farm fields.

As we saw in Figure 2, interpreting the lower part of the dendrogram according to geographical boundaries, is easy. The difficult part is determining how the reindeer peoples fit into the picture.

6. THE ASIAN REINDEER PEOPLES: ORIGINS AND EXPANSION

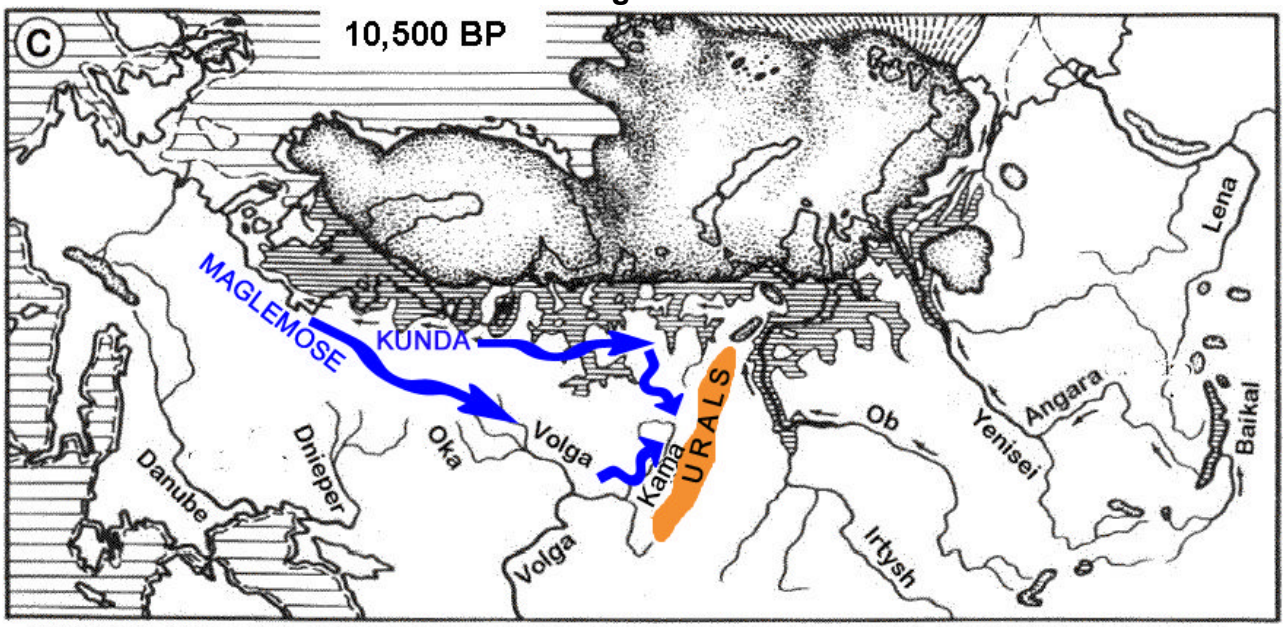
We know today, that we cannot ignore the reindeer peoples (the Samoyedic cultures) because population genetics has determined N-haplogroups originating in southeast Asia, and carried by men, spread into the Finno-Ugric cultures. This suggests peoples of Asian origins interracted with the original Proto-Finno-Ugric languages. How can we relate this event to the linguistic dendrogram of Figure 1.

While the story of the expansion of the boat peoples out of Europe since the late Ice Age is straightforward, in terms of dialectic subdivision explaining he subdivision of the proto-Finno-Ugric and then proto-Finno-Permic, determining how to reconstruct events so that the reconstruction agrees with the archeological, population genetics, and linguistics information, and not simply one or another. Reality occurred only one way so the explanation has to serve all angles.

The story of the archeological Maglemose and Kunda culture is well known, and the reader can investigate it in many archeological texts. They speak of a rapid warming of the world climate and original European reindeer hunters being forced to abandon their reindeer hunting and adapt to a flooded landscape throughout the northern regions from which the glaciers had retreated.

Even if glaciers did not cover the Volga and Kama, the glacier meltwaters that drained southward swelled the rivers and created marshlands everywhere. Tundra reindeer could no longer survive in northeast Europe, and reindeer survived only in scattered small groups if they found drier forested locations. Those remnants of reindeer were then hunted randomly along with other animals like moose.

Figure 5



BASE MAP SOURCE: www.donsmaps.com > Väino Poikalainen, "Paleolithic Art From the Danube to Lake Baikal" Folklore Vol. 18&19 ISSN 1406-0957

This map from the source given below the map, but removing original X's marking paleolithic art locations in the original map not relevant for out purposes.
The map shows the circumstances at around 10,500 years ago. Most maps showing the retreat of glaciers fail to show the glacial lakes, and the manner in which the northern coasts were pushed considerably southward by glacial meltwater. Note the glacial meltwater lakes location relative to the rivers and modern coastlines shown underneath. The meltwater lakes are important because they suggest the Kunda Culture spread easily by following and exploring the coasts. Note the deep bay just west of the Pechora basin..Note the glacial lake in the Ob. This is significant as it would have prevented Tamir Peninsula Samoyedic reindeer people from making early contact with the Urals and the Pechora-Kama boat peoples.

The traditional reindeer-dependent way of life probably did not survive in northeast Europe. As we can see from Figure 5, although there may have been individual reindeer who survived here and there, there was, for some millenia, no

available tundra for tundra herds, west of the Tamir Peninsula. Tundra reindeer of northeast Europe had to wait for the glaciers to disappear and for modern conditions to develop. Restoration of tundra reindeer herds along the north coast, and in northern Scandinavia, may have been delayed until, perhaps about 6,000 years ago. Figure 5 depicts the situation about 10,000 years ago.

The reindeer peoples from which the Samoyeds came, were those who reached the Tamir Peninsula. They came from Asian not Europe. Today there exist north of the Urals, and through the tundra into the Tamir Peninsula, peoples associated still, or earlier, with tundra reindeer herds. Since among the languages considered by Uralic linguists since a century ago, are the Samoyedic peoples. Looking at all the indigenous languages of northeast Eurasia, including the Samoyeds, one is intially inclined to treat the Samoyeds separately, in effect proposing two language families – the Finno-Ugrians to the west of the Urals plus Ob River, and the Samoyeds to the northeast of the Urals. But the 19th century linguists decided from linguistic similarities, that the Finno-Ugric group and Samoyedic group of languages were related and that one had to look for a common parent.

Were linguists of the late 1800's wrong?

Today we gave new discoveries from population genetics that clearly suggests Asian reindeer hunters interracted with the boat peoples expanding from Europe.

Population genetics has identified Y-DNA N-haplogroups in male populations in the region of the Finno-Ugric and Samoyed languages. These are markers in sexual DNA that is passed down from fathers to sons for hundreds of generations, without being broken apart and recombined with mother's DNA.. Population genetics have determined through interpreting patterns of N-haplogroups locations and frequency in modern male populations, where the N-haplogroup mutation first appeared, and how it migrated.

According to population genetics, the N-haplogroup in general originated in southeast Asia, around 20,000 years ago in the Ice Age, when the arctic conditions were that far south. From about 15,000 years ago, the warming of the world climate and the retreat of the glaciers was accelerating. (As the dark of the earth and open sea became exposed the earth absorbed more of the heat from the sun that earlier was reflected back into space by the white of the snow.)

During this warming, the climate and landscape changed. Hunter-gatherers across central Eurasia, who had formerly been hunting animals of the tundra, had to follow their animals little by little northward as the arctic conditions and tundra shifted north. They could also lag behind and adapt to the warmer conditions and to hunt animals of steppes and plains.

The N-haplogroups today occur in their largest frequency across arctic Eurasia among peoples earlier or now still associated with tundra reindeer herds. (Today most exercise some degree of domestication, but of course originally they dealt with completely wild herds.) By common sense alone, it follows that the N-

haplogroup shifted north during 15,000-10,000 years ago, as the tundra reindeer herds shifted north in a desire to remain within the arctic tundra. Adding to this conclusion is the fact that the N-haplogroup migrated north. You have to be dependent on the tundra, in order to want to remain in arctic conditions!

Population genetics tends to suggest that there were two major migrations. Because the men of the Tamir Peninsula Samoyeds almost completely possess an N-haplogroup formerly called "N2" their ancestors probably shifted north through the Central Siberian Plateau, which had the Tamir Peninsula and the arctic coast at its north end. The "N2" haplogroup radiates out from there in lesser frequences which suggests simple diffusion in more recent times. We can assume that at around 10,000 years ago, it was still concentrated around the Tamir Peninsula, and only in reindeer peoples.

The other major N-haplogroup category was formerly called "N3", but now called "N1c1"(Population genetics is refining their techniques to detect very faint mutations and so they invent more detailed nomenclature.)

This haplogroup is found in high density in northern Finland among the reindeer Saami, and in a somewhat scattered fashion south into the Finnic peoples. It has also been found close to the Urals. This has lead some population genetics to see in this the traditional theory of migration from the Urals Mountains regions.

But we must distinguish between migration and diffusion. Diffusion would occur if some N-haplogroup reindeer people changed their way of life from reindeer-oriented to that of the Finno-Ugric boat peoples. After this change in way of life, their sons, now in the Finno-Ugric boat peoples world, would propogate the N-halplogroup further in the Finno-Ugric males. Thus we need to determine where, how, and why reindeer peoples would abandon their way of life and join the boat peoples. Of course, by joining the boat peoples, they of course change language as well.

Migration on the other hand requires a purposeful event involving a group – one or several extended families – moving permanently from one location to another. According to Rootsi et al. the N1c1 haplogroup was located southeast of the Urals around 12,000 years ago. Its carriers formed two separate groups. One group migrated east, and eventually ended up in northeast Siberia among the Yakut men where the N1c1 haplogroup exists in a high concentration. (The Yakut language, by the way, is considered Turkic, which invites the possibility that the reindeer peoples language may be the origins of Turkic language.)

The other group, the one in which we are interested, according to the investigations by Rootsi et al. migrated north via the Ural Mountains.

Also relevant to our discussion is the fact that the Proto-Finno-Ugric boat peoples had formerly been EUROPEAN reindeer peoples, and it is possible there was a continuation of the core of the EUROPEAN reindeer peoples into Proto-

Finno-Ugric. This would be important linguistically if when the meeting occurred with the Asian reindeer peoples, perhaps the core of their languages was similar.

The story of the origins of the boat peoples in the reindeer peoples is as follows:

About 12,000 years ago, the world climate had quickly become as warm as today. This was the time that the "Ahrensburg" reindeer culture in the area of modern Germany, lost their tundra reindeer, and the "Maglemose" culture developed in the flooded lands. But the transformation from the "Ahrensburg" culture to "Maglemose" with the "Ahrensburg" culture vanishing may be due to the fact that the glaciers of the Scandinavian Peninsula were still there, were still melting, even though the climate near them was as warm as today. The glaciers thus covered the lands and prevented reindeer herds continuing north at that location (although,.. it has been found that southern Norway had an glacier-free coast and some reindeer survived on mountain slopes.) The "Swiderian" reindeer culture that originally covered generally where Poland is today, initially had reindeer herds who for a while were able to shift northward in the northeast direction, but only for another millenium or so.

We can conclude that at 12,000 years ago, when the "Maglemose" culture was developing and European reindeer culture was disappearing, Asian reindeer culture was still surviving, especially if the reindeer herds found refuge in the Ural Mountains. Once in the Ural Mountains, these reindeer herds and their hunters could naturally shift north through the mountains, climbing to high elevations in summer, as two millenia passed.

Thus what we have is Proto-Finno-Ugric boat peoples, descended from European reindeer peoples only about a millenium earlier, coming in contact with Asian reindeer peoples at the Urals. The question is: were the two languages very different or somewhat similar. The answer depends on whether the Ice Age reindeer peoples across central Eurasian tundra were related. Was the Swiderian culture language, for example, similar to the language of the Asian reindeer peoples? If so, then we can imagine an original language of arctic tundra hunters, which we might call "Tundric", and that the development of the Proto-Finno-Ugric was basically a dialectic subdivision of "Tundric"

According to Rootsi et al. This northward migration of Asiatic reindeer peoples with N1c1-haplogroup was complete by about 10,000 years ago. This means that about 11,000 years ago, the Uralic branch of the Asian reindeer peoples were approximately in the central part of the Urals. This also happens to be the location where the Pechora and Kama water basins touch the Urals, and where archeologists have found evidence of a hunter-gatherer people there.

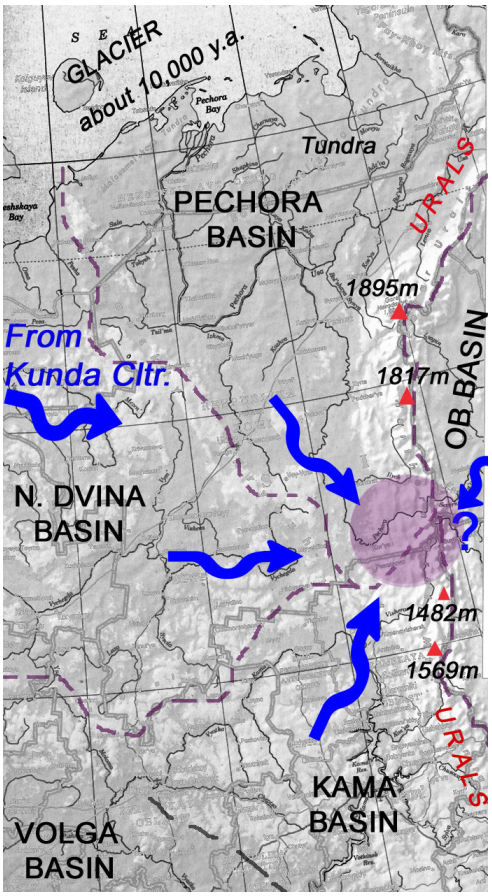


Figure 6

A Closeup of the location where the Dvina, Pechora, Kama water basins came close together and also close to the Ural Mountains in a location with relatively high mountains, so that technically there could have been reindeer people with semi-domesticated herds at that location. The triangles with elevations mark locations of higher mountains. These are comparable to some mountains in south-central Norway. Genuine reindeer people, maintaining herds in the manner of Nenets and Saami today, could have been there at about 11,000 years ago and continued to move their herds northward into mountains further north.

The arrows show access by boat peoples from the Dvina, Pechora, and Kama water basins. as well as possibly the Ob.

This would have been the gathering place where linguistic convergences would have occurred, making the Asian reindeer hunter language less Turkic and more Finno-Ugric..

What would have been the consequences of the meeting in the central Urals, where all peoples would have converged, perhaps annually? These Uralic Mountain reindeer peoples would not have been the same as those in the Tamir Peninsula, but presumably they spoke a similar language, so we can call their language "Proto-Samoyedic".

The Urals Proto-Samoyeds were probably struggling, because the climate was now as warm as today. Today, individual reindeer are found only at the north end of the Urals and in the tundra to its north. Thus it is possible by 11,000-10,000 years ago there were many Uralic reindeer peoples being attracted to the way of life of the boat peoples, especially if those in the Dvina, Pechora, and Kama were converging on that location annually and could be studied in detail. It would be here too that perhaps some of the boat peoples transferred into the Ob River. In figure 6, I squeezed in a blue arrow for access from the Ob River.

If indeed several tribes of boat peoples from several water basins all converged at the central Urals, then that would represent a strong manifestation of the proto-Finno-Ugric language, at a location with also Asiatic reindeer peoples. This contact, using common sense, would have resulted in the Urals Proto-Samoyedic Asian reindeer peoples being attracted to abandon their reindeer-dependent way of life, and joining the proto-Finno-Ugric boat peoples. This would be the event where the proto-Finno-Ugric boat peoples would have acquired the N1c1 haplogroup in their midst.

In the population genetics plotting of data, we find a significant concentration in the Pechora water basin. Figure 7, shows a section of one plotting. I added the red information on top. The lines try to surround percentages of a particular range, in order to identify concentration locations. This plotting shows a concentration in the Pechora. Is this the location where reindeer hunters moved into the Pechora water basin and joined the proto-Finno-Ugrians?

Those Uralic Asian reindeer people who did not abandon their way of life with reindeer would have had their language influenced in the proto-Finno-Ugric direction, and when soon the reindeer peoples migrated west to northern Finland, perhaps the language had become the language of the Saami.

Figure 7

This is a section of one plotting of percentages of N3 (N1c) haplogroup. The high concentrations (40-50%) in the Pechora River basin suggests a substantial portion of the Ural Mountains reindeer peoples, departed from their reindeer-based way of life. This is predictable from the meeting place shown in Figure 6. Some pure reindeer people must have remained, and later migrated to northern Scandinavia since a very strong reindeer culture survives in the Saami and diffused south.

The plotting also shows how the N1c haplogroup appears to have diffused south into the Finnic east Baltic. This diffusion is consistent with expansion of trade, and roughly agrees with the distribution of the archeological "Comb-ceramic" culture.

(The numbers represent percentages of the N1c haplogroup in male populations. the lines and shadings try to group them. Note almost 50% in the Pechora and up to 70 in Finland.)

The gap between the Perchora concentration and the east Baltic concentration, suggests two events – an early conversion of reindeer to boat peoples near the Urals, and a later expansion of proto-Finno-Ugic boat peoples during the development of the fur trade around 5,000 years ago.

7. THE ARCHEOLOGICAL STORY OF THE URAL MOUNTAINS

The populations genetics story of the migration north of the N1c1-haplogroup through the Ural Mountains, needs backup from archeological finds in the Ural Mountains. We can infer that this haplogroup moved north because there were people who were dependent on reindeer – people whose entire life revolved around the reindeer herds. This can be determined from kitchen middens – refuse pits where the bones of animals consumed were thrown. The quote from Clark given earlier noted that this was the case among European reindeer hunters.

"… reindeer hunters of western and northern Europe during the period between ten and fifteen thousand years ago provide a well-documented example. Analysis of the larger game animals represented in the food-refuse of the Late-Magdalenians who sheltered in the south German cave of Petersfels for example, shows that they obtained four-fifth of their meat from reindeer. And even greater concentration can be seen on the summer hunting stations of the Hamburgian and Ahrensburgians sited on the margins of glacial tunnel-valleys in Schleswig-Holstein. In that case over 99 percent of the larger game animals were of a single species. The evidence suggests that other animals were the victims of chance encounters and that the only serious quarry was the reindeer...By attaching themselves to a herd of reindeer a group of hunters would not only possess themselves of a walking larder, comparable up to a point with a domesticated herd, but also a source of many of the most important raw materials they needed, skins for clothing and tents, antler and sinew for hunting gear.

Is this applicable to Asian reindeer peoples, notably to the Uralic tribes at the time of the interractions with the boat peoples? Is there archeologicial evidence at the Urals? For the archeological evidence in regards to the middle and northern Urals approaching 10,000 years ago, I refer again to the study of the prehistoric events at the Ural Mountains presented in Kozlowski J, and Bandi H-G 1984 *The Paleohistory of Circumpolar Arctic Colonization.*

The story of reindeer peoples in the Urals begins with the "Kostienki-Sungir" culture at the beginning of the Upper Paleolithic (40,000 BP to 10,000 BP). By about 25,000 BP (Before Present) this culture occupied *"the most northerly location among lithic industries of the Upper Paleolithic*". This culture is most famous for a site near Vladimir, Russia. This site revealed these people lived mainly on reindeer, mammoths, and horses. There was tundra there, and dwellings were constructed of mammoth bones. Clothing and hearths showed an adaptation to periglacial conditions.

Figure 8

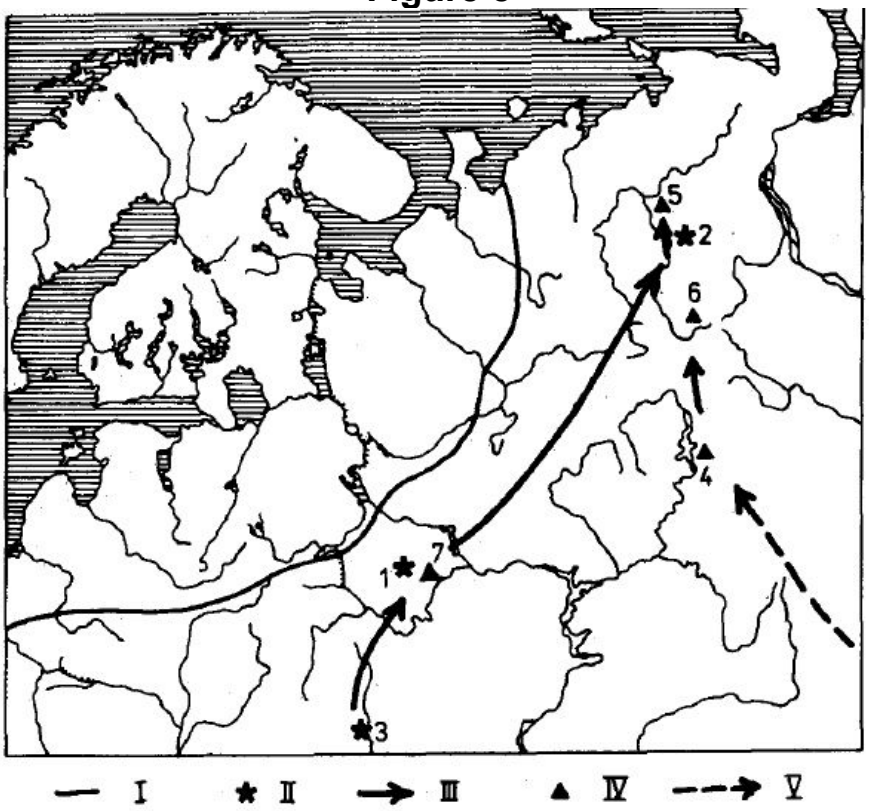


FIG. 8. The Upper Paleolithic in northeastern Europe. I - limit of ice sheet during Würm Pleniglacial phase; II - sites of Kostienki-Sungir culture; III - northern expansion of Kostienki-Sungir culture; IV - sites of Siberian tradition of final Upper Paleolithic; V - Tardiglacial northern expansion of Siberian tradition. Northern sites of the Upper Paleolithic: 1 - Sungir; 2 - Byzovaya; 3 - Kostienki; 4 - Talitskiy; 5 - Krutaya Gora (upper level); 6 - Medveja cave; 7 - Karatcharovo.

from Kozlowski J, and Bandi H-G 1984

This map shows in the solid arrow lines the way the glacier's edge directed European Ice Age tundra hunters northeast. But it is interesting how it meets the dashed arrows coming up the Urals. This will be discussed further, below

This culture is far earlier than the period of climate warming, but it is significant, because this early culture reached the northern Urals, and has been radio-carbon dated to about 18,320 +/- 280 BP. It is reasonable to believe that the reindeer-oriented culture advanced north at this early stage purely because the climate warmed and the former polar landscape became tundra and opened up territories for reindeer where previously it had been too cold to be inhabitable. The early northward shift of mammoths and other Ice Age fauna was a natural expansion into former polar conditions becoming inhabitable tundra.

Figure 7 basically suggests that as the climate began to warm, the polar cold (ie too cold for wildlife) in northeast Europe diminished, which allowed tundra arctic

animals like wholly mammoths, wholly rinocerous, etc to shift north into the former uninhabitable cold regions.

In the map, the solid arrow running parallel to the eastern edge of the glaciers, were tundra hunters from mainland Europe, whose northward travel was directed by the edge of the glaciers. The starred numbers 1,2, and 3, called the "Kostienki-Sungir" culture were probably dealing with migratory tundra animals, and the more northerly archeological finds at 2, may represent a summer location for an annually migrating people. Most other sites shown in Figure 7, are considered expansions of the "Kostienki-Sungir" culture.

In archeological jargon, these peoples were in the Urals in the "Interpleniglacial phase". This phase was followed by the "Tardiglacial phase".

The Tardiglacial phase cultures appear to represent the full conversion to reindeer hunting. Mammoths were disappearing, and nobody really knows why. It could be that, unlike reindeer, who had an instinct for migrating north south by more or less the same paths for generations, the mammoths may have been slow wanderers who were victimized by rapid climate change. In fact, it is likely most of the arctic tundra animals of the Ice Age, like wholly rhinocerous and horses with thick coats, became extinct because of period of climate warming too fast for them to adapt.

Tundra reindeer migrate north in summer and south in winter for thousands of km, in herds of tens of thousands. This practice would have quickly taken them to cooler environments when needed, simply by shifting their north-south migrations a small amount every year. The reindeer did not have to adapt to the warming climate physically, but rather to simply shift their annual migrations northward. It worked as long as the reindeer did not encounter a barrier to further northward shift, from glaciers of arctic seas.

According to Kozlowski and Bandi, the Tardiglacial phase artifacts had a style suggesting it had arisen from the Magdalenian reindeer cultures of Europe. In general, all the cultures across he North European Plain and into Poland and Russian Plains were primarily reindeer hunting peoples with a reindeer-hunting culture descended from the Magdalenian culture of western Europe. This suggests the similar possibility that the Magdalenian language had transmitted as well eastward from Europe and even into Asia.

The theory that there was a single reindeer hunter language, which we might call "Tundric", from Europe to Asia through contiguous tundra if possibly if all reindeer peoples developed out of the initial expansion of Magdalenian reindeer culture. Their far ranging nomadic way of life would have seen the same language though the central Eurasian tundra, varying only dialectically through the contiguous tundra. The "Ahrensburg" and "Swiderian" reindeer cultures would have been mild dialectic subdivisions of the one language which I call "Tundric"

Kozlowski and Bandi acknowledge the northwards shifting of the reindeer cultures with the climate warming. All these reindeer cultures "*followed the northward movement of the periglacial environment during the retreat of the Ice Age"* This states the obvious – as the climate warmed, the open tundra shifted north, and the tundra reindeer herds shifted with the tundra – until unable to do so any further, of course. As already discussed earlier.

The glaciers retreated from about 20,000 years ago, accelerating in the following ten millenia until the world climate had becme as warm or warmer than today. Reindeer herds and humans connected to them were in great trouble in Europe. Tundra reindeer herds had to find cold environments and tundra to the north. This was possible only until they came to seas, including seas of glacial meltwater south of still unmelted glaciers. Reindeer need a cool dry climate and their traditional food – lichens often referred to as "reindeer moss".Reindeer could also find refuge in mountains, but ideally the herds needed human intelligence to drive them to the correct locations. In winter they had to be able to paw for food through relatively shallow snow cover. Reindeer can and still do, find refuge in mountains at a more southerly latitude where they might not otherwise survive in the wild. Today there are reindeer in mountains of Norway, and southern Siberia/northern Mongolia.

Considering where reindeer are found today, and also that reindeer cannot live on glaciers or in marshes, was there any tundra reindeer herd habitat available anywhere west of the Tamir Peninsula? (See figure 5)

Thus, as Kozlowski and Bandi wrote, the "Tardiglacial" period allowed the reindeer people to continue their way of life, and simple shift north with the reindeer. But when the climate of northeastern Europe no longer allowed tundra reindeer to find their traditional tundra, then the original reindeer people culture was compromised, and had to come to an end – at least in northeast Europe.

"There is no proof that Tardiglacial colonization of the northern Russian Plain and the Urals lasted until the beginning of the Holocene." (*Holocene* refers to the period when the world climate was as warm or warmer than today) Here the authors confirm that former tundra animals throughout the northern Russian Plain for the most part could no longer survive – animals like the wholly mammoth, the wholly rhinocerous and other animals that had adapted to arctic cold – and that the 'colonization' of the north Russia Plain and the Urals did not last. Therefore, by about 10,000 years ago, we must say 'goodbye' to the earlier period of tundra hunters, and say 'hello' to the new adaptations such as the Kunda post-Swiderian hunters who changed from hunting tundra animals to hunting animals of the swamps, dense forests, and seacoasts. It is significant that archeologists found the Kunda culture had tools that resembled that of the earlier Swidernian reindeer culture, and therefor called Kunda a Post-Swiderian culture. It follows that in terms of the continued use of former tools, customs, world-view, etc. the Kunda culture

continued to speak the language of the Swiderian reindeer culture, and only began to deviate to the degree that the boat-oriented way of life ceased to need terms and concepts from the former Swiderian culture. This in effect suggests that the Proto-Finno-Ugric language may have been only mildly diverged from a broadly established reindeer people language (a tundra language?) of central Eurasia.

We have already discussed the emergence of the boat-peoples as they can be loosely called, who mastered the art and craft of making sleek, light. dugouts (like the Hanti of the Ob still did recently – see Lennart Meri films), and expanded as far as the Urals. Obviously the Urals, being mountains, did not have navigable rivers, so the boat peoples did not occupy the Urals itself, and did not portage across very often. Therefore, our objective from 10,000 years onward is to determine who, archeologically speaking, if anyone, was occupying the Urals, and who we can associated with the N1c1-haplogroup that is supposed to have migrated up the Urals.

Languages that are not changed by mixing with other languages, those that are already a little similar (related), change when coming in contact again, by inventing new words or meanings for new concepts in a new way of life while at the same time abandoning words no long in common use. This process is also important when two peoples of a different way of life encounter one another and socialize – they find what is in common and do not use what is not in common.

It follows that if Post-Swiderian boat peoples met Urals Proto-Samoyedic Asian reindeer peoples early, they may have had plenty in common from the reindeer hunter vocabulary (assuming as I do that owing to great nomadism of the earlier tundra hunters, the reindeer hunter languages were all related with neighbouring dialects being close and further apart dialects more distant)

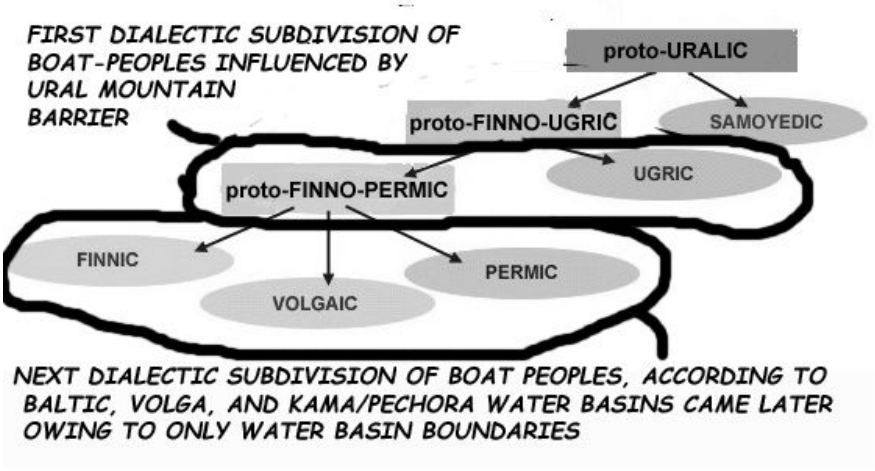
Was there in the contiguous tundra, among the reindeer peoples descended from the Magdalenian way of life, at least in central Eurasia, a single “Tundric” language that in the manner discussed for boat peoples, there was dialectic subdivision only, mainly in this case related to geographical distance between them.

So I am proposing here, that if there were Asiatic reindeer peoples in the Urals around 10,000 years ago when contact was made at the location shown in Figure 6, that their languages were not greatly different, meaning that the Proto-Finno-Ugric and Proto-Samoyedic languages were both very close to the language family of the Ice Age tundra hunters which I call “Tundric”. This deep similarity between Finno-Ugric, Samoyedic and Turkic languages endures today. Does it suggest the core of the “Tundric” language has been preserved over the millenia, even as the superficial aspects of descendant languages have been preserved.

Earlier we drew circles around the Proto-Finno-Ugric descended dialectic divergences as a very easy conclusion based on boat peoples and water boundaries. But we were left with how we connect them to the Samoyedic reindeer people

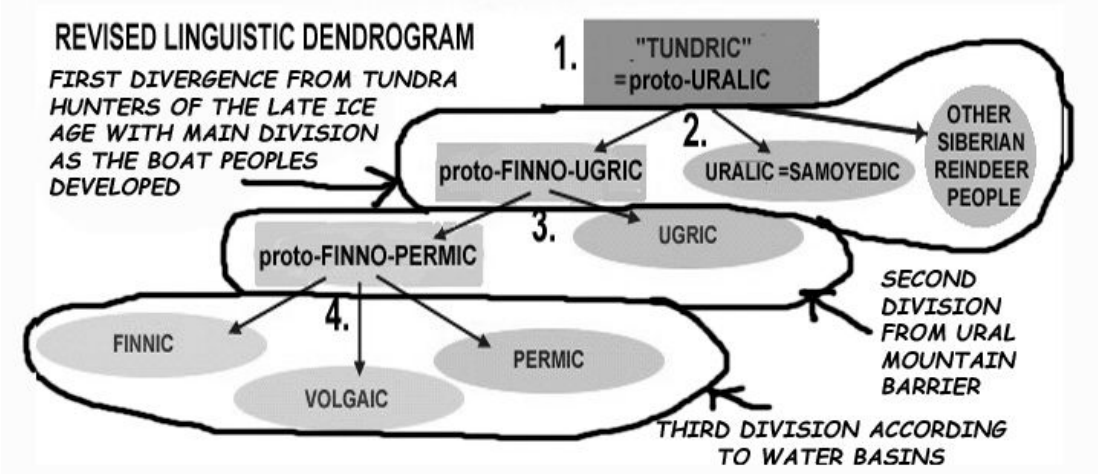
languages. The following shows our conclusion regarding dialectic subdivision of boat peoples (Proto-Finno-Ugric)languages.

Repeat of Figure 2



As the above discussion suggested – the proto-Finno-Ugric was a post-Swiderian language at its roots. (And we assume that the Maglemose culture was post-Ahrensburg, and that Ahrensburg reindeer peoples and Swiderian reindeer peoples had a similar language from having the identical way of life probably descended from the same Maglalenian origins.) Therefore we can propose that the entire lanugage dendrogram began with a "Tundric" language of the "Tardiglacial" period tundra hunting peoples. And we must also include other descendant reindeer peoples in the tree. I revise the traditional Uralic family dendrogram, where the Uralic base language is speculative and vague already, with the following:

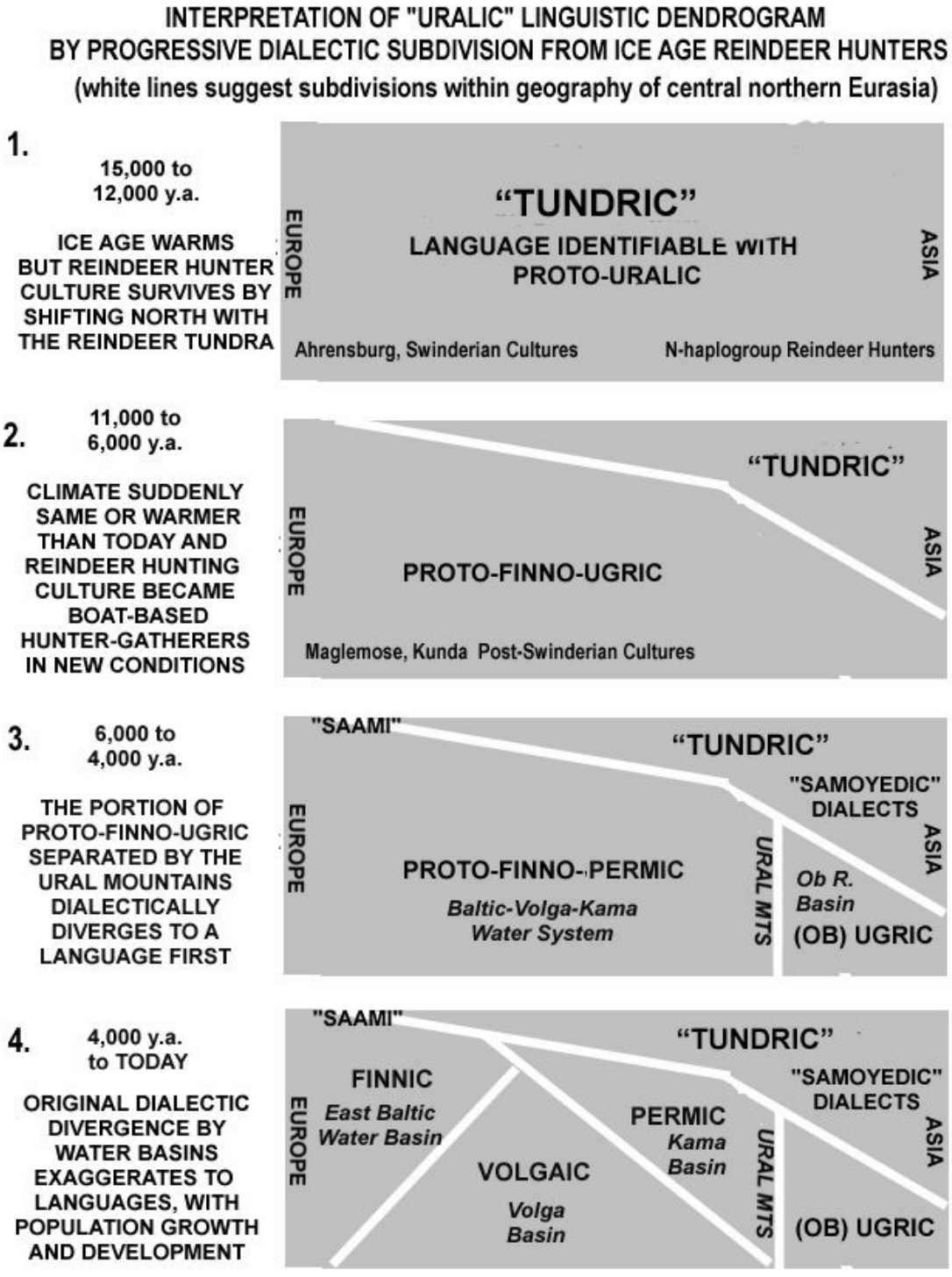
Figure 9



This revised dendrogram abandons the concept of a "Uralic" ultimate parent because the word implies a tight origin in the Ural Mountains, whereas our broad approach requires an initial very very broad origins in the dialects shared across the tundra of middle Eurasia in the Tardiglacial" period. The following shows the

dendrogram relationships in terms of a process of subdivision of the entire region of the tundra from Europe to Asia. The rectangle represents northwest Eurasia

Figure 10



The graphics of Figure 10 numbers the steps to agree with the numbers on our revised dendrogram. In this approach we assume that – using examples of recent northern and arctic North America – that it was not unusual for a language to cover several thousand km for constantly nomadic hunters in an arctic and northern boreal setting, that the concept of a "Tundric" broad base language, varying only dialectically

The theory is that when nomadic peoples come in contact, they rapidly correct their deviations. This correcting does not necessarily return the language to the original form, such as stepping forward and then backward does not bring us back to our exact original location, but it does keep a uniformity in the language overall. In this way dialects can drift and corrected upon meeting but this mechanism keeps the whole vast range of the language, the same.

People by default want to belong socially to a particular group – say reindeer hunters – and act to constantly remain undiverged. Overall, the whole process of linguistic evolution from the Ice Age to the present is mostly a maintaining of communication within a particular culture or geography with dialectic subdivisions being an evil arising from barriers to communication. This means that with our world wide mass media, with not even distance being a barrier, humankind will in a number of generations from now, all speak the same language!

8. POST-"TARDIGLACIAL" PEOPLES IN THE URALS?

We have so far learned that there were humans in the Ural Mountains in the "Tardiglacial" period, but that these humans disappeared in northeast Europe and the Urals as the "Holocene" approached, and the tundra and its animals disappeared. Population genetics suggests that from around 12,000 years ago, peoples from the earlier period, reindeer peoples, managed to endure through the warming, by following reindeer north through the Urals, and that by 10,000 years ago they reached the north. When the glaciers and glacial lakes were gone, some of them survived while most others joined the boat peoples. Those that survived, may include some Nenets near the Urals, but population genetics suggests there was a migration of the surviving Uralic reindeer people to northern Finland where they became the original Saami.

The map from Kozlowski and Bandi in Figure 8 depicts archeological finds dated to before the expansion of the boat people – note the line indicating the glacial edge This would be the period of the "Post-Magdalenian" reindeer cultures. The solid arrows probably depict European reindeer herds turning northeast around the glacier – a reindeer culture ancestral to the Swiderian perhaps. The solid arrow would depict reindeer herds shifting north in the early period before all the rapid melting began. So what are those other arrows in Figure 8, the dashed ones going

up the Ural Mountains? Let us learn more about the sites marked on the map of Figure 8, and look for evidence of reindeer hunting in the bone refuse.

Repetition of Figure 8

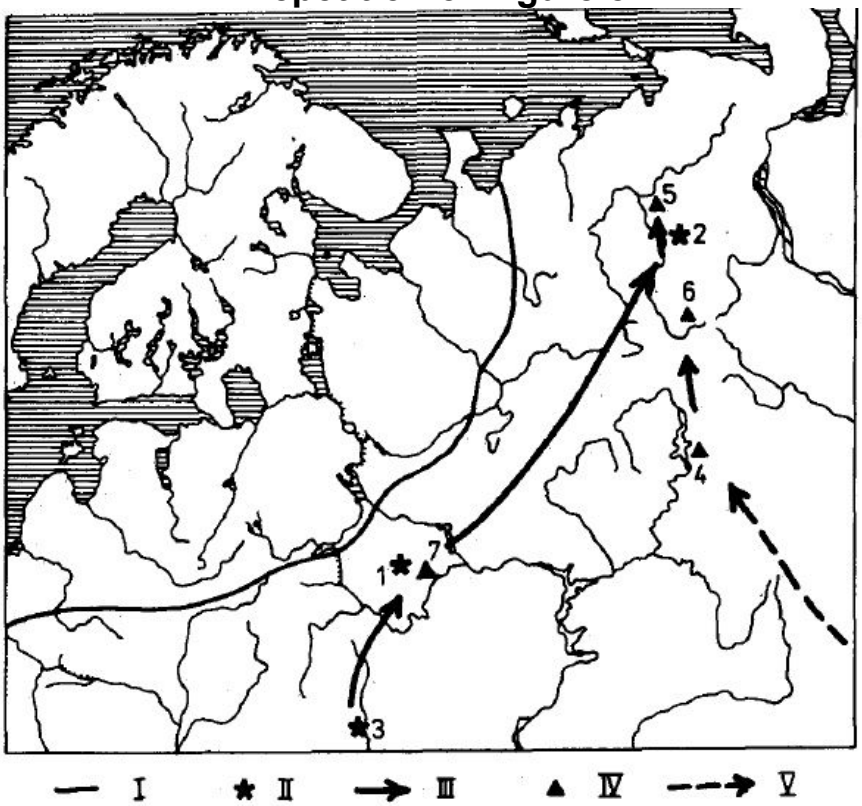


FIG. 8. The Upper Paleolithic in northeastern Europe. I - limit of ice sheet during Würm Pleniglacial phase; II - sites of Kostienki-Sungir culture; III - northern expansion of Kostienki-Sungir culture; IV - sites of Siberian tradition of final Upper Paleolithic; V - Tardiglacial northern expansion of Siberian tradition. Northern sites of the Upper Paleolithic: 1 - Sungir; 2 - Byzovaya; 3 - Kostienki; 4 - Talitskiy; 5 - Krutaya Gora (upper level); 6 - Medveja cave; 7 - Karatcharovo.

After speaking about the "Tardiglacial" European reindeer hunters, Kozlowski and Bandi wrote: *A different situation characterizes the northern part of the Russian Plain. During the Tardiglacial these regions were not subject to the influence of the final European Paleolithic but remained under the influence of Siberian culture.*"

For instance the site marked 4 on the map shows a clear affinity to the "Siberian Upper Paleolithic". In other words, the Urals artifacts began with culture that appeared to have come from Siberia, and afterward this continued to be the case. The archeological sites of the southern Urals, such as the one marked 4, belong to the earliest period. We are not interested in these southern sites because they greatly preceed the arrival of the boat peoples. We are interested in the latest sites dated to the end of the "Tardiglacial Phase".

What animals did the "Siberian Upper Paleolithic" peoples in the Ural Mountains originally hunt? Were they reindeer as we must predict for ancestors of Saami?

The earlier bones found by archeologists are typical of the Ice Age and included mammoths, rhinocerous, reindeer, grouse and bison. This is a wide mix of tundra steppes animals of the Ice Age. Initially central Europe of the Ice Age simply shifted north and their hunters followed.

Continuing from Kozlowski and Bandi *"Traces of industries of the same type are found in the far north of the Russian Plain on the river Pechora...."*

This suggests this culture at 4, shifted north, probably originally with greatest interest in mammoths. The northern sites are those marked 6 known as Medveja Cave, and 5 (Krutaya). Here we see evidence of a decline in mammoths and greater dependence on reindeer.

"The dating of these two sites is problematic: pollen analysis of the sediments of the Medveja Cave (lower level) indicates absence of elements typical of the tundra, and the presence of pollens more characteristic of a steppe environment. ***Among the fauna, reindeer predominates*** *(>20%), followed by hare....."*

The authors give a table for animal bones found at the Medveja cave, where in the lower (older) layer there are 2271 reindeer bones and 2304 hare, and 3102 grouse. Bones of large animals other than reindeer are less than 10% of the reindeer numbers. Or said in another way, reindeer bones are 10 times more abundant than other animal bones. This indeed proves a focus on reindeer. Such large numbers suggest they were reindeer people – killing large numbers at a time by intercepting them in their migrations. Or else they were semi-domesticated already, and under human management. This is from the earlier period but it proves that there were reindeer peoples in the Urals. But were they still there at the time of the arrival of the Post-Swiderian boat peoples coming from the east via the Volga, Kama, Dvina,and Pechora? We want to find what archeologists found regarding reindeer bones at younger levels of excavation

In the middle younger level at the cave site, bones of hare and grouse is down, but reindeer remains very high at 1282. Actual numbers are not relevant, compared to relative numbers compared to other animals, since we may be only speaking of a smaller population of people, who ate less..

In the upper level the reindeer still remains high relative to other animals. This upper level might be contemporary with contact with Kama and Pechora boat peoples, and with N1c1 haplogroup migration. For some reason there are lots of cave bear bones, which may suggest the cave was abandoned, and the N1c1 people arrived at this time, found a bear in the cave, killed it, and ate it! .

I now ask the reader to locate the Medveya cave site on the map of Figure 8. It is located at the triangle with number 6. Note that it is located at the end of the Pechora River, where it touches the Ural Mountains. That means it lies within the

light purple circle shown in Figure 8. Exactly where the contact with 3-4 water systems come together, exactly where boat peoples would have gathered. It seems we have now identified the Ural Mountains reindeer people encountered by the boat people arriving via the Kama and Pechora. This is where most of the action occurred.

If I were an archeologist I would inspect this area, trying to envision how the rivers were and how boat peoples behaved. A large flat area suitable for tents would be required. THAT will be the region where the boat peoples interracted with the Asian reindeer peoples, and that interraction, continuing regularly over centuries would have converged the two languages in that vicinity even more than they might have been at first contact..

If these Ural Mountains reindeer peoples carried the N1c1 haplogroup in their men, what was the consequence of the meeting in terms of the diffusion of the N1c1 haplogroup? I have already suggested that the life of the boat peoples, which had adapted to the warmer climate, was more successful than that of the Urals reindeer people. (Only the Tamir Peninsula reindeer people were in an ideal situation and strong.) The poor struggling Urals Proto-Samoyeds thus were constantly tempted to give up their reindeer based way of life and join the successful boat peoples. The reverse – boat peoples wanting to become reindeer peoples – did not happen.

If you are meeting these boat peoples and finding they are very successful, and your way of life in the mountains, cannot be practices away from the mountains, the temptation to join your new brothers is great. That is why I said earlier that the way in which the N1c1 entered the Finno-Ugrians, is from conversions of the Ural Mountains reindeer people (the Urals Proto-Samoyeds) into boat peoples. This occurred easily if the Pechora, being an arctic river, was not yet claimed by the boat peoples as territory. The Urals Samoyeds could split off from their main tribe, form a new tribe, establish themselves in the Pechora, and associate with the Proto-Finno-Ugrians. This seems to be indicated by a higher frequency of N1c1 as well as Asiatic features in the Pechora basin.

It is also possible that a breakaway group of the Urals Proto-Samoyeds could have moved into the Ob River, but the population genetics data does not provide the same evidence we see in the Pechora (I refer to Figure 7)

It makes sense too that the now extinct Urals Proto-Samoyeds did not abandon their reindeer wisdom, but tried to follow the two ways of life according to what the environment permitted. Thus if there was a tribe who fished with boats, but also kept reindeer herds, and they shifted west as arctic tundra returned, then we have the origins of the Saami and northern Finns, who to varying degrees are involved with reindeer and boats according to what the circumstances allow. Such mixing of ways of life was common in Finland when farming pushed up from the

north and Finns combined hunting and fishing with rye-grain plots near settlements maintained by women.

The influence of the Urals Samoyeds on the boat peoples notably of the Kama culture is seen not just in the N1c1-halogroup evidence, but also in the archeology..

Kozlowski and Bandi appear to confirm this (my underlining):

"*The origin of the Kama culture* [defined over both Pechora and Kama water basins] *is linked to the influence of Siberian industries arriving in Europe across the southern Urals. This is confirmed by the presence not only of Siberian elements* [examples given].....*but also of southern elements (e.g. trapezis and flat harpoons) probably transmitted by the Yangelka culture (Matiouchine, 1969). ....*

In other words, as I said above, perhaps the upper level of the Medveja cave excavations is actually these later Urals reindeer people, the Urals Proto-Samoyeds, we are looking for. Reindeer bones at that upper level is approximately ten times that of the next animals – horse, wolf, red fox, and hare, all small animals. Of course there are the large quantity of bones of a cave bear, already mentioned but that could be from a unique event, not the result of hunting but dealing with a cave bear residing in that cave.

9. THE SAAMI AND THE N-HAPLOGROUP

Naive scholars will look at the presence of the N-haplogroup down throught Finland and the east Baltic coast, and conclude that there was a migration southward. But if we look at the data from the point of view of the N-haplogroup originating in reindeer people, then it is obvious that the N-haplogroups did not "migrate" south, but developed from a continuing tendency for reindeer peoples to change their culture and join the Finnic men. The Saamic language by this theory is in fact a language that became Finnicized every since the contact at the Urals. These people represent those who did not switch culture.

Linguists will admit that the Finnic of the Saami language is difficult to associate with the Baltic Finnic. The reason is obvious – Baltic Finnic is descended directly from the original boat peoples, the Kunda culture, while Saamic is the language that developed in the Pechora area and migrated west to northern Finland.

Another point of view is that the N1c1 haplogroup came into the boat peoples early.That requires we assume that the Swiderian and Post-Swiderian cultures acquired the N1c1 haplogroup from the east, from east of the southern Urals. The problem with that idea is that the tundra reindeer wanted to move to higher latitudes. They had no motive to travel directly west. No, all factors considered, the scenario developed by Rootsi et al, in population genetics, has to be the right one. The Urals branch of N1c1 migrated north through the Urals and then later turned west and ended up in northern Finland as the Saami.

They migrated north when the climate became warmer and sunnier, because they were dependent on reindeer in their way of life, and had to go north with the reindeer. Of course along the way, many of them abandoned that way of life – not just becoming boat peoples, but perhaps changing from reindeer to horses where the steppes developed.

There is no other way for Finno-Ugric men today to have a significantly high frequency of N1c1 and other N-halogroup variations, than from the original Asian reindeer hunters changing their way of life from one that was threatened to the one that was succeeding. Mostly, the reindeer peoples who endured were the ones who managed to follow reindeer north and always stay in the tundra, such as those who reached the Tamir Peninsula and the arctic coast east from there, which was always free of glaciers.

Once the N-haplogroups were in the genes of men of the Finno-Ugric boat peoples, the very mobility of boat peoples ensured its spread. For example there is a higher concentration in the southeast Baltic. This is easily explained archeologically from the fact that there was a major international market near the mouth of the Vistula, and archeology has found that peoples of the east Baltic coast looked in that direction as their major market.

But there is also the archeological Comb-Ceramic culture, which shows a dramatic expansion of a region of a single culture, that can only be explained by the presence of professional traders. Professional traders travelling up and down the Volga would have transmitted other variations of the N-haplogroup. Current population genetics that claims they have discovered the migrations of the century-old Uralic theory, may be simply observing the impacts of the expansion of the fur trade. The Comb-Ceramic culture, which may have been driven by Volgic men, who were first to be aware of civilization in Asia Minor, covered the entire east Baltic from the Vistula to above the Gulf of Bothnia and east as far as Lake Onega. This is the region with the higher N1c1 haplogroup frequency. Traders, mainly fetching furs from the natives were crisscrossing the areas and dealing with everyone from reindeer peoples in the north to farmers in the south. All that was necessary for the N1c1 haplogroup to spread was for the traders, men, to have affairs with women throughout, who produced male children. Or – to settle down in different locations, such as to manage trading posts or markets.

The story becomes very complex after the beginning of the fur and amber trade, and even more complex with the adoption of farming and settlement life. The original broad region of single languages across the north, has broken up and recieved Slavic immigrants, giving the complexities of “Tundric” linguistics that we see today.

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References

There are no linguistic references here, since this article assumed the original linguistic dendrogram developed by linguists is more or less correct, and that the issue is a simple one of interpreting the dendrogram more consistent with the real world, as opposed to some kind of abstract ideals. The linguistics may have some flaws – such as mistaking similarities from convergence as divergence, etc, but the purpose of this article was to reinterpret the linguistic dendrogram after a century of accumulated knowledge in archeology, and other applicable sciences.

Clark, G, 1967 *World Prehistory,* Cambridge *A celebrated text that summarized the accumulated archeological discoveries up to that time. Since then the ideas have simply been refined.*

Jaanits, L. et al, **1982**, ***Eesti Esiakalugu***, Eesti Raamat, Tallinn *In Estonian, the product of Estonian archeological work during the Soviet period, where the authors were able to access the work of other archeology within the Soviet Union, not as accessible in the west.*

Kozlowski J, and Bandi H-G 1984 *The Paleohistory of Circumpolar Arctic Colonizationm,* Arctic 37 (4): 359-372 *Article in English, where the investigation of the northeast Europe and the Urals was only one section. I chose to use it for reference because of this focus, and because it was a summary.*

Pääbo, Andres 2002-2016 WEBSITE: *The Origins and Expansions of the Ancient Boat-oriented Way of Life: Basic Introduction to the Theory of a Worldwide Expansion of Boat-peoples from Northern Europe* , [http://www.paabo.ca/uirala/ui-ra-la.html] *This is currently a layman-type site, not scholarly, initially created for fun; however the content contains much that is original new theory from more or less raw data.*

Rootsi,S., et al. 2006, *A counterclockwise northern route of the Y-chromosome haplogroup N from Southeast Asia towards Europe"* European Journal of Human Genetics 15 (2): 204-11 *Comment: This is regarded as the authorative study suggesting the N1c1 haplogroup migrated up the Ural Mountains and then continued west along the arctic coast of northeast Europe to the northern Finland area, and then diffused into the Finno-Ugric speakers from the locations of the reindeer peoples. This agrees with the other paleoclimatological and other facts. This association proves something that should be obvious from the archeological/climatological story – that the Samoyedic reindeer peoples were of Asian origins, not European.*