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Summary

1. The spatial distribution of folklore-mythological motifs is shown to correlate rather tightly with the distribution of mitochondrial DNA (mtDNA) and Y-chromosome (NRY) haplogroups.
2. The analysis of spatial distribution of folklore-mythological motifs confirms earlier findings of geneticists which identified South Siberia as the Old World homeland of the main wave of the peopling of the New World (the diffusion of the respective populations in the New World turns out to be associated with the spread of Clovis and para-Clovis archaeological cultures). Indeed, this is just South Siberia where the highest concentration of the Amerindian folklore-mythological motifs in Eurasia is observed. On the other hand, it turns out to be possible to connect the penetration of mtDNA HG C and NRY HG Q > Q3 to the New World with this migration wave.
3. The spatial distribution of the "Circumgobi-Amerindian" folklore-mythological motifs follows rather closely the distribution of mtDNA HG C in the New World. This makes it possible to re-construct up to a considerable detail the mythology brought to the New World from South Siberia by this migration wave.
4. Another migration wave turns out to be associated with the distribution of mtDNA HG B and motifs of "Melazonian" mythological complex whose highest concentration is observed in Melanesia, on the one hand, and Amazonia, on the other. These motifs form a few connected sets, which suggest certain possibilities for the reconstruction of some features of "proto-Melazonian" mythology brought to the New World by the bearers of mtDNA HG B. One such set of interconnected motifs belongs to the "Paradise Lost" group: first of all, **H04**:¹ Death: Shed Skin (D1889.6), **H05A**: Snakes are immortal, people are not, **H30**: The Wrong Choice. Another

¹ The motifs sigla are according to the system developed by Berezkin (2000; www.ruthenia.ru).

group includes a number of motifs centered around **F38: Women Lose their High Position** – **F44: Women and Men Separate**, **F39: Women are Punished**, **F43: The First Women Disappear**, **F40: Male Leader of Women**, **F41: Men Kill the Women**, **F45: Amazons**, **F42: Men Abandon the Women**, **F43A: The First Women Disappear. A: They Kill or Transform the Men**, **F16: Men and Women: Change of Biology**. A group of solar and lunar motifs is strongly connected with all the sets above as in "Melazonia" they systematically occur in the same texts with the motifs from the groups above forming certain logical unity within those texts. Melazonia is also characterized with a rather specific cosmogony whereby there is no need to explain how the earth or people were created, as they are implied to have always existed, and the mythological history starts with people appearing on the earth surface from another layer of the universe, typically from beneath the earth.

5. mtDNA HG A frequencies in Siberian and American populations display a rather strong and statistically significant correlation with the number of the "Raven Cycle" motifs in respective folklore-mythological traditions. There are certain grounds to believe that both these motifs and the respective genetic marker ("Arctic A") were brought to the extreme American North-West and extreme North-East Asia ("Transberingia") later than both maternal lines B+C and Circumgobi-Amerindian, Melazonian and Ural-Amerindian motifs had been brought to the New World. The presence of a relatively homogenous Transberengian "genetic-mythological" zone characterized by high frequencies of both mtDNA HG A and the Transberengian motifs seems to be accounted for first of all by the fact that they were brought to this zone relatively later with the migrations apparently corresponding to the movement to this area of Dene, Esko-Aleut and Chukotko-Kamchatkan language speakers and replaced to a considerable extent earlier genetic markers and folklore-mythological motifs. But on the other hand, the same fact seems to be additionally accounted for by the functioning up to the Modern Age of the Transberingian communicative network, as in the Holocene the communication through the Bering straits does not appear to have ever interrupted, and led to additional homogenization of the zone. And the movement through the Bering straits definitely went in both directions, in the framework of which their way to the Old World appears to have been found by both some New World genetic markers (e.g., NRY HG Q3?), and apparently some folklore-mythological motifs which were developed already in the New World (the possibility of the migration of some Transberengian motifs from the New World to the NE Asia [suggested {in a bit exaggerated way} already by the members of the Jesup Expedition] seems to be supported by a higher concentration of these motifs in the New World part of this zone).

6. The analyzed evidence suggests that the Ural-Amerindian mythological complex was brought to the New World by a wave of migration which took place between 10,000 and 13,000, i.e. not long after the main wave of the peopling of Americas.
7. The analyzed evidence makes it possible to reconstruct up to a considerable detail the cosmogonic mythological complex brought to North America by the "Ural-Amerindian" migration wave.
8. The contents of the main version of the Ural-Amerindian cosmogonic myth may be reconstructed as follows: "There was only the primeval ocean without coasts at the beginning of the world. The earth was created with a small quantity of solid substance brought from the bottom of the primeval ocean. The earth was brought through a series of dives performed by a few earth-divers (most likely, water-birds including loons and ducks). The dives were very hard and long (lasting a few days). The first dive was not successful (though during this, or a subsequent unsuccessful dive the earth-diver sees the bottom, but is unable to get the earth). The successful diver is most likely to have been a small duck (the smallest bird in the series of earth-divers, who is successful because of magic energy, with which it is supplied by the "sender" and who gets rewarded for its successful earth-dive). At least one of the unsuccessful (or disobedient) divers is a loon who gets punished for its failure / disobedience. The brought earth is put on the water surface and starts growing (most likely through some magic applied to it by the "sender"). Scouts are sent to investigate if the earth has grown to a sufficient size. At least one of the scouts is a white raven. The first time the scout returns very soon (the earth is still very small). The second time the scout returns much later (but the earth is not large enough yet). The third time the scout comes back after a really long period of time (e.g., a few years / or does not come back at all). On the last scouting expedition the white raven eats a dead corps and the characteristic smell betrays him. As a punishment the white raven is made black (some biblical [or rather "para-biblical"] influence cannot be totally excluded here; however, as shown in Korotayev *et al.* 2005, such influence is very unlikely). A significant role in the destinies of the world is played by the mythological character/s born by the pregnant Sky Woman expelled from the sky through the whole (made by uprooting a sky tree) for actual or perceived misbehavior. All the good and evil features of the world are created by two brothers, the Good Co-Creator (the GCC throughout) and the Evil Co-Creator (the ECC throughout). The GCC creates good earth, good animals and plants, good people (the we-group ancestors), objects implying the possibility of movement both downstream and upstream etc., the ECC creates bad earth (swamps, mountains etc.), bad plants (thistles etc.), bad animals (snakes, mosquitoes etc.), bad people (the they-group ancestors), objects implying the possibility of movement down-

stream only, evil spirits, monsters etc. The ECC tries to imitate the GCC, but with null, or negative results (e.g., the ECC tries to imitate the GCC and to create [like it has already been done by the GCC] a useful animal, but actually creates a less useful, useless, or harmful one). A conflict develops between the co-creators. The co-creators fight each other. The ECC goes down through a hole in the earth. Evil products of the ECC's creation spreads on the earth from this hole. The ECC becomes the ruler of the underworld / the world of the dead (The world of the dead is not necessarily under this world, but may be situated in a dark, gloomy part of this world)."

9. No doubt, already at the level of the "Ural-Amerindian" unity there were a number of versions of this mythological complex.
10. The dualistic creation motif may be regarded as a relatively late (ascending to the end of the Upper Paleolithic?) modification of the general "Paradise Lost" motif.
11. In general, taking into consideration the fact that the "protodualistic" motifs are rather well attested in both the Asiatic and North-American zones of the Ural-Amerindian cosmogony area, there are grounds to suppose with respect to the level of the "Ural-Amerindian unity" the coexistence of ancestral "protodualistic" versions of the "Paradise Lost" motifs (like the "protodualistic" versions of the "Discussion of the Human Fate" motif) with the supposedly filial dualistic creation motifs. There grounds to suppose that at this level the "protodualistic" motifs somehow prevailed over the dualistic ones. In this case the observed spatial distribution of "protodualistic" and dualistic motifs within the area of the Ural-Amerindian cosmogony can be accounted for by the fact that after the split of the Ural-Amerindian unity the dualistic cosmogony experienced a rather considerable development in the Asiatic zone, but not the North-American one.
12. It appears that protodualistic cosmogonic motifs only penetrated to North Eurasia from South East Asia; they developed into a proper dualistic cosmogony only after their penetration into North Eurasia (and Melanesia). On the other hand, the dualistic cosmogonies developed in North Eurasia (but not Melanesia) up to a very considerable extent from those protodualistic motifs, which had been brought from South-East Asia.
13. After the split of the American part of the "para-Uralics" the North American and North-Eurasian versions of the Ural-Amerindian cosmogonic mythological complex significantly diverged.
14. In the New World we observe the development of a number of cosmogonic motifs not attested in the North Eurasian zone (note that some of them appear to be accounted for by the influence of an earlier Circumgobi-Amerindian substratum [and adstratum]). The most remarkable development

is observed in the North-East were the "earth-diver", "dualistic creation" and "Sky Woman" mythologem sets mechanically united in the Ural-Amerindian cosmogony get united organically through the "Sky Woman" motif set (this may account for the better preservation of all the three mythologem sets in the respective mythological tradition). However, the dualistic creation motif set does not experience any significant development and dies out (or remains on the "protodualistic" level in most mythological traditions of the North American zone of the "Ural-Amerindian mythological area").

15. The subsequent development of the Ural-Amerindian cosmogonic complex in the North Eurasian went in a rather different way. On the one hand, in North Eurasia after the split of the "Ural-Amerindian" unity the earth-diver myth experienced substantial transformations and developed into the "two-earth-diving-bird" (duck-and-loon) myth. The spatial distribution of the motifs of this relatively late "Protouralic" earth-diver version correlates significantly with the spatial distribution of those populations that speak languages belonging to the Uralic-Yukaghir macrofamily. However, a much stronger correlation is found here with certain genetic markers. This correlation has been detected through the study of spatial distribution of NRY HG N2+3 as well as mtDNA HG U4 (shown earlier to be more frequently found in the Uralic populations) and the spatial distribution of the "Uralic" "two-earth-diving-bird" cosmogonic motifs.
16. On the other hand, already on the level of the "Uralic unity" we observe a rather developed set of dualistic creation motifs not observed in the North American zone (though in some cases in North America we can find their incipient forms, a more developed set is observed on the level of the "Ural-Gilyak-Yukaghir" unity). One of the most radical mutations within the late Uralic cosmogonic mythology was the organic unification of the "earth-diver" and "dualistic creation" motif sets, when the ECC becomes also the "earth-diver". This non-trivial transformation of the earth-diver into the ECC stems rather logically from the Protouralic world-view reconstructed by Vladimir Napolskikh (Napolskikh 1991; 1992).
17. The link between the Ural-Amerindian cosmogony (not called this way that time) and the other major dualistic creation tradition, the Iranian one, was suggested more than a century ago by Dragomanov (1892), and later supported by Daehnhardt (1907) and Harva (Holmberg 1927). They believed that the Ural-Amerindian dualistic cosmogony developed under the influence of the Iranian mythological tradition (through the Manichaeism and Manichaeism-derived intermediaries). Subsequent research has rejected this hypothesis. However, our findings suggest that some link between these mythological traditions still existed, but the relationship between turns out to be rather different from the one suggested by Dragomanov, Daehnhardt and Harva.

18. The dualistic cosmogony is NOT reconstructed on the proto-Indo-European level. The only branch of Indo-Europeans among whom we find a more or less developed dualistic cosmogony are just Iranians.
19. There is no evidence for linguistic contacts between the proto-Indo-Europeans and proto-Uralics. The most ancient documented linguistic contacts between the Indo-Europeans and Uralics took place between the proto-Finno-Ugric populations and (as was recently shown by Helimski [2000]) the speakers of an extinct Aryan dialect corresponding to the Fedorovo version of the Andronovo archaeological culture (earlier the Indo-European donors of borrowings into proto-Finno-Ugric were mostly identified as the proto-Iranians). However, as is suggested by archaeological data this group of Aryans still participated in the ethnogenesis of the Iranians.
20. There is abundant evidence of the extensive contacts between the Fedorovo Aryans and the proto-Finno-Ugrs. There is no evidence so far that the Fedorovo Aryans (as any Aryans or Indo-Europeans in general) possessed any dualistic cosmogony. The earliest evidence for the presence of the dualistic cosmogony among the Iranians comes from the Avestan texts dated to the 12th – 10th centuries BCE. This is c.3,000 later than the end of the period of Uralic unity when the proto-Uralics already possessed a rather developed dualistic cosmogony (let alone that it is many more millennia later than the period of the Ural-Amerindian unity when the dualistic cosmogony already existed). Hence, the development of the Ural-Amerindian dualistic cosmogony could be hardly accounted for by the "Aryan influence". In fact, the contrary is much more plausible, especially, taking into consideration the fact that the Fedorovo Aryans (i.e. just those who experienced the most extensive contacts with the proto-Finno-Ugrans [who that time already possessed a very developed dualistic cosmogony]) reached the area where the Avestan texts were produced just about a century prior to the start of the formation of Avesta. This hypothesis is further supported by the presence of the mtDNA haplogroup U7 both among the Finno-Ugrans and Iranians.
21. However, the contacts between the two great dualistic cosmogonies did not stop at this point. In Iran the dualistic mythology experienced considerable development. In late Zoroastrianism and especially in Manichaeism it acquired the most developed and consistent ["strong"] form (all its earlier versions, including the late Uralic and Avestan, let alone the Ural-Amerindian one being not really consistent, "weak" forms). The Southern version of dualistic mythology diffused very widely both in its direct Manichaean form, and Manichaean/Gnostic-derived versions (first of all through the Paulician heresy, and later Bogomil one and its descendents). In Eastern Europe the diffusing Bogomil motifs encountered the Uralic dualistic substratum which, on the one hand, facilitated the diffusion of the former, and on the other, produced a number of syncretic versions of dualistic cosmogonies combin-

ing both Southern and Northern dualistic motifs. On the other hand, the Northern dualistic cosmogony produced some influence on the Southern Bogomil dualism.

22. As has been recently shown by Leonid Kyzlasov (Kyzlasov 1998, 1999a, 1999b, 2000, 2001) in the 8th – 13th centuries CE the Manichaeans did conduct extensive missionary activities in Siberia where they also encountered the local dualistic substratum (note that the presence of this substratum may be one of the factors why the Manichaeism managed to become the dominant religion in Southern Siberia for a longer time than in any regions south from this zone). The interaction of the Northern and Southern dualistic mythological traditions in Southern Siberia also resulted in the formation of a number of syncretic versions of dualistic cosmogonies combining both Southern and Northern dualistic motifs.
23. We would like to stress that our findings have nothing to do with the so-called "genetic memory". Indeed, in traditional cultures the role of vertical (from parents to children) transmission of culturally important information (including mythologems) is much more important than in modern societies. Hence, in traditional cultures children would tend to get from their parents not only their genes, but also culturagens/memes/semes (including mythologems). This would, of course, be frequently almost as relevant for languages children acquire. Note, however, that both genes and myths could quite easily penetrate linguistic borders (and they would tend to do this simultaneously). The mythologems in traditional cultures would tend to diffuse together with genes, but not necessarily with languages. The most evident channel here are interethnic marriages. If a woman in-marries into a community belonging to another ethnic group, her children (when they become adults) are most likely to speak the language of their father. However, they will not only get from their mother her mtDNA. Their mother will almost inevitably tell them an enormous amount of fascinating stories containing many mythologems of her ethnic group.
24. These findings suggest that the mythological motifs and genetic markers might have tended to be diffused together; this also suggests new possibilities for the deep history reconstruction, including the new possibilities to reconstruct the mythological systems diffused by the ancient populations. For example, the co-operation between genetics and comparative mythology could help to find the solution for a long-lasting dispute on the possibility of treatment of significant similarities in mythological systems among peoples leaving in very distant parts of the world as a result of past contacts, of diffusion of respective mythological systems. In absence of genetic evidence for such contacts the alternative explanation through the universal "archetypes" might look as convincing. However, if we get evidence for an especially close genetic relationship between respective populations, the situa-

tion changes considerably, and the explanation through the origins from a common source starts looking more convincing, which could help us to identify a considerable number of important characteristics of these populations' mythological systems at the time prior to their split as well as the main directions of the respective mythological systems transformations after the split. This, of course, could open new perspectives for the reconstruction of the evolution and diffusion of human mythologies. On the other hand, very close similarities in mythological motif sets in very distant populations could serve as a guide for geneticists, suggesting the presence of significant similarities on the level of certain genetic markers.