

New understanding of western Eurasia in prehistoric times

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Politics of European dynasties of the 19 th Century AD had an inordinate impact upon the nomenclature of the then emerging field of linguistics. One trivial isogloss – for “One Hundred” in Avestian “Satem” and in Latin “Centum/Kentum” had become sacrosanct for many as the absolute divide between two forms of “Indo-Germanic” languages. Yet another basic tenant of the 19th Century understanding was that the Slavs arrived in central Europe only recently.

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There is no evidence concerning the migrations of Slovenes or Macedonians during the 6 th or 7 th Centuries AD. Such mythology of migrations was fabricated between the 15 th and 20 th Century AD and has no documentation. There is ample evidence for the arrival of all of the neighbors of the Slovenes. There is also evidence for the migration of most of the neighbors of the Macedonians. Written sources of that time present explicitly that Slovenes were also called “Veneti”. Some data indicate that part of the ancestors of present Slovenes arrived from the southeast of Balkans, where they were the aboriginal settlers. “Genetic” data indicate that Slovenes are a mix of three main groups and some of their ancestors lived in their territories prior to 40,000 years ago. For a better understanding of Europe in antiquity it is imperative to establish as a fact that the ancestors of the Slovenes had resided in central Europe for thousands of years. There is increasingly more evidence that the older versions of all Indo-European languages are more like Slovene than are their more modern forms. The Kentum I-E languages are derived from Satem ones and not vice versa. These events did not proceed through internal developments in the proto-Slavic I-E languages, but primarily by the influence of proto-Slavic on neighbouring non-I-E languages and vice versa. Subsequently, it was followed by elite dominance effect of some of the newly formed Kentum groups over some of the Satem ones. A new system of understanding the Indo-European Languages as “Core” and “Peripheral” is proposed for the 21 st Century. We reach an understanding of true agriculture from foundations of proto-Slavic hunters, gatherers, fishers, and other preagrarian economies. This Proto-Slavic phenomenon is manifest not only in lands now occupied by Slavs but also in Asia Minor, Levant, and Egypt. Proto-Slavs in 38Europe had a profound linguistic influence in antiquity. This Proto-Slavic element is made conspicuous in this thesis from the British Isles to Anatolia and from the Baltic Slope to the Italian peninsula and western Europe. The ProtoSlavic preeminence had been replaced by Hellenic, Roman and Germanic in more recent centuries.

Definitions

“Age”

- ky – thousands of years
- kya – thousands of years ago; thousands of years before present

Criteria for the definition of Slavs and Proto-Slavs

1. Primarily language; but where applicable – the (additional) “genetic” component of Y-Chromosome haplogroup I resp. R1a. [An Editor’s comment: the abbreviation “resp.” in this article is often used in a sense of “either, or” or “and/or”, or “likely both”, in an uncertain situation. A word “respectively” does not exactly fit here].
2. In the absence of Slavic language – the frequency of Y-Chromosome haplogroup I resp. R1a may be invoked as an indicator of the proportion of Proto-Slavic ancestry of the population.
3. The earlier the Language & Y-Chromosome haplogroup connection appears, the more it is presumed to be relevant and parallel.

Definition of peoples

- Proto-Eurasians – ~130 kya or earlier;
- Indo-European – as per definition of linguists
- Proto-Indo-European – the predecessor of Indo-European
- Slavoform proto-Indo-European – predecessors of Indo-European supposed to speak a proto-

Slavic-like language

- Proto-Indo-Aryans – predecessors of Indo-Aryans
- Slavic – general (overall) designation of Slavic speakers 39proto-Slavic – predecessor of Slavic

Definition of the “Core” people

1. Linguistic: The CORE people spoke a Slav-like = “Slavoform Language” which had at least eight or nine grammatical cases. Since pre-historic times Slavic languages have reduced the number of cases to seven or six. Non-Slavic (and Non-Baltic) (PERIPHERAL) languages had a proclivity to reduce the number of Grammatical cases much more. Thus the CORE languages characteristically are more grammatical case sensitive, and the PERIPHERAL languages are more oblivious to grammatical cases.
2. “Genetic”: The CORE (Slavic) populations are closely represented by the YChromosome haplogroup I resp. R1a. The I resp. R1a population is therefore identified in antiquity, after about 70-30 kya as the Slavoform-Proto-IndoEuropean (S-P-I-E). The PERIPHERAL populations (Indo-Europeans of Western Europe) can largely be identified with the Y-Chromosome haplogroup R1b population. The Basques are a conspicuous exception. We identify their ancestors as Altaic Proto-Indo-Europeans (A-P-I-E)
3. Geographical: At a glance it is self-evident that the Slavic “CORE” is physically located between the “PERIPHERAL” languages such as Gaelic and Gujarati, Sindhi and Spanish, Norse and Nepali, Gaulish and Greek, etc.

Definition of Slovenes and their language

- Slovene – a member of the Slovene ethnos
- Slovenian – a citizen of the state Slovenia
- Slovene – From about 1550 AD (the time of Primož Trubar) on;
- Old Slovene – From about 700 AD to about 1550 AD (the time of Old Slovene texts, collected e.g. by Mikhailov (2001))
- Proto-Slovene – Prior to 700 AD, probably since the Neolithic after about 7.5 kya, i.a. as the bearers of the LBK (Linearbandkeramik) Neolithic culture. A mixture of Y-Chromosome haplogroups R1a and I. Living

mainly as “genetically” mixed villagers, not clans or tribes, cf. Šavli in Šavli et al. (1996:130-132). This mixture derived possibly from the LGM (Last Glacial Maximum) time in the Adriatic refugium and Pannonia, with Neolithic admixtures of people having left the Black Sea region after the rise of its level due to the influx of salt water about 7.5 kya.

Introduction

For more than a quarter of a century there is a controversy concerning the origins of the Slovenes. There are two camps of scholars dueling with this issue. On the one side are those who are here identified as “Migratory (Invasionist)”. In the other group are those who are here identified as “Autochthonic”. In each camp there are several variants and gradations. There are also “hybrid” and ever-evolving new permutations of these views.

The migratory presentation continues to be the pedagogical standard for about a century in Slovenian schools. The autochthonistic model is a subject of discussion in academic circles and even amateur gatherings but public education largely sidesteps the subject.

The migratory (invasionist) understanding commenced after 1458 AD, when Aeneas Sylvius Piccolomini (later Pope Pius II) published his book *De Europa*, where he summed up the knowledge passed on from antiquity. The sources of ancient knowledge were Greek and Roman. Since these Greek and Roman proponents presumed that they were the original inhabitants of their lands, and because they later experienced and annotated Germanic invasions, Aeneas Sylvius Piccolomini inferred that the Slavs, who lived east of the Germanic peoples, must have had arrived later still (Tomažič 1999).

His thesis was further elaborated by German scholars in Austria and Prussia (Roucek 1949). Over the centuries the German scholars developed it into the variant of traditional view of the late arrival of primitive Slavs from the Pripyat River marshes.

Basically, the two views of the origins of the Slavs center on the question of whether the epicenter of Slavdom had been shifting over the centuries towards Venice (and the Adriatic and North Sea) – or towards Vladivostok.

In the 19th Century German science was on the cutting edge in many disciplines, while the Slovenes (who lived mostly in Austria-Hungary) were denied the right to have their own university where they would independently research their ethnic history. Ergo, Slovene students who received higher education in the German language inculcated and transmitted the German bias and doctrines to the Slovene population. Before and after WWI they continued to promulgate the German *Weltanschauung*, and the hegemony of Yugoslavia found it useful to designate Slovenes as a continuum of the Serbo-Croatian identity. This continues to be the prevalent view to this day.

The autochthonic explanations of the history of Slovenes were known in the distant past. The ancestors of present-day Slovenes simply knew that they are living in their territories “od nimer” – from ever. Also the Slovene historian B. Grafenauer (1988) wrote that the autochthonistic explanations are nothing new.

The first known sources which mention the so-called Sclavs were written by foreigners. They are the Jordanis book *De origine actibusque Getarum* from 551 AD; *Vita s. Columbani* from about 615 AD, *Fredegarii Chronicon* from about 650 AD, and *Historia Langobardorum* from about 783 AD.

Jordanis mentions Sclavs as *Windi*, *Sclavini* and *Anti*; in *Vita s. Columbani* there it is worded thusly: “*termini Venetiorum qui et Sclavi dicuntur*” (territory of Veneti which are called also by the name Sclavi); in *Fredegarii*

Chronicon when referring to the events of 623 till 631 AD the actual wording is: "Sclavos coinomento Vinedos" (Slavs termed also Vinedi), "marcaVinedorum" (region of Vinedi), "Walucus duxWinedorum" (Walucus leader ofWinedi); in Historia Langobardorum there the Latin designation for the same territory before 600 AD is: "Sclaborum provinciam" and for around 626 it is: "Sclavorum regionem". This territory was in present Carinthia and not Venetia (Šavli et al. 1996, Tomažič 1990, 1999).

The first Slavic entry is known from the 11th -12th century AD in Ukraine where Nestor, a monk in the Pečora monastery in Kyiev, in hisPervonačalnaya (History of ancient times) wrote about Danube river as the origin of Slavic settlements and he wrote also " ... Norici iže sut Slovene ..." (the inhabitants of Noricum are Slovenes), and for Illyricum "... tu bo beša Sloveni perveje ..." (here were living Slovenes as the first ones) (Grafenauer 1988). But since Nestor wrote his work in a biblical way, he is deemed (especially by atheistic historians) as not credible.

There is also a number of Slovene and foreign authors during the time of the 16 th till 20 th century AD who wrote about autochthony of Slovenes or expressed some doubts about the migration theory or presenting data indicating the existence of Slavs in antiquity (Petrič 2007). An excellent record of the subject of the autochthony of Central European Slavs was published by Roucek (1949).

Decades after the discussions about the autochthony of Slovenes became moot and largely irrelevant and forgotten, Ivan Tomažič attended a lecture by M. Kos about the arrival of the Slavs in the Alpine Region. He marveled at Kos' detail descriptions of the advance by the ancestors of Slovenes as they reputedly proceeded upwards the Drava River valley. There was absolutely no documentation from antiquity of such an event. Tomažič had an epiphany, and realized that the official history (migration) was a concocted fabrication. Tomažič began his quest for the truth. He persuaded J.Šavli to study the subject of the origins of the Slovenes. They began to publish their findings in Glas Korotana (Tomažič 1981, 1982, Šavli 1981a,b, 1982). Šavli (1982) studied the theme of the linden tree at the center of villages and the reoccurring toponym elements "Wend" – "Wind" in non-Slavic regions of present-day Germany. Šavli reasoned that the Wend/Wind feature indicated that the ancestors of the Slovenes were the ancient Veneti. He developed this theory more fully and published it under the title: Veneti naši davni predniki? (Veneti – Our Ancient Ancestors?) (Šavli 1985) His publication provoked tempestuous polemics. Šavli was supported and championed by Ivan Tomažič. Soon also Matej Bor joined them. Bor contributed profound scholarship in deciphering and reading ancient Venetic inscriptions. The polemics continued again for about a decade. At that time Šavli,Bor and Tomažič published a collection of their work in several languages (Šavli et al. 1996).

Nota Bene – It is important to recognize that J. Šavli remained firmly anchored in the "Migratory Paradigm". To his credit, however, he pushed back the supposed timeline of the migration of the Slavs from the 6th Century AD (from east of the Carpathians) to the 12th Century BC (from the regions of the Lusatian Culture). By any standard this alone was a very crucial step in the right direction. Additionally, J. Šavli published several other observations which help us understand the ancient proto-Slavic situation.

There is now, however, substantial evidence that if there ever were protoSlavic migrations – such took place in the Stone Age – Neolithic or even Palaeolithic. In time, and independent of the Slovenian research, western academicians began to question the 19 th Century hypothesis of the "late arrival of the Slavs". For example: M. Alinei (1996, 2000) created his Theory of Continuity based on linguistic arguments. Illustrative is his view on the prehistory of the Slavs: "I have to commence by clearing away one of the most absurd consequences of the traditional chronology, namely, that of the 'arrival' of the Slavs into the immense area in which they now live. The only logical conclusion can be that the southern branch of the Slavs is the oldest and that from it developed

the Slavic western and eastern branches in a differing manner and perhaps at different times...Today only a minority of experts support the theory of a late migration for the Slavs... because none of the variant versions of such late settlement answers the question of what crucial factor could possibly have enabled the Slavs to have left their Bronze-Age firesides to become the dominant peoples of Europe. The south-western portion of the Slavs had always bordered on the Italic people in Dalmatia, as well as in the areas of the eastern Alps and the Po lowlands... The surmised 'Slavic migration' is full of inconsistencies. There is no 'northern Slavic language', it is rather only a variant of the southern Slavic... The first metallurgic cultures in the Balkans are Slavic... and connected with Anatolia... Slavic presence in the territory, nearly identical to the one occupied by them today, exists ever since the Stone Age... The Slavs have (together with the Greeks and other Balkan peoples) developed agriculture... agriculturally mixed economy, typically European, which later enabled the birth of the Greek, Etruscan, and Latin urbanism. Germanic peoples adopted agriculture from the Slavs... The Balkans is one of the rare regions in which a real and true settlement of human groups coming from Anatolia is proven..."

Explanation: "late arrival of the Slavs" refers here to the fifth and/or sixth Century AD. Certainly by the fifth Century AD the Slavs must have been a well defined people, but perhaps not yet being generally known by the label: Slav.

We thusly see that the latest consideration of the autochthony of the Slovenes and other Slavs does not lack the scientific rigor – as those who are invested in the "late migration paradigm" would try to present.

There are also some additional details worth mentioning. B. Grafenauer (1988) in his comments to the History of Langobards presents the sources by which the supporters of migrationism make the inferences about the late arrival of the ancestors of Slovenes: "About the time of the immigration of Slavs into the Eastern Alps and upper Sava River region we have no direct sources of that time. It is possible ... however ... indirectly – by the time of decay of particular dioceses – to infer also about the advancement of Slavs". (Do not overlook, he and his school strictly avoid mentioning Slovenes!) And also: "Besides the letters of Pope Gregory the Great is *Historia Langobardorum* the most important source with data of this type from the end of the 8 th Century AD."

The advocates of the "Late Slavic Migration Paradigm" deliberately shun all evidence about autochthony of Slovenes and expect their readers to embrace all of their unsupported promulgations about Slavic migration. They hinder any "process of discovery" which may depreciate their selective bias. They have no direct sources about Slovene migration – so they extrapolate a hypothesis that since there is first hand evidence of 6 th C. migrations of the Germans, Langobards, Avars, Croats, Serbs, Bulgarians, Hungarians, etc – the Slovenes must have also been on the move. It is almost pathologically absurd to believe and to argue that since new neighbors moved into or through your environs – you also must be a migrant. Strictly speaking, it is a non-sequitur. Yet, this paradigm held sway for over a century. There are but few bits of evidence for the Slovenes as being the aboriginal population. There is no evidence for the autochthony of the others (Perdih 2000a).

Thusly, about the immigration of ancestors of Slovenes (as well as Macedonians) there do not exist firsthand sources. There do exist, however, firsthand sources about the migrations of Germans, about immigration of Langobards, Avars, Croats, Serbs, Bulgarians, Hungarians, etc., thus of all neighbours of Slovenes and most of neighbours of Macedonians. It seems that the only impetus to assume the immigration of ancestors of Slovenes was the analogy to immigration of all their neighbours in the 6th Century AD or later. But also regarding these neighbours one must be cautious. We must not make the assumption that the lands surrounding the Slovenes were devoid of people. Realistically speaking, these surrounding lands were also largely populated by Slovenes. These territories however experienced an influx of better politically and militarily organized elites who subjugated the indigenous populations and re-named the lands and peoples with their preferred label and

ethnic identity. These elites were in some cases not very dissimilar from the pre-existing populace. This scenario applies especially poignantly to the Kajkavic Croats.

To infer from an event of a failure of particular diocese that the demography of a region was greatly impacted seems promising at first. The Vita S. Severini provides a different understanding. There it is explicitly stated that the Romans of that time who lived outside of Italy abided in forts and towns, whereas the original population lived in the countryside. The Romans and the countrymen did not have good relationships. When the emperor ordered the Romans to return to Italy, they left their towns and forts and the diocese collapsed. The original inhabitants of the countryside remained as before (Tomažič 2006). Also the Slovene oral tradition about Attila and Huns (see e.g. the compilation by Šmitek 2009) indicates that at that time, i.e. a century before their supposed arrival, the ancestors of Slovenes lived in their present-day territories.

Quoting *Historia Langobardorum* and the letters of Pope Gregory the Great is a typical example of selecting useful bits for a deceptive argument and sidestepping or even distorting inconvenient truths. In the *Historia Langobardorum* it is stated explicitly that on their arrival into Pannonia after 535 AD, they (the Langobards) subjugated the Pannonians and Noricans. And, on their move to Italy in 568 AD, the Langobards took with them part of the subjugated people, who established there places which they named in their own language. Some of these places still exist and have Slovene names on localities outside of Slovenia.

On the other hand, F. Curta (2001) discovered (while studying Byzantine sources) that from about 400 AD to about 700 AD there was no settlement of Slavs to the Balkans (except for part of ancestors of present day Croats and Serbs during 625-635 AD). To the contrary, due to the inappropriate economic policy of the Byzantine empire the Balkan countryside was depopulating, at first slowly, but after the crisis in 535-540 AD rapidly, so that after 540 AD it was no more able to maintain the border on the Danube. That was also the time when the "Slavic" intrusions started. These intrusions were of a pillaging nature and not colonial settlement. The townspeople of Constantinople and Saloniki had even noticed that the intruding "Slavs" are the same people as the farmers living previously and continuously in the environs of these towns.

Interesting is also Curta's (2001) statement about the so-called "Slavic material culture", which serves to several archaeologists as the proof of the recently arrived Slavs. Namely, that material culture existed in the lower Danube area for several centuries before the supposed arrival of Slavs and from that area it expanded into the Central Europe. Beyond the Carpathian Mountains it appeared several hundred years after the supposed exodus of the Slavs. And, that Byzantine government for several hundred years recruited Slavic soldiers and not settlers.

With help of Curta's (2001) analysis of the economic situation and development of the Byzantine Imperium we can understand what was in fact the supposed second settlement wave of the ancestors of Slovenes from south-east, the Balkans. It was not an organized migration of a peoples but the flight of gradually expropriated farmers to Constantinople, Saloniki, to north across Danube, and to northwest into the Central Europe. Since they had lost their home and everything in it, they could not afford for themselves the quality products of that time, but had to make for themselves what they needed for their survival.

Linguistic challenge

Skulj & Sharda (2002), Skulj et al. (2004, 2006, 2008) studied the similarities between the languages Slovene and Sanskrit. They considered phonetics (satem!), morphology, syntax and vocabulary. The similarities in vocabulary between Slovene and some other languages is presented in Table 1.

Table 1.

Similarities in vocabulary between Slovene and some other languages (Skulj & Sharda 2002). Internationally used expressions are not considered here

Language/Similarity	%
Russian	~ 80
Vedic Sanskrit	~ 20
Classical Sanskrit	~ 10
Lithuanian	~ 10
German	~ 3
Irish Gael	~ 2
Latin	~ 2
Persian	~ 1

They found it enigmatic that the Slovene language, bordering on Italy, Austria and Hungary, still shares more linguistic similarities with the Sanskrit than with the neighboring non-Slavic languages. And, significantly, Slovene is more similar to Sanskrit than is Russian, even while geographically Russian is more proximal to India. Furthermore, Slovene language, due to its archaic character, still preserves many lexical and grammatical forms present in the Sanskrit, but no longer used in the present day Indic languages and most I-E languages. The still active daily usage of the dual in the grammatical forms of the nouns and the verbs is noteworthy as well.

Linguistic comparisons between Indo-Aryan languages, Vedic Sanskrit in particular, and Slavic languages, Slovene in particular, by Skulj & Sharda (2002), Skulj et al. (2004, 2006, 2008) show evidence of remarkable similarities in words of elemental nature and of those describing the process of domestication of animals specially the terminology regarding the sheep and the cattle.

Skulj et al. (2006, 2008) applied the Alinei's (1996, 2000, cf. also www.continuitas.com) 'Lexical Self-Dating' methodology to date the linguistic and the genetic evidence and to indicate when the split between Proto-Indo Aryans and the Proto-Slavs occurred. The 'Lexical Self-Dating' methodology is namely based on the observation that vocabulary offers possibilities for fairly reliable dating, in spite of the complexities and problems that are frequently involved (Alinei 1996, 2000, cf. also www.continuitas.com). Skulj et al. (2004, 2006, 2008) observed that Sanskrit and Slavic languages, Slovene in particular, share many cognates of the pre-pastoral and pastoral terminology, which would indicate a common origin or a common homeland prior to and during the domestication of the livestock such as cattle and sheep. This close linguistic affinity does not continue in horse breeding, despite the evidence that horse had been domesticated about 6 kya. It does not continue with the domestication of the cereals, as well. At the cereal farming stage of their development, this linguistic similarity ends abruptly. From this observation Skulj et al. (2004, 2006, 2008) compared this linguistic observation with the archaeological, climatic, and other evidence and concluded that Sanskrit and Slavic agro-pastoral terminologies appear to have a common, more than 8000-year-old source whereas the ancestors of the present-day Slavs and Indo-Aryans diverged more than 6 kya. This would suggest that the ancestors of Indo-Aryans and the ancestors of the Slavic peoples practiced agriculture "shoulder to shoulder" for a couple of thousand years.

A special challenge is the deciphering and understanding of Venetic, Rhaetic, Etruscan, Gaulish, Old Phrygian and Messapic inscriptions. They are written in unknown dialects of unknown languages and even the sound value of some signs is not ascertained.

Western mainstream scholars routinely attempt to anchor these ancient scripts to Greek and to Latin. Usually they interpret the inscriptions as libations, indicating in them several names, cf. e.g. Pellegrini and Prosdocimi (1967). By contrast, for some of these Bor (in Šavli et al. 1996:171-420) had shown that a Slovene template is more productive. Several other disciples of Šavli, Bor and Tomažič had added to this school of thought and added new decipherments, see e.g. Korenine (2001-2011).

Until we can understand more of the Venetic, Rhaetic, Gaulish, Old Phrygian and Messapic inscriptions we are often limited to statistical componential analysis of sound frequencies as they appear in the aforementioned languages. It has been found that the frequency of sounds in Venetic, Rhaetic, Etruscan, and Old Phrygian inscriptions is closer to Old Slovene than to Latin or Greek, which had traditionally been tapped by the mainstream western linguists (Silvestri & Tomezzoli 2005, 2007, Perdih et al 2008, Perdih 2010, 2011). The same holds true also for Messapic inscriptions (Vodopivec 2011) as well as the Tocharic ones (Tomezzoli & Kreutz 2011). The Slovene language is thus a legitimate catalyst in deciphering these inscriptions. Several methods of comparison were tested for their reliability and found appropriate (Silvestri & Tomezzoli 2005, 2007, Perdih et al 2008, Perdih 2010). It has also served to establish the criteria regarding the necessary size of the database in order that the results are reliable: The necessary number of sounds is > 700, of sound pairs > 8000, and of sound triplets > 30,000 per database, respectively (Perdih 2011).

The similarity of sound frequencies between Rhaetic and Etruscan (Perdih et al 2008, Perdih 2010, 2011) indicates a cultural and linguistic similarity on the Apennine peninsula in Pre-Roman times.

The existence of some form of Slavic prior to Greek is indicated also by decipherments of some Minoan Linear A inscriptions (Serafimov 2007, Serafimov & Tomezzoli 2008, 2009, 2011, Serafimov & Perdih 2010) and an inscription in Egypt (Serafimov & Tomezzoli 2010a). A lot of study in this direction is, however, still to be performed.

Rant (2011) noticed that conspicuous similarities exist between pre-Roman indigenous names and contemporary Slovene surnames and personal (given) names in Noricum, Pannonia, Dalmatia, Istria, parts of present-day Slovenia and Northern Italy.

It is also significant and factual that the sound “v” did not exist in Classical Greek and Latin (Szemerényi 1996) and till recently even not in some west Slovene dialects (Perdih 2007)

Interesting is also another observation: The more ancient form of a language we observe, the more similar it is to Slovene. This effect has been observed for:

- Sanskrit, where the similarity to Slovene is Vedic > Classical > present-day Indic languages (Skulj & Sharda 2002);
- Etruscan, where Bor was able to understand with help of Slovene the older inscriptions whereas the younger ones not (Tomažič 1995);
- Greek, where the similarity to Slavic is Homeric > Classical (Belchevsky 2005a,b);
- English, where the millennium old texts are more similar to Slavic than the present English (Jandáček 2007).

In view of the above findings there was a need to re-evaluate the position and the understanding of the western mainstream linguists.

As understood by western mainstream linguists, the discipline of linguistics started in 1786, when W. Jones expressed his view that “Sanskrit is of more perfect structure than the Greek, more copious than the Latin, yet

bearing to both of them a strong affinity as if sprung from some common source. The same origin have also the Gothick and the Celtick, though blended with a very different idiom, and also Old Persian might be added to the same family.” This was one of the cornerstones of modern western linguistics, which became subsequently the leading approach. Additional publications by F. von Schlegel in 1808, F. Bopp in 1816, and J. Grimm in 1819, lead to the foundations of comparative linguistics. Due to exclusive use of Sanskrit, Persian, Greek, Latin, and Germanic, the name Indo-Germanic was coined (see Szemerényi 1996). Observe that Slavic was not included. Also, if Gothick and Celtick were blended with other idioms – is it legitimate to ask if Slavic languages were blended with foreign idioms or did the Slavic languages escape major blending?

The *Kentum-Satem* division of Indo-European languages was finalized by contributions of several authors in 1890. There are continuing discussions about the origin and extent of this phenomenon. Sometimes it was presented as a fundamental division of Indo-European languages. Of the 5 possible explanations of the phenomenon, finely the 3-tectal-series-system prevailed (Tischler 1990), although it is not universally accepted and some authors prefer the 2-tectal-series-system (wikipedia 2007). However, in 1965, G. R. Solta has shown that the *Kentum-Satem* isogloss was overrated as a diagnostic feature and a tool of true componential analysis. It ought not be revered as a defining wedge, which segregates Indo-European languages into two well-defined entities. It is only a single isogloss among many (Tischler 1990). More and more linguists are following this view and cease to give gravity on this type of division.

Core-Peripheral approach

Having observed that palatalizations and de-palatalizations in Indo-European languages do not coincide with the Kentum-Satem division, and being dismayed with the undeserved reverence towards this Kentum-Satem division of Indo-European languages, this question was approached from another point of view. The Schleicher’s Language Tree was looked at not from the side as usually but from the top. The new view resulted in a different division of Indo-European languages, namely into the core languages and peripheral languages (Jandáček 2000, Jandáček & Perdih 2008), Figure 1. At the same time, a working hypothesis about the origin of Europeans was presented (Perdih 2000b).

The original (Jandáček 2000) Core-Peripheral approach needs some revision. However, and in any case, the core languages remain to be the Slavic ones, whereas the Kentum languages are, in any case, *peripheral*. This is well in line with attempts of linguists to explain the Kentum effect by the involvement of Sudanic languages, Kafir languages in Hindukush, North Pamir languages, Caucasus languages, Tocharic, and Anatolic languages, cf. (Tischler 1990, wikipedia 2007). Indicative is also the statement of W. Jones expressed in 1786 that “the Gothick and the Celtick are blended with a very *different* idiom”. The question persists: what would be his opinion if he had used also Slavic. Would he had thought that Slavic was blended with some other idiom – or would he think that Slavic was mostly unblended?

On the other hand, present-day authors contributing to Wikipedia (wikipedia 2007) sometimes avoid the term *Kentum* and refer to Indo-European languages as simply – *Satem* and *Non-Satem*. While the *Satem* languages display integrity and a core of similarities, those languages that used to be called *Kentum* lack cohesiveness.



Figure 1. Indo-European Language Tree as seen from above (Jandaček & Perdih 2008)

There is still the open question whether all languages relevant to clarify the origin of the so-called Kentum languages have been considered. Other EuroAsian or African languages may yet find an extended membership in (or contribution to) what used to be called "Kentum". Indicative in this respect is the statement by Chang (1988) that both Germanic and Chinese are "Kentum". They may include (by some leap of faith) besides those mentioned above also some Ural-Altaic, Finno-Ugrian and evenTurko-Tatar and Mongolic. It seems not likely that any more languages would ever join the Satem Core.

It is strange indeed that Non-Satem, which is not integrated – but disintegrated into many dissimilar languages – could have spawned the highly integrated (uniform) Satem languages. Now this fact is explained by the late formation of Satem languages from *Indo-European, but this explanation appears less and less compelling. It is more probable that the (uniform) Slaviform Satem gave rise to the peripheral multiform Non-Satem or Kentum. Uniformity spawns multiformity. Not the other way around. On the other hand, how could it happen that from patently Kentum languages: Latin, "Celtic" and Germanic, with their various mixing and blending did not produce anything like a true Kentum but rather Semi-Satem?

The linguists explain it by later palatalizations. But, what triggered these palatalizations? At the moment there is no evidence of any other real cause than the Satem substratum. The reverse direction of action would effect depalatalizations.

If we take a comparison from the animal kingdom, we could say that feathers of chickens, scales on chicken's legs and human fingernails are all the vestigial scales of ancestral reptiles. Mammals, birds, and marsupials did not conspire to create reptilian features. Rather, and in the same manner, it is more likely that the Slavs spawned the other I-E languages – than that all the other languages conspired to give their leftovers and patch or quilt together the Slavic languages.

The insecurity of the doctrine of Kentum affirmation is evident in the vacant space depicted by the “gray area” stretching between Eastern Baltic and Northern Adriatic in the Diachronic map and the Gray Hole along the Amber Road, (Bachmann 2007). This is exactly the area occupied by the ancient Veneti – Venedi (and Wends). The geographic location of the “gray area” also corresponds to the Corded Ware region of the Lusatian culture. Corded Ware horizon and the hypothetical situation around 4 kya (Bachmann 2007) indicate a drastic disagreement between the real situation and the learned construct.

Consequently, the following points are presented:

- The German attempt in the 19th Century to marginalize the Slavic role in the “Indo-Germanic” Languages was largely successful. This misinformation must be rectified, and the Slavic languages must be recognized as being key to the Indo-European phenomenon. The Slavic languages are not to be viewed as a peripheral branch of the Indo-European Languages, but should be recognized as the trunk of the Language Tree from which the other branches received their substance and sustenance (Jandáček & Perdih 2008).
- “Indo-Germanic” is a designation which should be abandoned. Warnow et al. (1996) concluded: “It appears to point to a situation in which Germanic began to develop within the Satem Core (as evidenced by its morphology) but moved away before the final satem innovations. It then moved into close contact with the “western” languages (“Celtic” and Italic) and borrowed much of its distinctive vocabulary from them ...”. Following Warnow et al. (1996), the term “Indo-Germanic” is as misleading as there would be in the animal kingdom the expression “Trilobito-Avian” (of trilobites & birds). Especially since there are similarities between German and Korean (Lie 1991), as well as between Germanic and Chinese, where both of them are Kentum (Chang 1988), and this indicates strongly that the ancestors of Germanic people were living in Far East as late as about 4 kya and formed there the state of China. There persists the open question not only as to the degree to which Chinese was influenced by Germanic, which was studied by Chang (1988), but also as to the degree to which the Germanic was influenced by Korean, Chinese, and other Oriental languages. Yet another question raised is: whether instead of Indo-Germanic some other designation such as Sino-Germanic would be more targeting and precise.
- The true meaning of Ancient Celtic in respect to the present day “Celtic” has been seriously questioned since present-day “Celts” were defined as such as late as in the 17th C. AD and not in antiquity (Berresford Ellis 1990, James 1993, Serafimov 2006, Serafimov & Tomezzoli 2010).
- We posit that the Slavic Languages as the organic trunk of the Indo-European Language Tree yield better terminology for the language branches. Thus, for sake of a more accurate understanding of the phenomenon we must create a new lexicon. Based on the 19th Century word choice of “Indo-Germanic” it would seem legitimate to apply a more accurate designation such as “IndoSlavic”. Warnow et al. (1996)

place Germanic into a Slavic cradle with later Celtic and Italic influences. Preliminary evidence had suggested to a few linguists that Tocharian A and B are somewhat linked to Italic (Kelt-Italic). But based on geography, proximity, and the possible migration routes we are forced to accept Slavic as the missing link between western Europe and Chinese Turkistan. In fact, Slavic expressions had been discovered in Tocharian by Ivanov (1988) as well as Tomezzoli & Kreutz (2011).

- Dictates of foreign elites (German, Hungarian, Italian, French etc) have been imposed upon speakers of several Slavic languages and/or dialects. However, standardized Slavic “literary” languages have also been forced upon the speakers of dialects. The ancient mosaic of the Slavic substratum throughout Europe was best preserved in those areas where national states failed to impose a standardized language dictated from capital cities. Regional Slavic dialects survived best in Slovenia and adjacent (Slovene speaking) regions of Italy, Croatia, Austria and Hungary. Similar preservation of dialects survived among the Polabian Slavs, among the Lusatian Wend-Sorbs and in Moravia.
- Remarkably, Slavic elements persisted in (Anglo-Saxon) Old English of a thousand years ago. For example, in the Lords Prayer “Fader Ure” (The Lord’s Prayer) Old English used the Slavic word for bread – “hlaf” as in Chleb, Hleb, Chlieb, Chlib etc (Jandáček 2007). Similarly, if one reads Psalm 23 in Old English (Diamond 1993/2006; Old English Anglo-Saxon Psalm # 23) it sounds much like a Slavic language. In this respect Old English is more similar to Slavic than it is Modern English. Observe also the case of surnames (Rant 2007). Similar observations that an older version of a language is more similar to Slavic than a younger one, have been made also in the case of some other old languages, e.g. Sanskrit (Vedic vs. Classical Sanskrit, vs. modern I-E languages in India) (Skulj & Sharda 2002), Etruscan (Bor in: Šavli et al. 1996:344), and Greek (Homer’s vs. Classical) (Belchevsky 2005a,b).
- In Slavic languages as well as in Basque, counting is based on a single fist plus one or two (or more) fingers. In Basque as in Slavic languages the element “S” or “Z” means “with” or “with more”. Thus in the case of numeral 6, there is the implication that a digit is added to the fist. On the other hand, in Slavic it may mean also ‘s ještě’ “with yet more”. Numeral 7 is conspicuously derived in Basque and Slavic from the concept of ‘se dvěma’ “with two” or “with two more”. It is also reasonable to speculate that the numeral 8 in Basque is derived from the concept “with three”. It is possible that Slavic word for “eight” ‘(v)osem’ (8) may be derived from ‘vazem’ “we tie” as in the pre-Roman (Etruscan) concept of a bundle of sticks and an axe – tied with a ribbon. The ribbon resembles the Arabic numeral 8. Phonemic structure of the numerals had been largely maintained in all Indo-European languages without the speakers’ understanding of the etymology. It has evidently escaped the notice of the 19th Century (and later) linguists that the conservatism in counting also includes (in select Indo-European languages) a uniformity of endings, which in Slavic languages act as a rhyme. The rhyme integrates the endings. The Slavic rhyming of endings seems deliberate, heuristic and poetic (Jandáček 2004).
- We can lump certain language branches into “super-branches” like Iranian languages can be lumped with languages of India into Indo-Iranic, and “Celtic” and Italic languages can form a super-branch “Keltitalic”. But, ultimately all the branches and super-branches issue from the Slavic trunk. The Slavic languages did not grow out of an “Indo-Germanic” trunk.
- Proto-Slavic which by the comparison of Slovene (and Russian) to Vedic Sanskrit (Skulj & Sharda 2002, Skulj et al. 2004, 2006, 2008) seems to have been very similar to Proto-Indo-Aryan is in fact synonymous with Proto-Indo-European and ought to be replaced in all literature. The Indo-European languages did not form

only by the spontaneous internal development within the proto-Slavic, but mainly by interaction with languages of other language groups along the frontiers of the Indo-European area.

- Slavic languages (because they were one of the substrata in Europe) continue to be more mutually intelligible than are the more recent Germanic, Romance, “Celtic” and other languages on the Continent.
- The Veneti of northern Italy and Wendi, Venedi and other Slavic people of western and central Europe (and especially along the Amber Trail) who share similar spelling were the prototype western Slavs and part of the prototype Indo-Europeans. The ancestors of present-day Slavic people did not move westward from the Pripyat River marshes merely 1500 years ago but were autochthonic population of Europe since the Stone Age (Alinei 1996, 2000). [Cf. also respective Y-Chromosome haplogroup data collected by Skulj (2007)]. If there were any Slavic migration of any significance they would be in modern times towards east to Asia. The Slavictoponymy observed in many parts of Europe (Šavli et al. 1996:13-47), could be inherited from prehistoric Venetic-Slav populations or their predecessors.

The Core/Peripheral model (Jandáček 2000) together with other published explanations (Perdih 2003) seems to be a good tool to explain this.

DNA Genealogy Challenge

In determining the basis of linguistic similarity between the Slovene resp. Russian language and the Sanskrit, especially the Vedic Sanskrit, Skulj (2003, 2005) as well as Skulj & Sharda (2002), Skulj et al. (2004, 2006, 2008) considered also the evidence from mtDNA and Y-Chromosome frequencies among the present-day Slovenes and Indo-Aryans.

Presented here are “genetic” data collected from the scientific journals by (the late) J. Skulj (Skulj 2003, 2005; Skulj & Sharda 2002), Skulj et al. 2004, 2006, 2008), and from Internet by Manfreda Vakar & Vrečko (2010). A good overview of them presented also Budja (2007).

Genetic code inherited from mother only – Mitochondrial DNA – mtDNA

Skulj et al. (2002) presented that the average “age” of all mtDNA in Slovenia is estimated to be $\sim 24.4 \pm 2.7$ ky, whereas the European average is $\sim 24.6 \pm 2.8$ ky. In Slovenia there exists about 17% of the early-Palaeolithic haplogroups U4 and U5, whereas the European average is 12%. Estimated time of immigration into the Alpine region and percentage of inhabitants having those haplogroups is:

3 kya to present, i.e. from the Bronze Age till present 7%

9 kya, in Neolithic 15%

14 kya, in Palaeolithic 54%

24 kya, in Palaeolithic 15%

43 kya, in Palaeolithic 8%

Additional data regarding the frequency of particular mtDNA haplogroups are presented in Table 2 and 3.

Table 2.

Estimated "age" (ky = thousand years) and frequency (%) of mtDNA haplogroups (Skulj 2005)

Haplogroup	Age (ky)	Slovenia	Poland	Russia	Europe	India
H	19 – 21.4	47	45	42	46	3
I	27.2 – 40.5	2	2	2	2	2
J	22 – 27	10	8	8	9	0
K	13 – 18	4	3	3	6	0
T*	33 – 40	5	9	9	9	1
T1	6 – 13	1	2	2	2	
U all		(20)	(15)	(16)	(16)	(23)
U4	16.1 – 24.7	6	5	3	3	
U5	45.1 – 52.8	11	9	10	9	
W	17.1 – 28.4	5	4	2	2	0
X	17 – 30	1	2	3	1	0

Table 3.

Frequency (%) of mtDNA haplogroups in Slovenia

Haplogroup	Frequency (%) Skulj (2005)	Frequency (%) Manfreda Vakar, Vrečko (2010)
H	47	45
U	20	16
J	10	9
T	6	9
K	4	6
V	–	5
HV	–	2.7
W	5	2.7
X	1	2.1
I	2	2.1
A	–	0.3

From presented data Skulj et al. (2002) concluded that from the Bronze Age on till present, i.e. during the last 3000 years, there had arrived into the Alpine regions only 7% of new female population. mtDNA data thusly refute the assumption of major migrations of peoples into the Alpine region during last 3000 years.

Skulj (2005) compared the mtDNA obtained in the skeletons of Etruscans with that observed among present-day Slovenes and Tuscans. He concluded that the mtDNA haplogroups observed in skeletons of Etruscans are more frequent among present-day Slovenes than among present-day Tuscans. As well as that most of mtDNA haplogroups observed in the skeletons of ancient Veneti is observed also among present-day Slovenes, but not among present-day Bulgarians, Czechs, Poles and Russians.

Genetic code inherited from the father only – Y-Chromosome DNA – Y-DNA

Skulj (2007) and Skulj et al. (2008) presented also a collection of frequency data of paternally inherited genetic markers. Among Slovenes, these data are (in %): R1a 37, R1b 22, I 27, J 6, N 0, E 7, K 0. Among Russians: R1a 47, R1b 7, I 17, J 4, N 18, E 7, K 1. Among Aryans in India: R1a 30 (24-51), R1b 0, I 0, N 0, other ones not given. For Slovenia, Manfreda Vakar and Vrečko (2010) presented following data: R1a1a 38, R1b 16, I2a2 21, I2b 1.6, I1 10, E1b1b1a 5.0, G 3.1, J 2.8, T 0.94, L 0.63, H 0.31. For Russians, Klyosov (2011a) presented the following average data: R1a1 47, R1b 5, I 22, J2 3, N1c 14, E 3, G 2, K 2, F 1, and C 0.4%.

In spite of the fact that some of their collected data are outdated now, Skulj (2007) and Skulj et al. (2008) arrived to some interesting conclusions. They exposed the observation by Barbujani (1997) that partial correlations with language are stronger for Y-Chromosome, which is paternally inherited, than for mtDNA, which is maternally inherited. They accepted the conclusion by Kivisild et al. (2002) that the Y-Chromosome haplogroup R1a1 is the most common among the Slavic populations in Europe and Indo-Aryans in India. In Europe, ~61 million Slavic speaking males have this genetic marker, but on the Indian sub-continent, the number is almost four times higher, at ~240 million males.

Based on the linguistic, genetic, zooarchaeological and population growth evidence, Skulj et al. (2008) concluded that the ancestor common to many Indo-Aryans and Slavs, probably lived during the hunting-gathering era before about 10 kya, and that there is linguistic evidence that the close contact between the ancestors of Indo-Aryans and Slavs continued during the sheep and cattle domestication more than 8 kya, up to and including, the nomadic pastoral age. Based on this linguistic evidence they concluded that the major population expansion from the Indian sub-continent into Europe appears to have come before the age of cereal farming of about 8 kya.

Skulj et al. (2008) confronted also the DNA genealogical and the population growth evidence as to when the common ancestor of the R1a1 part of Slavs and Indo-Aryans would had to live. They concluded that based on the reproductive rates of historical individuals the predecessor of the patrilineal Y-Chromosome haplogroup R1a1 appears to be more than 100 ky old, which is considerably older than the ages calculated on the basis of mutation rates as reported in the literature.

Skulj (2007) and Skulj et al. (2008) made the point that the Y-Chromosome haplogroup R1b1 is the most common in western Europe. Its eastern border nearly coincides with the western border of the Y-Chromosome haplogroup R1a1. It is a significant point that on the overlap of haplogroups R1a1 and R1b1 there are (were) living the Slovenes and other western Slavs.

The Y-Chromosome haplogroup I is common throughout Europe. It has not been detected in India. For more detailed examination of Y-Chromosome haplogroup I see Klyosov (2010a).

Very important seems to be the observation by Skulj (2007) that the Y-Chromosome haplogroup N3, now N1c1, in Europe a Finno-Ugric Y-Chromosomal marker, is widely distributed in Russia and Ukraine – between Black Sea and the Baltic Sea and elsewhere north of the Carpathian Mountains. It has not been found either south of the Carpathian Mountains, in central Europe nor in the Balkans or India. From this fact he concluded that the predecessors of the present-day Slavic people who are living in central Europe or in the Balkans did not immigrate about 1500 years ago from beyond the Carpathian Mountains but that they are aboriginal in their countries.

On the other hand, during last years Klyosov and coworkers made substantial improvements in the field of DNA genealogy, which surpass in reliability several results based on population genetics. The methodology and some

results of DNA genealogy are reviewed by Rozhanskii and Klyosov (2011). We refer here to some of their results which are considered most important for our purpose. For a number of other DNA Genealogy papers see e.g. Proc. (2008-).

In (2011d), Klyosov presented his study of the slowest 22 marker Y-Chromosomal panel, which mutates on average once in 4250 years, and the slowest marker in it mutates on average once in 12.5 million years (Klyosov 2011b,d,e,f). The results by Klyosov (2011e,f) and Klyosov & Rozhanskii (2011) are presented in Table 4 sorted by their “age”.

Table 4.

Y-Chromosome haplogroups and their “age” Klyosov (2011e,f), Klyosov & Rozhanskii (2011)

“Age” (kya)	Y-Haplogroup	Comment	
266	A1b	A separate African branch	
136	(Alpha)		
85	A	Descended from Alpha	
64	(Beta)	Descended from Alpha. Ancestor of all below	
		“Age” (kya)	Y-Haplogroup
54	F	25	O
46	B, I	24	G
45	E, NO, P	23	Q
42	D	20	R1a, R1b, T
36	C	16	H, J1, L
35	R	15	J2
34	I2	11	R2
30	R1	9	N1

Regarding the haplogroup R1a1, Rozhanskii and Klyosov (2009) presented to our knowledge the most thorough study of the Y-Chromosome haplogroup R1a1 and of the “ages” of common ancestors of different branches as well as of the “age” of the trunk of the R1a tree, as far as they are accessible from present-day data. Their results cover the span from about two centuries up to 20 millennia. For example, in the Balkans there is the time span to the common ancestor about 10 to 12 millennia, in Pakistan up to 13 millennia, in India about 4 resp. 7 resp. 11 to 12 millennia, on Russian Plain about 5 millennia, etc. In Europe, there they determined the “ages” of different branches from about 1.5 kya to about 4.1 kya, most of them being between 2.1 and 2.8 kya by “age” and having a common ancestor about 4.8 kya, what is approx. the same time as for those in the Russian Plain. They started to appear in the Balkans and Carpathian Mountains 7 to 8 kya, about 6 kya they reached the Atlantic coasts and Scandinavia and later they experienced in Europe several serious bottlenecks. Subsequently, Klyosov presented several additional results and explanations regarding the Y-Chromosome haplogroup R1a1, see e.g. Proc. (2008-).

Regarding the haplogroup I, Klyosov (2011f) calculated from accessible present-day data that its ancestor derived in Europe from the Beta-haplogroup about 46 ky ago. From it derived the haplogroup I2 about 34 ky ago, haplogroup I1 about 17 ky ago, I2a about 19 ky ago, the ancestor of I2b1 and I2b2 about 14.5 ky ago. Later the Y-Chromosome haplogroup I people experienced serious bottleneck effects. According to Rozhanskii and Klyosov (2009), Y-Chromosome haplogroup I2 people settled Scandinavia after the LGM, being the bearers of

the material culture of about 5.5 to 4.5 ky ago; then the R1a1 agriculturists admixed in the period of 5 to 4 ky ago.

Regarding the haplogroup R1b, according to Klyosov (2011a) the common ancestor of haplogroup R1b1 calculated from mutations in present-time haplotypes in Central Asia (particularly in the Altai region) stretches to around 16 thousand years before present; among ethnic Russians it points to about 6.8 thousand years ago; on the Caucasus to 6.0 thousand years ago; in the Middle East to 5.5 to 5.2 thousand years ago; in the Pyrenees 4.8 thousand years ago; in France 4.2 thousand years ago; in Ireland 3.8-3.4 thousand years ago. Sub-clades of the R1b1 haplogroup follow the same route going from upstream to downstream ones. This trek reflects a proper direction and route of migrations of bearers of haplogroup R1b1 between 16 thousand and 3-4 thousand years before present. It also allows to connect this R1b1 tribe with certain archaeological cultures, among them the Beaker Culture, which nicely fits to the migration route from Pyrenees to France to Northern Europe to British Isles. In Europe, the R1b1 people passed through a population bottleneck between 4.8 thousand and 3.6 thousand years ago.

According to Klyosov (2011c) the R1b people had migrated across North Kazakhstan about 6.5-5.5 kya, through the territory of the present-day Bashkirs about 13-11-8 kya, then Middle Volga Basin 8-7 kya etc. That is the cultures which were (tentatively) named "Pre-Kurgan cultures"; they reached the Caucasus region around 6.5-6.0 kya, and possibly earlier. It is generally assumed that they spoke non-Indo-European language(s), which can be vaguely traced now under various names. From the Caucasus, they went South over the mountains, to Anatolia (a common ancestor of 6.0 kya), and then split into three major routes. One went further South, to Tigris and Euphrates Rivers, and became the Sumerians. Another went westward, across Asia Minor, and came to Europe, to the Balkans and Mediterranean Sea region around 4.5 kya. The third group went across Northern Africa and Egypt (and, incidentally, might have left some R1b1b2 Pharaohs there) to the Atlantic and went across Gibraltar to the Iberian Peninsula around 4.8 kya. They became the Bell Beakers, and moved up North into the continental Europe. The Bell Beaker culture in Europe had lasted between about 4.4 and 3.8 kya. The R1b1 people caused serious bottlenecks to the R1a1, G and I people. In very detail is presented this topic in the paper by Klyosov (2011h).

Whereas the "age" of Y chromosome haplogroup N is according to Klyosov (2011g) about 10 kya, and the age of the Y chromosome haplogroup N1b found mostly east of Ural Mountains is about 8 kya, the common ancestor of present N1c1 people living in Europe originated between Ural Mountains and Baltic coast about 4.2 kya, and split into several lines during the middle of the first millennium AD.

Other events

Armitage et al. (2011) presented several arguments that there had been a general pattern that during the warm and wet periods the people were expanding into new fertile regions. During dry periods they followed the animals (and plants) moving away from the desertifying areas.

Long range trade and travel existed already before the LGM. For example, Bailey (2000) reports the trade and/or travel between what is now central Bulgaria and southern Greece; and after LGM between what is now central Bulgaria and Bosnia. Kořak (1994) points to the existence of ceramic objects used as slugs in trade in the regions between Turkey and Afghanistan around 11 to 6 kya.

Watkins (2006) presented indications of sedentism around 20 kya (Sea of Galilee) among the people who seem to have been fishermen. He presented also evidence that in the Fertile Crescent, ~10.5 kya domestication of several cereal species and pulses (legumes), as well as sheep, goats and cattle took place.

Zohary & Hopf (2004) presented the time of appearance of agriculture in Near East about 10.6 kya, Indus Basin 8.3 kya, Trans-Caspian region 8.8-7.5 kya, Balkan (Starčevo) 7.8 kya, Egypt 7.8 kya, West Mediterranean 7.6 kya, Ukraine 7.2 kya, Central Europe 7 kya, Aegean Belt 7 kya, Alpine Belt 6.5 kya, and Scandinavia 5.6 kya.

Mann (2011) provided yet another overview of events in the Fertile Crescent. From 15 to 12 kya the Fertile Crescent was a home of hunter-gatherers. From 12 to 10.5 kya is the era of settlements with community food storage, monumental architecture and ritual art. From 10.5 to 8.25 kya it expanded to additional animal and plant domestication. After about 11 kya animal husbandry extended to sheep and goats, and later it extended to swine and cattle.

Large pottery vessels first appeared in the Far East around 14 kya and from there expanded westward, so that by 9 kya such are found on the Baltic Slope (Kuzmin & Vetrov 2007). It is not known if Finno-Ugrians or others brought this technology westward.

Bailey (2000) proposed that the development of metallurgy followed the previous development of efficient agriculture and improvements in pottery firing. According to Durman (2003), metallic lead was known about 8.5 kya; copper was known around 8.2 kya and from the oxide ores it began to be extracted around 7.5 kya; gold was known around 7 kya; arsenic resp. antimonial bronze (Cu + few% As or Sb) began to be extracted from the sulfidic ores around 5.5 kya; in Europe it is designated as copper, in Near East as bronze (striking is the similarity of bronze weapons of that time in the Central Danube area and Mesopotamia); silver, tin and ordinary bronze (Cu + Sn) began to be produced around 4.4 kya.

Clare & Weninger (2010) presented the ages attributed to (wider) Rapid Climate Change (RCC) intervals to be: 9–8; 6–5; 4.2–3.8; 3.5–2.5; 1.2–1; and 0.6–0.15 ka calBP. The intervals of the strongest impact of RCC-conditions were at 10.2–10 ka calBP, 8.6–8.0 ka calBP, 6.0–5.2 ka calBP, and (more accurately definable) 3.05–2.90 ka calBP. The most dramatic natural hazards in the eastern Mediterranean have occurred during the later subinterval 8.2–8.0 ka calBP of the 8.6–8.0 ka calBP RCC. At this time, the prevailing RCC-mechanism was amplified by the outflow of the Hudson Bay, leading to a massive disturbance of the North Atlantic Ocean circulation. The climatically anomalous RCC conditions and the Hudson Bay event both came to an end around – 8.0 ka calBP. The RCC window was in the Neolithic at 8.6–8.0 ka calBP, in Chalcolithic at 5.0–3.2 ka calBP, and in the Bronze Age at 3.05–2.5 ka calBP.

Discussion

If we put together the data presented above we come to following insights. Regarding the origin of Slovenes, there is no known contemporaneous report about their massive settling in the 6 th /7 th Century AD, in spite of the fact that even trivial military movements are documented. Thus it is counter-intuitive that the Romans, Byzantians, etc, would record trivial intrusions and yet fail to annotate major migrations. There is documentation of “non-Roman” rural population but the ethnicity of the countryside is not specified. This population remained in the region after the Romans withdrew from the fortifications and the urban areas. Soon after the Roman military evacuation the people of the area are identified as Sclavs and/or Veneti. There is no

evidence as yet of any Y-Chromosome haplogroup N among the Slovenes which would indicate a massive migration from the Pripyat River marshes in the 6th / 7th Century AD.

Slovenia belonged to the Byzantine Empire until about 568 AD. At that time the Langobards (Byzantine federates) left it and migrated to Northern Italy. Curta's (2001) Economic Analysis of the situation in the Byzantine Empire during that time indicates the probability of some influx of expropriated peasants from the Balkans after about 540 AD. Whereas no massive settling of ancestors of Slovenes is reported, there are records of Slovenian territories being settled by the ancestors of their present day neighbors, Helmoltz (1899-1907).

These bits of data then beg the question: from where and when did the most ancient Slovenes acquire the mtDNA and Y-DNA. Genetically the Slovenes are a mixed lot, where the mtDNA haplogroups H > U > J > T prevail, whereas among the Y-Chromosome haplogroups the R1a > I > R1b ones prevail. Regarding the "age" of the mtDNA haplogroups U5 > T* > J > H it can be said that the "younger" ones prevail over the "older" ones. Addressing the "age" of the Y-Chromosome haplogroups, I > R1a > R1b (Klyosov 2011b,e,f), we should seek a satisfactory answer.

In their study of the "age" of European branches of the Y-Chromosome haplogroup R1a1, Rozhanskii and Klyosov (2009) discovered that Slavs, being predominantly the Y-Chromosome haplogroup R1a1 people, were living on the Balkans 10 to 12 millennia ago. This is in line with the report by Bailey (2000) that before the LGM there was the same material culture in all the Balkans, during LGM the contacts between the north and the south of Balkans ceased, whereas after the LGM there was in the southern part of Balkans a different material culture than in the northern part. According to Rozhanskii and Klyosov (2009), the Y-Chromosome haplogroup R1a1 people were living in the Central Europe, including Pannonia, during the Iron Age and earlier. There they suffered several bottlenecks, e.g. about 4.5 ky ago, about 2.5 ky ago, about 1.2-1.5 ky ago. While during the era of "Migration of Peoples" all other known peoples categorically migrated from east towards west, the Slavs migrated during that time from west to east. Ostensibly, when the bottleneck events took place, the Slavs migrated mainly from the Pannonia onto the Russian Plain and during the last bottleneck event about 1.2-1.5 ky ago into what is now western Ukraine and southern Poland. This is in line with the report by Nestor that Polyane arrived onto the Russian Plain from west. This explains also the conclusion by Curta (2001) regarding the "Slavic material culture" mentioned above.

The ancestors of Slovenes were thus living on their present territory earlier than the bottleneck times. It means that they were living there earlier than 4.5 kya. Based on data presented above we conclude that the Y-Chromosome haplogroup R1a1 part of ancestors of Slovenes arrived during neolithisation about 7.5 kya, whereas the Y-Chromosome haplogroup I (I1, I2) part of ancestors of Slovenes was living there tens of millennia earlier. Thusly, the ancestors of Slovenes were living on their present territories since about 7.5 kya. Living there as a mixed population, the Y-Chromosome haplogroup I ancestors of Slovenes suffered the same bottleneck effects as the Y-Chromosome haplogroup R1a1 ancestors of Slovenes.

Having relied above on data presented by Klyosov (2011b,e,f) as well as Rozhanskii and Klyosov (2009), there must be put the question about the reliability of their results.

To the best of our knowledge, Klyosov's methodology for estimation of the "age" of Y chromosome haplogroups, is basically correct. His methodology is a combination of the physical chemistry (chemical (biological) kinetics) and chemometry approach. The quality of his results is however limited by the quantity and quality of his input data, which he obtains from other authors. In some cases it is also constrained by the power of his computer and software. We can reasonably expect that the input data situation will be improving, but it is

a question whether this will impact his results substantially. Well, one impact is already evident. The existence of Y-Chromosome haplogroup A1b of “age” of about 266 kya (Klyosov and Rozhanskii 2011) evidently negates the previous proposition that mankind’s “Chromosomal Adam” would be about 136 kya old. There must have existed also other, “older” haplogroups, which at the moment can not be identified from the present-day available data. In a subsequent paper Klyosov (2011i) proposed the existence of the proto-Alpha haplogroup more than 160 ky “old”, which would be ancestral to the about 160 ky “old” Alpha haplogroup and the 140-85 ky “old” A haplogroup.

There is, however, also another possible point of view. Namely, that the “age” results obtained starting with the present-day situation and extrapolated into past, even since they are obtained “to the best of our knowledge”, may somewhat underestimate the true “ages”. Experience had taught us to extend all prehistoric events much further back in time than we had previously assumed. Indicative into this direction is e.g. the calculated “age” of the Y-Chromosome haplogroup Beta of about 64 ± 6 kya (Klyosov 2011f), whereas the Toba eruption took place earlier than 70 kya and it is reasonable to expect that at the time of Toba eruption there were already Beta people living among the Alpha ones, and that the Beta people were more fit (biologically or culturally) to survive the eruption’s effects than the Alpha people.

In this respect we suggest to amend the present bottleneck approach of explanation of events with the “Maypole Approach”. Namely, the bottleneck approach gives preferential survival ratios to diverse genetic groups after the bottleneck effect, whereas the maypole approach indicates that there was a trunk from which branches grew but they were eliminated during the bottleneck situation.

The maypole approach to explain past events enables additional insights. One of them is that in performing the DNA genealogy activity we are in fact looking at the maypole somewhere from the tips of the branches near its top (a birds eye view). Such a view from the top might lead to the too low estimation of both the “age” of the trunk as well as the error of its determination. Taking into account the maypole-approach (bird’s eye view) it becomes evident that by extrapolating present situation into the distant past, the error of estimation would not be only the statistical error but its projection to the trunk from a tip of a branch on it or from the average distance of the branch tips from the trunk. Statistical error itself is then its perpendicular projection to the trunk. At the moment we are not able to define said projection in its entirety, but we strongly advise that this approach would be taken seriously.

Another crucial concept is that the mutations appear at random – following the first order kinetics. A parallel phenomenon is the pressure for the survival. Survival of the fittest is selective – not random. When pressure for survival is not strong the first order kinetics prevails. Under harsh (less forgiving) conditions the elimination of less fit (perchance ancestral) forms is more intense than would be predicted by the first order kinetics. Tens of millennia years ago the global cooling in areas which were not subtropical acted selectively upon human population.

The appearance of mutations and the survival of the fittest seem to be the focal events. Under relatively stable (steady-state) conditions, e.g. when the climate was stable and other environmental conditions were in an equilibrium, the mutations leading to diversity seem to have prevailed. Under the bottleneck conditions, e.g. on changes of the climate and other influences from the outside, which gave rise to bottleneck effects, the survival of the fittest seems to have prevailed, in some instances drastically. This helps to explain the survival of Beta-people over the Alpha-ones after Toba eruption, as well as the development of Y-Chromosome haplogroup I out of Beta-one in Europe, followed by its subsequent success.

Based on data of present-day people and using the 22 slowest markers haplotype panel (with respect to their mutation rates) Klyosov (2011b,e) estimated the “age” of the oldest accessible Y-Chromosome haplogroup, the Alpha-haplogroup to about 136 kya. This coincides with the estimated “Out of Africa” event [The Editor’s comment: the OOA event is typically considered as dated around 60-70 kya; see though immediately below]. Armitage et al. (2011) explained their discovery of stone tools in eastern Arabia as a proof for the “Out of Africa” origin of modern humans. They presented several climatic arguments in favor of their explanations. Regarding their data it is obviously true that around 125 kya there existed modern humans in eastern Arabia. However, the climatic arguments only indicate a real possibility (or likelihood of the time-frame) of their arriving there; they are not the proof of such. The true direction of migration must remain open for the time being. The discovery by Hershkovitz et al. (2011) on the other hand, i.e. of the teeth found in a cave in Israel, about 400 ky old and resembling those of modern humans, indicates the possibility of also earlier migrations of modern humans. The “age” of the Y chromosome haplogroup A1b of about 226 kya (Klyosov and Rozhanskii 2011) points into this direction as well. The possibility of migrations of modern humans or their ancestors in both directions, i.e. “out of Africa” and “into Africa” using both the Nile valley as well as the Bab El Mandab Strait corridors should then not be à priori dismissed. In this case, however, there arises a nagging question: From where and when? Novel discoveries (Lepre et al. 2011, Henn et al. 2011, Roebroeks & Villa 2011, Ferring et al. 2011) are making this controversy hotter and hotter presenting evidence of possibilities of migrations of several hominin lines in both directions up to two million years ago or even earlier. In addition, there is still the open question of whether modern humans derive from one specific hominin line or whether they are the product of occasional interbreeding of several hominin lines. The bottleneck effects such as the consequences of the Toba eruption, however, had erased most of the previous “genetic” diversity.

Following the data by Lepre et al. (2011) we should cultivate the possibility that *Homo erectus* and other hominins expanded out of Africa about one or two million years ago or even earlier and that their descendants gave rise in Western Eurasia to Neanderthals and elsewhere to *Homo sapiens*. Recently our understanding of Eurasian populations had been made even more problematic by the genetic diversity found in the Denisova cave (Krause et al 2010, Reich et al 2010, Abi-Rached et al 2011).

There is also an irreducible chance that even *Australopithecus* may have ventured into Eurasia and survived as far as Flores Island, Indonesia until relatively recently. Genetic traces of such “Latter Day *Australopithecus*” may yet be discovered in some extant human populations. Expansions “out of Africa”, “out of India” as well as “into Africa”, “into India”, and so on, could take place several times during the last one or two million years. Due to several serious bottleneck effects taking place during this time span, like that following the Toba eruption about 70 kya, we are not able to follow these events in mtDNA and Y-Chromosome haplogroups existing in present-day populations.

There is also an additional point of view regarding the expression “Chromosomal Adam” of mankind. There remains the irreducible possibility that the Scriptural story of Abrahamic Religions (Judaism-Christianity-Islam) is an allegorical rendering of Adam as the Gardener expelled to regions where agriculture had already been established. Thus the gatherer Biblical Adam was forced by climatic change to move into an area where agriculture was already practiced, e.g. towards Mesopotamia. Armitage et al. (2011) cites the possibility of existence (till about 14kya) of a fertile and warm land which may now be at the bottom of the Persian Gulf.

Chronologically (Klyosov 2011e), the next Y-Chromosome haplogroup to be addressed is the African haplogroup A, which is about 85 ky “old”. It derived from the Alpha haplogroup, and its bearers migrated into Africa. It’s age

fits resp. predates the ~80 kya climatic situation presented by Armitage et al (2011), which would allow the migration across the Bab al-Mandab Strait.

According to Klyosov (2011e), all non-African haplogroups descended not from haplogroup A but from the Alpha-haplogroup. First among them would be the Beta-haplogroup (not identified yet in the phylogeny of haplogroups but possibly identical to the haplogroup F, Klyosov (2011f), of about 64 ± 6 kya, probably outside of Africa. The estimated “age” of Beta-haplogroup nearly coincides with the time of Toba eruption of about 70 kya, and the subsequent severe cooling event. Here we may put forward a working hypothesis that at the time of Toba eruption, there existed outside Africa among the Alpha-haplogroup males also some Beta-haplogroup ones, who were better fit to survive the cooling event. We can reasonably estimate that the places of survival would be refugia at the seaside or big rivers or lakes, protected from the influx of polar air by high mountains. Besides Africa, shores of Southern Asia, India, Fertile Crescent, and the banks of the Mediterranean Sea qualify as refugia. When climate became less inclement the populations of the refugia spread into their surroundings. Brodar (1999) proposed that the Divje babe cave flute (of about 55 to 60 kya) mentioned above, belonged to modern people and not to Neanderthals. According to Klyosov (2011e), the next Y-Chromosome haplogroups by “age” are the haplogroups B and I from about 46 kya, descending from the Beta-haplogroup. Haplogroup I is generally considered to be the European one. If so, then one would reasonably expect that it derived from the Beta-haplogroup survivors at the European and/or African and/or Asian coasts of the Mediterranean Sea. And that it's bearers expanded north and west till the onset of LGM (Last Glacial Maximum). The quite uniform Gravettian-Pavlovian Kostenkian culture of about 20 kya is an indication of such (Budja 2007). Whether the Y-Chromosome haplogroups I, I1, I2 people lived there mixed or separately in different regions, we have no basis to make such an assumption at present time. The Scandinavia situation, Klyosov (2011h), where the haplogroup I1 was (then and now) particularly common, indicates the possibility that the Y-Chromosome haplogroup I1 people were better adapted to low temperatures than the Y-Chromosome haplogroup I2 people.

The sequence of “ages” of Y-Chromosome haplogroups outside Africa include, Klyosov (2011e): Alpha > Beta > F > G > I ~ B > C > I2 > R1 (> R1a1 > R1b1a2). The former two are already extinct. This indicates the possibility that the bearers of “younger” haplogroups were better adapted to colder climate and its consequences on the lifestyle and outlasted the earlier ones. Of course it can not be expected that the mutations on Y-Chromosome alone were the cause of this. To the contrary, these mutations are probably only an “iceberg tip” of all useful mutations collected in their bearers elsewhere in their genomes as well as of their cultural developments.

In Europe, the appearance and development of later emerging Y-Chromosome haplogroups mentioned above went parallel with the extinction of Neanderthal people and approaching the Last Glacial Maximum (LGM).

Last Glacial Maximum (LGM) of around 20 to 16 kya was a typical Atlantic event, expressed regarding the temperatures much less if at all at the Pacific and Indian Ocean. However, everywhere on the Earth the sea level was lowered by about 100 to 150 m exposing much new land. We can reasonably assume that till about 20 kya the survived Y-Chromosome haplogroup I (I1, I2) people retracted from the Northern and Central Europe into the Last Glacial refugia positioned at the Thyrrenian Sea, Adriatic Sea, and on the Balkans. The eastern Europe and western Siberia were not hit substantially by glaciation during LGM.

After the LGM there can be noticed several steps of development that had lead to the emergence of old civilizations.

One of the steps is proposed in the first indications of sedentism reported by Watkins (2006) among the people around the Sea of Galilee around 20 kya who were fishermen. Sedentary fishermen seem to have been the most amenable to develop later sedentary agriculture.

Hunters/gatherers and especially fishermen were motivated well before that time to develop techniques for food preservation and storage. Without food preservation, big hunts would be a waste of resources. In the Fertile Crescent and its surroundings, food drying seems to have been the most appropriate technique of food preservation. Preserved food enabled on the one hand more regular and dependable provisions of food, which reflected also in increasing population density. On the other hand, preserved food enabled at least small groups of people to travel large distances, by land, by rivers, and/or by sea well before the development of agriculture. It also provided a labor pool for ad hoc projects such as hunting, building or gathering of substantial numbers of people necessary to perform other larger projects.

Activities in food preservation had sooner or later lead to the discovery that meat products are best preserved if the captive animals are kept alive and well tended and nourished. This had been the direct way to the development of stockbreeding – first stationary of few animals, later nomadic with herds. In any case, it developed into a symbiotic relationship, not just humans usurping the resources of animals but also the animals becoming dependent on the protection, nutrition and reproductive selection by human design.

In the same direction, gathering of grains in the shatter resistant rachis (Fuller & Allaby 2009) was more effective than from the shattering ones. This way, the proportion of collected grains from shatter resistant rachis was much higher than in nature. Preservation of grains by drying enabled people to keep the seeds till the start of the next season and beyond that. This promoted the development of crop husbandry (agriculture) where the selection of the shatter resistant types of grain was prevalent. An important step in this development was the introduction of a symbiotic activity where the people cared for shatter resistant grain propagation. One additional consequence of such an activity was the removing of weeds which are the unwanted plants and unwanted types of shattering grains. A detailed overview of these developments presented Harris (1996) as well as Zohary & Hopf (2004).

Zohary & Hopf (2004) concluded that the agriculture expanded from the Near East where it started about 10.6 kya, and it reached the Trans-Caspian region 8.8- 7.5 kya, Indus Basin about 8.3 kya, Balkan (Starčevo) about 7.8 kya, Egypt about 7.8 kya, West Mediterranean about 7.6 kya, Ukraine about 7.2 kya, Central Europe about 7 kya, Aegean Belt about 7 kya, Alpine Belt about 6.5 kya, and Scandinavia about 5.6 kya. These data indicate a faster expansion towards the Central Asia than towards Europe.

At the same time yet another technology was emerging. Big pottery started to be produced around 14 kya in Far East and about 9 kya its use expanded to the Baltics (Kuzmin & Vetrov 2007). Who were the bearers of this technology into Europe is not known as yet. Possibly, some Finno-Ugric people could be involved at least in the last steps.

Then there arise the questions, as to who were the inventors and pioneers of agriculture. At the present time, we have no direct data to answer this question.

The bearers of agriculture into Europe were the R1a people, who can be traced back in the Balkans to 10-12 millennia ago (Rozhanskii and Klyosov 2009). This “genetic” information is in line with the observation by archaeologists, as summarized by Bailey (2000), that till the onset of LGM there was the same culture from lower Danube to the south of Greece, whereas after LGM there was a different culture in the south. The main

wave of expansion of agriculture into Europe was between about 7.5 kya starting in the central Danube area and spreading west, reaching Atlantic coast and Scandinavia about 6 kya (Zohary & Hopf 2004). It seems likely that the hunters and gatherers contributed the Y-Chromosome haplogroup I (I2, I1), and the agriculturalists contributed the Y-Chromosome haplogroup R1a to the contemporary genetic pool of Slovenia.

We posit that the inventors of agriculture in the Fertile Crescent were the R1a people. There is the question whether they were there as an autochthonous population or had they arrived there after the LGM. For the time being, let us consider both possibilities. One scenario would be that the R1a-people are a branch derived in Near East from the Beta-people in the sequence Beta → R → R1 → R1a → ... and that part of the R-, R1-, and R1a-people expanded from there towards Central Asia. The other option would be that the R1a-people were derived from the R1-people in the Central Asia, and that during LGM they were separated by the ice-covered Altai Mountains into two populations. The western part of them retreated in part towards southwest into Levant. This rises another question, namely which people were living in Levant till that time. One possibility would be that the original people in Levant would have been the Y Chromosome haplogroup I people.

In confirming any of these scenarios, there arises the expectation that the answer could be obtained from the Y chromosome haplogroup data of present inhabitants in the Near East. However, taking into account the severe genocidal actions after arrival of R1b-people there between 6 – 5 kya as reported by Klyosov (2011h), as well as the later such actions reported in the Bible, there is little if any chance to get such data. Possibly, from the human remains of 6 to 12 millennia ago some data will be derived in future. Till then we can only speculate by extrapolation back from the later times.

Another question is in what geographic location did the R1b people derive their “genetic” variant from the R1-ones. It seems to us quite possible that they derived in the last part of the migration towards the Central Asia. Later, a mixture of R1-, R1a-, and R1b-people became isolated during the LGM east of the ice-covered Altai Mountains. And that the R1b people among them were the best fit to survive the harsh LGM situation. Klyosov (2011a,c,h) demonstrated that after the LGM they expanded from the Central Asia west towards Ural Mountains and beyond them.

Then the question arises as to what sort of languages were spoken by these people(s) mentioned above. To the best of our knowledge, there are no known inscriptions from the epochs of Mesolithic and early Neolithic. At the moment, besides some explanations by Chudinov (1998), we have available no direct data about this. Therefore we have no other choice than to rely on indirect data.

The Slovenes, cf. e.g. Šavli (2008), have an oral tradition about “wild people” who lived at higher elevations. Ostensibly, these “wild people” were hunters and gatherers and they spoke a language similar to that which was spoken by the agriculturalists in the valleys. By said oral tradition, they were namely able to understand each other in every detail. This would indicate during the neolithization process some sorts of Proto-Slavic on both sides.

From present knowledge about the spread and “age” of the Y chromosome haplogroups in Slovenia we can reasonably expect that the “wild people” mentioned in the Slovene oral tradition were the original Y chromosome haplogroup I people (possibly mixed with some Y chromosome haplogroup G people), whereas the incoming agriculturalists were mainly the Y chromosome haplogroup R1a people. If so, then the inventors of agriculture in the Fertile Crescent were the R1a people speaking some sort of Proto-Slavic. The veracity of this understanding is subject to future research.

Whether the Y-Chromosome haplogroup R1a people in Levant were originally speaking some sort of Proto-Slavic or whether they received it from the Y-Chromosome haplogroup I people living there before them, we must also forego to future research.

Having in mind all caveats we may extrapolate this into the past and assume provisionally that some Proto-Indo-European (Proto-IE) populations existed already about 35 kya or earlier. Another extrapolation would be that before and during the LGM the bearers of Y-Chromosome haplogroup I and its subgroups were a western Slavoform Proto-IE branch living mainly in Western and Central Europe but possibly also in Near East. The bearers of haplogroup R1a were a central or southern Slavoform Proto-IE branch living in Levant, in the eastern Balkans, and around the Black Lake and more to the north and east. Easternmost part of the bearers of haplogroup R1a as well as the bearers of the haplogroup R1b lived as the easternmost Slavoform Proto-IE branch. We should explore the possibility that during the LGM the ice-covered surrounding of the Altai mountains separated the R1b people and part of the easternmost part of the R1a people from those living west of the Altai mountains. If this were the case, then the easternmost R1a people as well as the R1b people were living for millennia isolated from the other R1a people and in contacts with Turko-Tatar and other East Asian peoples from whom they might have accepted in time many linguistic and other characteristics. This would explain the origin of R1b people speaking now Turko-Tatar, as mentioned by Klyosov (2011h).

If these extrapolations are close to the reality of that time, then we can ascribe to the Y-Chromosome haplogroup R1a people several crucial development steps in Levant, from sedentary fishing/hunting/gathering as well as migratory hunting/gathering towards the sedentary agriculture and nomadic stockbreeding.

Klyosov (2011h) presented several arguments indicating that after the LGM the R1b-people were speaking some sort of Turkic language. There remain, however, several open questions.

If the Y-Chromosome haplogroup G and I (I2, I1) people were Europeans speaking some sort of western Slavoform Proto-Indo-European, resp. R1a people were speaking some southern Slavoform Proto-Indo-European, then there is the question what about the R1b people, who are the main present-day Indo-European inhabitants of Western Europe. Now, most of the R1b people in western Europe speak Indo-European and not Turkic.

To our understanding, the crucial question in this respect is whether the Basques are to be considered as the rule or as an exception.

Hamel & Vennemann (2002) as well as Hamel & Foster (2002) support the general view that the non-Indo-European Basques among whom the Y-Chromosome haplogroup R1b prevails, were the original Europeans after LGM expanding from the refugium at the Tyrrhenian Sea. Myres et al (2010) explained that the R1b people were the bearers of agriculture from Anatolia into Europe. They however did not explain why the frequency of present R1b people is the highest on the extreme west of Europe (according to Hill et al. (2000) up to 98% among Irish Connaughts) and decreases towards Anatolia. It seems as if Myres et al (2010) would be tacitly supporting the early medieval intrusion of R1a Slavs into the Southern and Central Europe. Klyosov (2010b) refuted their view.

Contrary to Myres et al (2010), Klyosov (2011a) has shown that the common ancestor of haplogroup R1b1, calculated from mutations in haplotypes in Central Asia (particularly in the Altai region), stretches to around 16 kya; among ethnic Russians it points to around 6.8 kya; on the Caucasus to around 6 kya; in the Middle East to around 5.5 to 5.2 kya; in the Pyrenees to around 4.8 kya; in France to around 4.2 kya; in Ireland to around 3.8-

3.4 kya. Sub-clades of the R1b1 haplogroup follow the same route going from upstream to downstream ones. To Klyosov (2011a), this trek reflects a proper direction and route of migrations of bearers of haplogroup R1b1 between 16 kya and 3-4 kya. It also allows to connect these R1b1 peoples with certain archaeological cultures, among them the Beaker Culture, which nicely fits to the migration route from Pyrenees to France to Northern Europe to British Isles.

The time of 3-4 kya in Europe as well as 5.5 to 5.2 kya in the Middle East is for several millennia too late for the expansion of agriculture, which took place in the Middle East between 10.5 and 8.2 kya (Mann 2011) and in Europe between 8.5 to 5.6 kya (Zohary & Hopf 2004) and it also doesn't fit the direction of its expansion.

Fundamental changes in the eastern Balkan life and elsewhere in the Black Sea area about 6 kya presented by Bailey (2000), can be summarized as following: the disappearance of the Copper Age elites and industry there, abandoning the tells, shift of the metalurgy centers from the Eastern Balkans to all around the Black Sea up to the Volga river seem to coincide with the Caucasus event of that time caused by the R1b people. Especially hit was the territory around the eastern coast of Balkans.

Combination of data by Zohary & Hopf (2004) with those by Klyosov (2011a,h) indicates to us that the hunters-gatherers R1b people met the expanding pastoral / agricultural culture of the R1a people somewhere on the Russian Plain resp. south of Ural Mountains, where the R1b people started plundering the herds and killing the herdsmen, adapting themselves to a lifestyle of pillaging. After taming the horse about 6 kya (Skulj et al 2008) they became even more effective in conquering and eradicating pre-existing inhabitants – pastoralists resp. agriculturists. We posit that they used this way of subsistence on the Russian Plain, on their expansion around the Black Sea, into Middle and Near East, across the Northern Africa into Western Europe and Scandinavia, till there and then they experienced their genetic bottleneck.

On the other hand, Klyosov (2011h) proposed that around 6 kya the linguistic landscape in Europe was the ancient Aryan, the language of the R1a1 people, and perhaps to some extent the language (or languages) of the ancient European haplogroups I and G. Then, approximately 4.5-4 kya something happened in Europe, resulting in the haplogroup R1a1 virtually largely disappearing from Europe. As, incidentally, at the same time also disappeared haplogroup I1 and largely the haplogroup I2. There are two nearly simultaneous events which occurred in Europe after 4.8 kya. According to Klyosov (2011h), one event was the intrusion of the R1b people across the Pyrenees. Another event was a major climatic change during the 4.2 to 3.8 kya era reported by Clare & Weninger (2010). These events also coincide with the "period of crushed skulls" in Scandinavia and Germany. This period is dated to about 4.6 kya. The haplogroup detected in the crushed bones was R1a. [The Editor's comment: the author refers to Haak et al (2008) data on excavated bones in Germany dated 4600 years ago].

It will be necessary to explore whether between 4.8 to 3.3 kya there were some abandonments of settlements in the Pannonia. This would explain whether the R1a people whose ancestors on the Russian Plain are about 4.8 kya "old" arrived on the Russian Plain from the Pannonia.

In our opinion, the Slovene oral tradition about "psoglavci" (deadly dangerous dog-head human warriors), Jurčič (1865), indicates the intrusion of R1b people about 4 kya as indicated by Klyosov (2011h). According to this oral tradition, some original people (probably a mix of Y-Chromosome haplogroups G, I, and R1a1 people), succeeded to avoid extermination at the hands of the R1b people by escaping into the forests and some remote mountainous places. Contrary to the Slovene oral tradition about total mutual intelligibility between the "wild people" and the agriculturists, there is in the Slovene oral tradition about "psoglavci" no hint about such common understanding of speech. This detail would support the position by Klyosov (2011h) that the R1a

people were speaking an early form Indo-European (Aryan of that epoch), whereas the R1b people were speaking Turkic. Whether the 4.2-3.8 kya climatic event mentioned by Clare & Weninger (2010) impacted the aboriginal people before the attack by R1b groups or if this assault was caused by the climatic events, or if it took place after the attack, can not be ascertained at this point especially since the attack took place at different times and in various European regions. The Slovene oral tradition suggests that part of the original people (agriculturists at that time) survived both events. We propose that by incorporating “genetic” evidence available to us at the beginning of the 21 st Century we can identify the present day bearers of Y-Chromosome haplogroups G, I, and R1a1 in Europe as the descendants of the original Y-Chromosome haplogroups G, I, and R1a1 people who survived the R1b attacks.

We explore the possibility presented by Klyosov (2011h), that after R1b people eradicated most of the R1a-, I-, and G-people around 4 kya, also the R1b-people suffered serious bottlenecks, not being able to survive in western Europe using in the depopulated territories their previous way of life. From the data by Klyosov (2011h) that the R1b people experienced in Europe their bottlenecks between 4.8 to 3.3 kya, whereas the common ancestors of R1a1 people there are 3.0 to 2.0 kya “old”, we see also the possibility that the R1b people in Europe persecuted the R1a, I, and G people for centuries after their own bottleneck event. In time the R1b people felt compelled to accept the way of life of the agriculturists, the R1a-, I-, and G-people, and incorporated some parts of their language. Having accepted this, they didn’t turn Slavic but developed some non-Slavic forms of Indo-European (with agricultural overtones). Their heirs are now the speakers of insular “Celtic” languages as well as most of the West-Europeans.

Having made this general overview and explaining the origin of Slavs we may turn our attention to other groups of European people.

Regarding Basques and having in mind small isolates of similar languages, we would suggest to keep our mind open for the possibility that their ancestors arrived into their present-day territory around the Pyrenees Mountains from the Caucasus region either as part of the R1b intrusion about 4.8 kya, or as part of the defeated “Peoples from beyond the Sea” after about 3.2 kya. There are at present, however, too few data known about these peoples to make a final decision. Anyway, it is a crucial question whether the Basques are to be considered as the rule or as an exception among the western Europeans. In this respect especially important is the comparison with some western Irish clans who have higher R1b content than the Basques (Hill et al. 2000) and who lived far more isolated from the rest of Europe than Basques. In addition, in Ireland there existed lesser possibilities to escape the onslaught of the R1b people than in Pyrenees. It would be advisable to make a detailed comparison between the western Irish and Basques not only regarding the major Y-Chromosome haplogroup R1b but also regarding some minor ones. As well as to consider the findings by Villar (2000, 2001) that the Basques (i.e. part of ancestors of present-day Basques) are relatively late immigrants.

Zohary & Hopf (2004) presented the evidence about the onset and the direction of spread of agriculture in Europe from (Slavic) Balkans towards northern and western Europe. There is the tantalizing question about the similarity of agricultural terminology in Basque and Slavic languages (Jandáček & Arko 2002). For instance, the Basque word for “GRAIN” is ZITU and the Slavic word is ZhITO. Since the flow of farming is recognized to have been from (Slavic) Balkans towards northern and western Europe, we can conclude that the Basques received this agricultural terminology from Slavs, either in their original homeland (possibly) in the Caucasus region or after the bottleneck time on the Iberian peninsula.

Interesting in this respect is the observation by Ambrozic (2010) that the river Garonne in present-day France was in the medieval time the border between Basques and Slavic people. It is also noteworthy (Ambrozic 2000,

2002a,b, Serafimov 2006, Serafimov & Tomezzoli 2010b) that there are traces of Slavic people having had lived in Gaul before the Roman conquest.

We should also address the question about the origin of the Germanic people. Warnow et al. (1996) concluded that: "It appears to point to a situation in which Germanic began to develop within the Satem Core (as evidenced by its morphology) but moved away before the final Satem innovations. It then moved into close contact with the "western" languages ("Celtic" and Italic) and borrowed much of its distinctive vocabulary from them..." This is to be reconsidered on the basis of similarities between German and Korean (Lie 1991), as well as between Germanic and Chinese (Chang 1988). As reported by Chang (1988), Germanic and Chinese are both Kentum and their similarities indicate strongly that the Indo-European proto-Germanic ancestors of Germanic people were living in Far East north of China as late as about 4 kya. Part of them then intruded south and formed there the state of China, which prevented later intrusions by proto-Germanic people and into which they were subsequently assimilated.

After being expelled by the strengthened state of China, northern parts of the proto-Germanic ancestors of Germanic people migrated from the Far East towards west and moved into Europe. There persists open the question, whether the ancestors of Hittites who arrived to Anatolia around 4.5 kya and subjugated there the Hatti people (Kořak 1971, 1994), were part of these Proto-Germans or whether did their ancestors live at respective times west of Proto-Germans. The Hittite word watar for water is an indication of this possibility. The same question relates to Hyksos who conquered Lower Egypt about 3.7 kya.

Another question is, whether Proto-Germans possibly presented part of predecessors of the later "Peoples from beyond the Sea" of about 3.2 kya. The developments in Europe after 3.2 kya point in this direction. However, we cannot reject the possibility that they entered Europe, especially its eastern parts, before the attacks on Egypt. We have also no reason to doubt that they were part of the remnant of the defeated army of the "Peoples from beyond the Sea" that spread across the Mediterranean Sea into Europe. As well as that they formed migratory "peoples" which for centuries harassed central Europe where they were the impetus for defensive architecture (forts) across the region. Anyway, the "Peoples from beyond the Sea" seem not to be sufficiently explored yet.

The pillaging groups were later driven north into Scandinavia, where they mixed with the previous population, and became the foundation stock of Germanic peoples. These then expanded intruding (approx. 2.2 to 1.8 kya) south, east and west into traditionally Gaulish, Baltic and Slavic regions. Later, the Anglo-Saxons subjugated the peoples of the Britain.

Our tentative conclusion would be that the said Proto-Germanic people were the descendants of the pre-LGM Eastern Slaviform Proto-Indo-Europeans having had reached territories east of the Altai Mountains. They survived the LGM there and after LGM did not move west. They received later agriculture and pastoralism from west. During all that time they were exchanging the linguistic characteristics with the non-IE people living in contacts with them, and the result of all these events was their non-Slavic Kentum I-E language. After their arrival to Europe they completed the borrowings indicated by Warnow et al. (1996).

Yet another question is about the origin and development of the Balto-Slavic complex. There is the common wisdom among linguists that Slavic was derived from Indo-European by the following steps: Indo-European > Balto-Slavic > Baltic and Slavic, cf. Szemerényi (1996).

Archaeological data present indications that the origin and development of Balto-Slavic may have had proceeded in a different way. Nowak (2006) presented data that the agriculturists crossed the Carpathian

Mountains from the central Danube area into the upper Vistula area about 7.5 kya and that they slowly expanded north along the Vistula River. The incoming agriculturists ousted the primordial Mesolithic people into areas which were less appropriate for agriculture. The material cultures of aboriginal Mesolithic peoples and incoming agriculturists did not merge until about 6 to 5 kya. Such a development is in line with the Czech and Polish mythology about the arrival of their ancestors (Popowska-Taborska 2005) as well as with linguistic and Y-Chromosome haplogroup clines observable at present time.

In the words of Price (1996), LGM ice retreated from southern Scandinavia about 14 kya. Till about 10 kya there was a region of tundra inhabited by reindeer hunters. By about 10 kya forest returned there and postglacial foragers appeared. About 6 kya ideas and materials of farming communities began to appear there and around 5.9 kya farming appeared suddenly. The Linearbandkeramik (LBK) farming culture spread thousands of kilometers across Central Europe very fast, yet it took more than 500 years before domesticates were introduced from the LBK farmers only a few hundred kilometers north into the Baltic area. Price (1996) explained this in a way that the successful fishing-hunting people had little immediate use of domesticates. There remains open the question about who were the reindeer hunters and who were the fishing-hunting people.

We propose a different scenario. Namely, that LBK culture was able to spread that fast among the people who shared mutually intelligible languages (i.e. within the western Slaviform proto-Indo-Europeans who can be presented also as proto-Slovenes). Whereas the advance of the LBK culture slowed down substantially when people of different language groups came in contact.

Laitinen et al. (2002) proposed that proto-Balts were proto-Finnic. From this and the slow advance of neolithisation into their territories we conclude that at that time the proto-Balts and the southern Scandinavians were really protoFinnic. It took the better part of a millennium (Price 1996) resp. few millennia (Nowak 2006) for the proto-Finnic and the incoming proto-Slavic people to form the synthesis of the Indo-European Baltic resp. Scandinavian identity.

For this reason, there must be exercised great caution when extracting supposedly *Indo-European features from Baltic languages. Namely, the BaltoSlavic complex had not formed until about 6 to 5 kya (Nowak 2006) from the primordial proto-Finnic (Laitinen et al. 2002) and incoming proto-Slavic, with later bottleneck effects and contributions from other sources. It is possible that when a non-Slavic feature found in Baltic languages is proclaimed as Indo-European, this feature may be in fact non-Indo-European by origin. This warning applies also to other “peripheral” Indo-European languages. We propose this in spite of the fact that there are several linguists who place Baltic languages as very near to the original Indo-European.

Preceding the expansion of agriculture into Central and Northern Europe, there was an additional expansion of nomadic stockbreeder proto-Slavs from Near East and (South-) Eastern Europe into Central Asia reaching about 6 kya as far as China. On their way they were mixing with indigenous peoples. One of these groups would later become the Tocharians.

Mallory (2000) identified in the Tocharian manuscripts the presence of words and linguistic elements belonging to Finno-Ugric languages. He proposed possible linguistic contacts of the Tocharian with East Iranian languages and suggested that the Tocharians moved from their original homeland probably in the Pontic steppe. He plotted their movements first to North and then to East. The earliest mummies in the Tarim Basin correspond to Caucasoid or Europoid individuals arriving in the Tarim Basin around 5 kya. The presence in the Xinjiang of Caucasoid populations in the period 3.8 – 1.7 kya and of the arrival in the late Bronze Age and the early Iron Age

of a second population of East Mediterranean type similar to the Saka of Pamir is noticed as well. The first mummies of Caucasoid somatic type are dating to about 3.8 kya. The common features of the Caucasoid mummies are: elongated bodies, angular faces, recessed eyes, blond, red to deep brown hairs. Genetic studies ascertained that the Caucasoid mummies have a Y DNA Haplogroup R1a and a mtDNA haplotype characteristic of Western Eurasian populations.

According to Arnaiz-Villena et al. (2001), the Greeks, on the other hand, have also Hamitic ancestors, who may have been brought up into the southern part of Slavdom bringing with them the Kentum characteristics. Tischler (1990) reported that some linguists see the origin of these characteristics in Sudan.

Based on these data we posit that part of the ancestors of Mycenaean Greeks were the members of the Egyptian army, who after being defeated by Hyksos around 3.7 kya escaped to Crete and the Cretan Minoans put them to the Peloponnese Peninsula as mercenaries to administer it for the Cretans. After the Thera eruption and its destruction of the Minoan state, the survived mercenaries in Mycenae took over the power on Peloponnese.

Another question is, who were the antique continental proto-Celts (Gauls). At present, they are usually considered together with insular "Celts" as if they had been the same people. One should, however, have in mind that the "Celts" living in Great Britain and Ireland adopted the designation "Celtic" as late as in the 16th Century AD after being conquered by the English, whereas in antiquity they considered Gauls as their enemies, as reported by Berresford Ellis (1990), James (1993). Serafimov (2006) as well as Serafimov & Tomezzoli (2010b) have shown that the remnants of the Gaulish language in spite of their Latinized or Hellenized form reveal their Slavic foundations. And that primordial Gauls were Slavic people. Also Klyosov (2011h) gives arguments that Gauls were originally the Y-Chromosome R1a1 people from Eastern Europe. This, however, does not exclude the possibility that they subsequently mixed and interbred with other west European inhabitants.

Based on data about Etruscans collected and discussed by Barker & Rasmussen (1998) we understand that into the previous (western Slavic) Villanova Culture there intruded some foreign people who functioned subsequently as the elite, becoming in time more and more different from the original people. We should not forget that it was the elite who could afford monumental buildings etc, not the common people.

This may explain the observation by Bor (Tomažič 1995) that he was able to understand with help of Slovene the older Etruscan inscriptions whereas not the younger ones. From the data by Alinei (2003) about the Turko-Tataric expressions for leaders of Etruscans we understand that they might have been part of the survivors of the defeated army of the "Peoples from beyond the Sea" attacking Egypt from Libya. To our understanding, the remnants of this defeated army spread across the Mediterranean Sea into Europe. In Europe, some of them conquered local populations and formed "new peoples" like Etruscan, Oscan, Umbrian, Latin communities. This is consistent with local mythology. It would be advisable to look whether some minor Y-Chromosome haplogroups on those territories support our understanding. Another similar question would be whether such minor Y-Chromosome haplogroups can help explain the origin of some Latin-like features in Baltic languages, even in Estonian vs. Finnish.

Regarding Latin, we propose that the "Kaiser" argument for Latin being Kentum is on the same level as the "Beech" argument for Slavs. Thus, it should be critically reassessed.

When doing research presented above, geolinguistic principles are to be considered. However, one must keep in mind, that the rule that "the center is innovative, whereas the periphery is conservative", is a secondary, not a

primary rule. When the languages are in isolation, they are quite stable and change slowly. Whereas, in contact with other languages, they are less stable and as a result change faster. The changes start with borrowings and they increase with the introduction of the logic (structure) of the other language. The combination of both effects is reflected in the innovations. Thus, it is the consequence and not the cause that “the centers, where different people meet, are innovative. The periphery, especially in isolated places, is conservative”.

Regarding the theories about the “Indo-European Urheimat”, Klyosov (2011h) has shown that all four main hypotheses localizing the “Indo-European homeland”, namely “Circumpontic localization”, “Kurgan”, “Anatolian”, and “Neolithic discontinuity” turned out to be wrong at their core. We propose that besides the present static Theory of Continuity (Alinei 1996, 2000), a Dynamic Theory of Continuity, or, in other words, a Unified Proto Indo-European Theory (UPIET) is to be put together based on the lines presented above.

Unified Proto Indo European Theory (UPIET)

We propose a unified theory of the origin of Indo-Europeans (UPIET). UPIET integrates the “Circumpontic Localization Theory” (CLT), “Kurgan Invasion Theory” (KIT), “Anatolian Theory” (AT), “Neolithic Discontinuity Theory” (NDT) and the “Paleolithic Continuity Theory” (PCT). The common bond between these approaches is provided by the “DNA Genealogical Data” (DNAGD) by Klyosov (Proc. 2008-) and especially his work (Klyosov 2011h). The simplified version of UPIET is given below. It needs additional study, substantiation and revision. An open-minded approach to it is utterly necessary.

Beta-people (Klyosov 2011e,f) split during millenia into several lineages. One of these lineages is represented by the Proto-Indo-European Branch (PIEB) which split gradually into several new populations. These new populations can be identified as the Western Slavoform Proto IE Branch (WSIEB) (the Y-Chromosome haplogroup I branch formed after around 50 kya), the Southern Slavoform Indo-European Branch (SSIEB) (the Y-Chromosome haplogroup R1a branch formed after around 40 kya) and the Eastern Slavoform Indo-European Branch (ESIEB) (mix of the easternmost Y-Chromosome haplogroup R1a branch and the Y-Chromosome haplogroup R1b branch formed after around 30 kya). This accounts for both the early and continuous general similarity of Slavic languages as well as the three way split of the proto-Slavic groups.

The people of the Y-Chromosome haplogroup I branch as a western Slavoform Proto-IE branch inhabited the main part of Europe and possibly parts of Near East and southern Mediterranean coasts.

The people of the Y-Chromosome haplogroup R1a branch as a southern Slavoform Proto-IE branch inhabited Levant, Anatolia, Black- and Caspian Sea area and possibly even Lower Egypt and Northern Africa coastal areas.

The people of the Y-Chromosome haplogroup R1b branch lived initially mixed with the R1a people as the eastern Slavoform Proto-IE branch inhabiting the areas as far as the Altai Mountains. Later they expanded across Central Asia and southern Siberia well into the Far East.

Migration and exchange of trade goods became routine after preservation and storage of perishables, especially food was perfected. Around 10 kya the R1a people of the Fertile Crescent had “state of the art agriculture” and expanded their acumen and genes into all directions. Where soil and climate and other environmental conditions were conducive, they developed sedentary agriculture with societal rules and sustainable agricultures and cultures. They transferred it also to the Y-Chromosome haplogroup I people forming mixed populations. Significantly, the fact that these peoples were mixed indicates that it was not a mass movement of tribes which

replaced previous populations, but rather a trickle of expertise and associated genes and religions into an autochthonous population.

On the steppes of Western Asia and extending to north of China a pastoral culture became the preferred economy. Tribal conflicts over pasture-lands and livestock watering resources honed military skills. Domestication of the horse and the development of equestrian expertise produced cavalier elites. After about 6 kya – these mounted elites possessed herding techniques far superior to their pedestrian competition. They could survey their large herds from an elevated vantage point and move the livestock very rapidly over great distances.

In contact with pastoral peoples of other language groups in the east, the Slavoform Y-Chromosome Haplogroup R1b people gradually reduced their Slavoform character to evolve into non-Slav Proto-Indo-Europeans.

There is a likelihood that in antiquity there was a continuous and contiguous population of Indo-Europeans who occupied the territories between the early Tocharians and the early Slavs. And the earlier they were – the less likely they were to be mixed with other idioms – as postulated by W. Jones. Also, the more proximal they were geographically to the Slavic lands the more Slavoform they were likely to remain. From historical records we also learn that the Anatolian, Bactrian, Tocharian, Indo-Aryan and the Slavic (all Indo-European) languages were isolated from each other only recently by Turko-Tatar, Finno-Ugrian and Ural-Altaic languages. For thousands of years the herdsmen of Asia were compelled to invade the territories of settled agrarians when droughts marginalized their pasturelands.

Having had invented superior equestrian skills and later war-chariot military acumen, these mounted warriors expanded their influence over the territories they plundered. In this manner the Y-Chromosome haplogroup R1b people swamped and almost totally eradicated the pastoral people and agrarians bearing Y chromosome I and R1a. This produced a serious bottleneck effect for the farmers' genes. This way the Y-Chromosome haplogroup R1b people moved through Near East, North Africa and Europe (Klyosov 2011h) almost (and in some regions even totally) eradicating the previously settled Y-Chromosome haplogroup I resp. R1a agriculturists, for which this was a serious bottleneck effect.

Having reached the Atlantic shores and devastating the European cultures in their wake – the nomadic/cavalier tactics of the Y-Chromosome haplogroup R1b people became irrelevant in maritime conditions and the invaders suffered self-limiting population bottleneck. In time, the surviving remnant Y-Chromosome haplogroup I and R1a Slavs, as well as R1b peoples merged adapting to a new lifestyle. In this way the former eastern Proto-IE Y-Chromosome haplogroup R1b people became the present-day “Celtic” western Europeans. The remainder of the Y-Chromosome haplogroup I and R1a people mixed with some R1b people formed the Western Slavs. The rest of the Y-Chromosome haplogroup R1a people formed the Southern Slavs. Those who escaped from Central Europe to the devastated Eastern Europe formed the Eastern Slavs, Avestans and Aryans. The Germanic peoples formed as the easternmost PIE people in contact with Proto-Koreans and Proto-Chinese and started moving west about 4 kya, reaching Europe i.a. as part of the “Peoples from beyond the Sea”, being subsequently expelled into Scandinavia, from where they later conquered their present territories and imposed their language. Where and when some R1b peoples obtained their present-day Turkic language characteristics remains to be studied. For example, for the R1a people in present Hungary we know that a millennium ago they were speaking Old Slovene, whereas now they are speaking Hungarian.

Thusly, the Slavoform Y-Chromosome haplogroup R1a people retained their central, CORE position, whereas the Y-Chromosome haplogroup R1b people were always PERIPHERAL to them.

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