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Structuring the Near Eastern Dialect Continuum in the Neolithic

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Introduction. The question of the territories and temporal reference of the origin of ethnic groups that are part of the Indo-European (IE) community remains open up to nowadays. This is due to the difficulties in localizing the area of the Proto-Indo-European (PIE) language, from which the origin of the IE languages is assumed. The article proposes the derivation of IE languages from the archaic dialect continuum, bypassing the stage of the simultaneous existence of a hypothetical PIE language. The relevance of the article lies in the reduction of uncertainty in the ideas about the ethnogenesis of the IE peoples.

Methodology and sources. The time of the beginning of the emergence of ethnic groups from the ancient dialect continuum is determined by paleogenetic data. To determine the areas of emergence of ancient ethnic groups, data on the original names of copper ore/copper, livestock and cultivated plants, etc., were used in conjunction with data on copper deposits, areas of cattle domestication, plant cultivation, etc., the ancient areas of the carriers of which are considered to be quite well known.

Results and discussion. The emergence of IE ethnic groups began in the 9th-7th millennia BC in the Fertile Crescent zone and was associated with the transition of mobile hunters-gatherers to the sedentary lifestyle of farmers. The ancestors of the Slavs, Balts, Latins and Germans emerged earlier from the Middle Eastern dialect continuum in the vicinity of the Semitic, Hurrian-Urartian and Kartvelian tribes and ancestors of the Turks.

Conclusion. The complex application of linguistic, archaeological, and paleogenetic data makes it possible to clarify the history of the emergence of a number of IE ethnic groups without using the hypothesis of a common PIE ancestral homeland. The separation of particular histories of ethnogenesis in space and time makes it possible to exclude some inconsistencies such as “Wanderwörter”.

Keywords: Indo-European dialects, Neolithic revolution, migrations, Balts, Slavs, Latins, Germans

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Оригинальная статья

Структурирование ближневосточного диалектного континуума в неолите

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Введение. Вопрос о территориях и временной привязке происхождения этнических групп, входящих в индоевропейскую (ИЕ) общность, до настоящего времени остается открытым. Это связано с трудностями в локализации ареала праиндоевропейского

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(ПИЕ) языка, который полагается источником ИЕ языков. В статье предлагается выведение ИЕ языков из архаичного диалектного континуума, минуя стадию единовременного существования гипотетического ПИЕ языка. Актуальность статьи состоит в уменьшении неопределенности в представлениях об этногенезе ИЕ народов.

Методология и источники. Время начала обособления этнических групп из древнего диалектного континуума определено по палеогенетическим данным. Для определения ареалов обособления древних этнических групп использованы данные об исконных названиях медной руды/меди, домашнего скота и культурных растений и прочего в комплексе с данными о месторождениях меди, районах одомашнения скота, культивации растений и т. п. Для проверки географической привязки ареалов носителей ряда ИЕ диалектов использовались перекрестные заимствования из/в соседние и/или субстратные не-ИЕ языки, древние ареалы носителей которых считаются достаточно хорошо известными.

Результаты и обсуждение. Обособление ИЕ этнических групп началось в IX–VII тысячелетии до н. э. в зоне Плодородного Полумесяца и было связано с переходом подвижных охотников-собирателей на оседлый образ жизни земледельцев. Ранее других из ближневосточного диалектного континуума выделились предки славян, балтов, латинов и германцев в соседстве с семитскими, хуррито-урартскими и картвельскими племенами и предками тюрков.

Заключение. Комплексное применение лингвистических, археологических и палеогенетических данных позволяет уточнить историю обособления ряда ИЕ этнических групп без привлечения гипотезы об общей ПИЕ прародине. Разнесение частных историй этногенеза в пространстве и времени дает возможность исключить несообразности типа «блуждающих терминов».

Ключевые слова: индоевропейские диалекты, неолитическая революция, миграции, балты, славяне, латины, германцы

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Introduction. In the author's previous papers on Indo-European (IE) ethnogenesis, the possibility of using correlations of lexicons of ancient states of a number of languages (mainly basic, industrial and economic vocabulary) for geographical referencing of habitats of the corresponding dialectal subcontinents [1] in combination with archaeological and DNA genealogy data was investigated.

In the papers, it was assumed that for historical applications it is not so much the degree of kinship of languages that is important, but the phonetic convergence of the basic and basic industrial and economic vocabulary, which make this vocabulary understandable on both sides of the contact. For example, the mutual intelligibility of Nenets *vark* 'bear', Ancient Greek *ἄρκτος* 'bear' and the Hittite *hartagga* 'predator, bear' are more informative in the study of the conditions of ethnogenesis than the kinship of Latin *bōs* 'bull, cow' and Tajic *gov* 'bull, cow' (IE prototype **gwow*- [2, Latin "bos"]) or kinship of Lith. *šuõ* 'dog' and Ancient Greek *κύων* 'dog' (IE prototype **k'wen*- [2, Meaning "dog"]). Phonetic convergences make it possible to detect adstrate mutual influence, and their number allows us to assess its degree in pairs of different languages, even if the languages are not related to each other: for example, the word *chifanit'* 'to eat' in the vocabulary of the Sakhalin people clearly indicates the presence of their contacts with the Chinese.

Pairwise phonetic correlations of the basic lexicons of the IE languages made it possible to identify ethnical groups with the longest/most intensive neighborhood, forming dialectal subcontinuums that smoothly change from one to another. The lexical indicators of the

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neighborhood of the ancestors of the Slavs and the dialect core, which includes the dialects of the ancestors of the Balts, Indo-Aryans, and Italians, turned out to be the largest [1, p. 130].

Lexical correlations only make it possible to relatively bind ethnic groups to each other. In what territories and at what time the processes of ethnogenesis of separate peoples – speakers of IE languages – began to take place – this question remains open. Its solution is made dependent on the definition of the area of speakers of a hypothetical Proto-Indo-European (PIE) language, the collapse of which led to the emergence of many languages of the IE family.

However, at present, there are several alternative theories of the PIE ancestral homeland, none of which, in the presence of *pro* arguments, can reasonably reject *contra* arguments. For example, supporters of the Anatolian theory admit that it is impossible to find any archaeological culture of the Near East of the 5th-4th millennia BC that could be confidently attributed to the ancient IE unity [3, p. 891]. In addition, none of the theories can explain the phenomenon of a significant predominance of the Slavic language group in terms of population and territory in comparison with other IE language groups [4], especially with the Baltic.

The article proposes to abandon the axiomatic introduction of a single PIE language to explain the set of observed similarities in the languages of the IE family and to find separate "ancestral homelands" of the Baltic, Slavic, Latin and Germanic dialect groups. An analysis of the native vocabulary of these groups, which provides information about the periods and regions where this vocabulary may have first appeared, also allows us to identify areas where there was intense and/or prolonged contact between the ancestors of speakers of the languages of these groups.

Methodology and sources. The time of the beginning of the emergence of ethnic groups from the ancient dialect continuum is determined by paleogenetic data.

The first ancient DNA data from the Pre-Pottery Neolithic of Mesopotamia, Cyprus, and the Northwestern Zagros has shown that these and neighboring populations were formed through admixture of pre-Neolithic sources related to Anatolian, Caucasus, and Levantine hunter-gatherers, forming a Neolithic continuum of ancestry [5, pp. 982, 985]. This result puts *terminus post quem* for ethnic differentiation, that is, the search for ethnic ancestors is limited in time to the era of the Pre-Pottery Neolithic (~IX–VII millennia BC).

The DNA data has also revealed that Anatolian Epipaleolithic people experienced Mesopotamian-related and additional Levantine-related gene flow, thus documenting at least two pulses of migration from the Fertile Crescent heartland to the early farmers of Anatolia [idem]. This result limits the search for the homelands of the studied IE ethnic groups to the Fertile Crescent region. It is important to mention that these two migration pulses precede in time and coincide in direction with two waves of migrations of Neolithic farmers from Anatolia to Southern Europe [6, Ch. 5, 6; 7] with particular traces of inheritance between Çatal Hüyük (Neolithic Anatolia) and Vincha (Eneolithic Balkans) cultures discovered by archeologists [6, pp. 63, 64, et al.]. In [7], the Proto-Baltic attribution of the cultures of the first wave and the Proto-Slavic attribution of the cultures of the second wave are suggested.

The methodology for ethnogenetic research is based on the following ideas. If a term is common to a certain group of languages and native, that is, it has clear semantics in these languages, then it should have had appeared in the common ancestor of these languages when the phenomenon it denotes became significant for the speakers of this ancestral language. For

example, the Common Slavic name of copper, which has the semantics of 'smth crumpling' and has no relatives in other languages, suggests that the Common Slavic language as a group of closely related dialects already existed at the time and in the area of copper deposits of the Balkan-Carpathian metallurgical province, the oldest in Europe, at least not later than its collapse in the 4th millennium BC [7]. But Common Slavic could have begun to form even earlier, during the discovery of copper nuggets on the territory of Anatolia (Çatal Hüyük) and present-day Palestine: copper nuggets differ from ordinary stones in that they crumple when struck, never breaking into pieces, hence the meaning of 'crumpling'.

In the course of ethnogenetic research, the original names of the most ancient cultivated plants (figs, cherries, wheat, etc.) and domestic animals (goat, sheep, donkey, etc.) were also used, if the time and areas of the original use of these are known from archaeological research. Finally, as in previous papers, in order to clarify the areas of emerging of specific IE ethnic groups, a search was carried out for the source language of local toponyms and a search for cross-borrowings in IE languages and non-IE languages of presumably neighboring tribes.

Assumptions made:

– it is implied that in the absence of long-term and/or intensive contacts with foreigners, their material culture and language can be preserved not only during a long stay in one place, but also in the course of their settlement, which allows lexical material documented much later to be extrapolated to the distant past;

– it is assumed that the names of animals and plants that had fairly compact areals in the past, in combination with archaeological data on the beginning of the cultural use of those of them that were domesticated, carry information about the settlement of ethnic groups that invented these zoonyms and phytonyms according to the rules of their languages; the same applies to the names of metals, the history of mining of which is known;

– in the article, as a rule, when searching for prototypes of the names used, well-known etymological hypotheses are used; if such hypotheses were in doubt, then reasoned alternatives are proposed; in cases where the etymology is considered unclear, original solutions are proposed.

The dating of archaeological cultures is taken from scientific publications, but since the methods of their determination do not always coincide, and sometimes are not being mentioned at all, the dates given here serve only the purpose of approximate relative chronological binding of cultures to each other.

Results and discussion.

Tribal groups that were the first to separate from the Neolithic dialectal continuum.

Transition of mobile hunters-gatherers to the sedentary lifestyle of farmers in the so called Fertile Crescent (in the Near East) had caused relative isolation of groups of population from one another, causing, in turn, divergence of the dialectal continuum, divergence of agricultural and cattle breeding terminology in that number. The basic terms of agriculture with the meanings 'to sow', 'seed' (the innovated meaning that differs from common and more archaic 'grain') and 'sieve', akin to one another, are found in Slavic, Baltic, Germanic and Italic languages (see Tables 1, 2).

This fact permits to think that ancestors of speakers of these language groups belonged to one and the same dialect continuum in Neolithic times and were the first to separate from it in that very area of the Fertile Crescent. As to the rest IE languages (Arian, Anatolian, Tokharic, Greek, etc.), their

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lexicons do not contain cognates of *sow*, *sieve* and *seed* with the same meanings, which shows that their ancestors had not belonged to the same Near East dialect continuum as ancestors of Slavic, Baltic, Germanic and Italic languages in the Neolithic times. Proto-Celtic dialect did contain cognates of the mentioned words and borrowed some relevant terms from Proto-Italics but it showed next to no signs of its prolonged presence in the Near East, hence here it will be only mentioned occasionally.

Table 1. Comparison of Slavic words meaning 'sow', 'sieve', 'seed', and 'net'

language\meaning	**sow**	**sieve**	**seed**	**net**
Old Slavic/Old Russian	*сѣти/сѣѩти*	*/cumo*	*сѣмѧ*	*сѣть*
Old Czech/Czech	*sieti*	*/síto*	*/símě*	*siet*
Slovak	*siat'*	*sito*	*semeno*	*siet'*
Polish	*siać*	*sito*	*siemię*	*sieć*

Table 2. Comparison of Baltic, Latin and German words meaning 'sow', 'sieve', 'seed', and 'net'

language\meaning	**sow**	**sieve**	**seed**	**net**
Lith.	*sė́ti*	*sietas*	*sė́mens*	*tinklas*
Lett.	*sẽt*	*siêts*	*sēkla*	*tīkls*
Lat.	*serō*, *satum*	*cribrum*	*sēmen*	*rete*
Goth./Proto-Germ.	*saian*	*/*sibi*	*/*sēmô*	*/*natją*
OHG/Proto-Germ.	*sâen*	*/*sibi*	*sâmô*	*/*natją*

The first cereal to be cultivated was wheat, and its cultivation had been accomplished in different parts of this very region. That is why the earliest native names for wheat are different: Old Slav. *пьшеница* (from past passive participle **рьšепъ* 'crushed' of the Proto-Slavic verb meaning 'to push' / 'to crush') and Lat. *triticum* (from Lat. verb meaning 'to rub') reflect the usage of Neolithic hard (durum) wheat; Lith. *kvietys* and related German *Weizen* reflect the cereal's color.

The domestication of goats had taken place also in different parts of the Fertile Crescent, starting independently in both the Southern Zagros/Central Iranian Plateau (8th millennium BC), and in Eastern Anatolia (9th millennium BC) [8].

Synchronous acts of domestication of the goat in different separate regions explain the "multiplicity of goat names in Indo-European" [9, p. 12], mainly cognates of:

– Rus. *коза* [koza];

– Lith. *ožka*;

– Lat. *capra* > Old Irish *gabor*, Welsh *gafr*;

– OHG *geiz*.

Sanskr. *bukkaḥ* 'goat' (and its numerous IE cognates meaning 'buck', 'lamb', 'ram') with a dubious etymology from PIE **bʰuǵ-* looks like a loan from Proto-Slavic **byckъ* 'bull' from an onomatopoeic **bukati* 'to moo'. These names for small cattle were characteristic of tribes inhabiting the Northern Black Sea Region in Neolithic times, not the Fertile Crescent. Other names are characterized by sporadic distribution [9, p. 85], so they are not valuable for this study as well.

Contrary to IE goat names, related IE sheep names and related donkey names result from domestication of the sheep and donkey in one region first and the consequent chain of loans from one dialect to another.

The sheep was first domesticated in Northern Mesopotamia before the 6_{th} millennium BC (the settlement of Yarimtepe I of the Hassun culture) [10, p. 147]. IE sheep names are:

– Lith. *avìs*, Lett. *avs*;

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– Lat. *ovis*;
– Old Slavic *овьца*;
– Hittite *ḫāwis*; Luwian *ḫāwīs*;
– Sanskrit *ávi-*;
– Tocharian B: *awi* (pl.);
– Ancient Greek *ὄϊς*;
– Old Irish *oí*;
– Old English *eowu*.

The donkey was first domesticated in North-Eastern Africa in 5th millennium BC. This was the time when Levantine farmers of Late Tahuni culture maintained regular contacts with population of nowadays Egypt and Palestina [11]. Related donkey names are:

– Lith. *ãsilas*, Old Pruss. *asilis*;
– Goth. *asilus*;
– Lat. *asinus* 'donkey' > Welsh *asyn*, *asellus* 'small donkey' > Middle Irish *asal*;
– Ancient Greek *ὄνος* < **osonos*;
– Shum. *anše*.

Original location of Proto-Slavs.

Kinship of the words meaning 'sieve' and 'net' is observed in the Slavic group only (Tables 1, 2), which fact leads to a suggestion that Proto-Slavs adapted the idea of sieves for fishing being to some extent isolated from other dialectal groups. This is also relevant to the complex of Slavic agricultural terminology taken as a whole [12, p. 114].

The first of the enlisted IE goat names, **koza*, is a common Slavic term. The question remains if it has clear semantics in Slavic languages, and if so, Proto-Slavic people could have participated in domestication of goat giving them a suitable (i. e. comprehensible) name. Otherwise, Slavic peoples would have adopted the name for goat from a foreign source, as it was in case of *bison*, e. g.

Original Slavic etymology of **koza*, with the meaning 'covered (with hair)' [13], and the absence of its cognates in IE languages argue that **koza* had served prototype for regional Proto-Baltic and Proto-Turkic names for goat:

– P.-Slavic **koza* > Turkic (Bashkir) *käzä*;
– P.-Baltic **ožka* (with metathesis with respect to P.-Slavic, according to Brückner) > Turkic *öčkä* [9, p. 87].

Now we may suggest that Proto-Slavs had something to do with original domestication of goat in the vicinity of the Fertile Crescent (that is, either in Eastern Anatolia or in Zagros foothills) being in contact with some of the ancestors of Balts and Turks, whose location did not permit them to be the first in the sense of goat domestication. Since one of the Neolithic migration flows to Europe had started from Levant (and none from Zagros), we can with a noticeable degree of reliability suggest Levant and Eastern Anatolia as regions where Proto-Slavs had originally emerged being in relative isolation from Transcaucasian and Zagros tribes.

This conclusion is supported with numerous etymological arguments:

– original Slavic etymologies of re-loaned names of wild animals of North Africa and Near East (Rus. *жираф* [zhıraf] 'giraffe', *зебра* [zebra] 'zebra', *страус* [straus] 'ostrich', et al.) and native ones (*слон* [slon] 'elephant', *верблюд* [verbl'ud] 'camel', *обезьяна* [obez'jana] 'ape', *попугай* [popugaı] 'parrot' [14], donkey et al.);

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– original Slavic etymologies of re-loaned names of wild plants of Eastern Mediterranean (Rus. *кипарис* [kɪparɪs] 'cypress tree', *цыперус* [tsɪperus] 'cyperus', *кедр* [kedr] 'cedar tree'…) and native names of plants growing and/or first cultivated in Near East (*смоква* [smokva] 'fig', *черешня* [chereshn'a] 'sweet cherry', *пшеница* [pshenɪtsa] 'wheat', *ячмень* [jachmen'] 'barley', *горох* [goroh] 'peas', *просо* [proso] 'millet', *мята* [m'ata] 'mint', et al.) [15; 16];

– taking into account correspondences [ŋ] ~ [gŋ], [gŋ] ~ [(h)n] independent of the directions of the phonetic evolution (Old Slavic *гнѣздо* [gnezdo] 'nest' ~ Old Indian *nīḍás*, Lat. *nīdus*, OHG *nest*; Serb.-Croat. *гњида* [gŋɪda] 'nit', Lett. *gnīda*, Old Icel. *gnit* ~ OHG *niʒ*, Old Eng. *hnitu*; OCS *гнѣтити* [gnetɪtɪ] 'to ignite' ~ Sloven. *nétiti*, Czech *nítiti*) one should agree with the probability of *гнилъ* [gŋɪlъ] 'putrid, rotten' > *Νεῖλος*, remembering that Nile was of extreme use for its *sapropel* < Ancient Greek *σαπρός* 'putrid, rotten' + *πηλός* 'mud, clay';

– Proto-Slavic loans in Semitic and Sumerian (Hebr. *galgal*, *gamal*, Assyr. *laḫannu*, Arab. *laqan*, *tassah*, Sum. *urud*, et al.) [1, p. 141; 7];

– Near East toponyms and ethnonyms, likely going back to Proto-Slav. **мѧдь* [mjędь] < **męti* 'to crumple', e. g., Biblical *Μαδιᾱνῖτης* 'Midianites', a polyethnic group in Sinai Peninsula, and *Μηδία* 'Media' – in both regions there were copper deposits.

The etymology of Slavic name for 'donkey' needs commenting.

The use of donkeys began in the Near East; they were used for riding and pulling carts. In the 3_d millennium BC, the capital of ancient Elam (in the south-west of present-day Iran) was the city of Anshan – literally, "Donkey" (from Shum. *anše* 'donkey').

The origin of Lith. *ãsilas*, Old Prussian *asilis*, Goth. *asilus* allegedly from Latin *asinus* 'donkey', *asellus* 'small donkey', Ancient Greek. *ὄνος* 'donkey' < **osonos* is explained by borrowing from a yet unknown substrate language of Asia Minor [17, article "осел"].

The best candidate for this substrate language seems to be the Anatolian ancestor of the Slavic languages, due to the earlier transition of the Proto-Slavs to a sedentary way of life. In the Slavic languages, the semantics of the name of the animal corresponds to historical reality and is morphologically transparent: 'saddled' (from Proto-Slav. **sedъlo* 'saddle' ultimately from Proto-Slav. **sędǫ* 'I shall sit' in descendants of which the transition [ę] > [Vn] and assimilation [dl] > [ll] ([l]) had occurred). The latter assimilation can be seen comparing the Proto-Slavic **selo* 'arable land, settlement' and **sedlo* 'settlement', contrasted by Vasmer [idem, article "село"], a similar "opposition" being seen in Rus. *мыло*, Sloven. *mílo* – Czech *mýdlo*, Polish, Upper Sorbian *módło* [idem, article "мыло"], the same with Rus. *вила*, *шило,* etc. – and Western Slavic analogues.

South-Eastern Anatolia and Levant of 9th–7th millennia had been the areal of Pre-Pottery Neolithic Tahuni culture [18, p. 41–42]. In the languages of the IE ethnic groups, except for Proto-Slavic, there are no signs of their presence in this region at the same time.

Original location of Proto-Balts.

Proto-Slavic loan of **ožka* into Proto-Baltic means that Proto-Balts emerged as speakers of a separate dialect relatively far from Anatolia and Levant but not as far as Zagros, another region of goat domestication, where Proto-Balts would have named goat using their own word. This conclusion is supported by:

– original Baltic etymology of the oronym Caucasus related with Lith. *kaukarà* 'hill';

– original Baltic (Lithuanian) etymologies of the names for 'elephant' and 'camel' known in the territory of nowadays Syria with loans for African endemics' names, 'giraffe' and 'zebra';

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– unique kinship of Baltic terms for 'apple' (apple-trees were first cultivated in the Caucasus) and 'round'; for 'sheep' and 'shod' [13] or IE 'dressed' [9, pp. 70–71], but with loans for 'fig' (from Semitic) first cultivated in Arabia and Anatolia, and 'sweet cherry' (from Slavic) first cultivated in Anatolia;

– archaic contacts with Proto-Slavs (related terms for 'berry' and 'star' with no IE cognates [4], unique Balto-Slavic kinship of the terms for 'wine' and 'grapes');

– Hurrian loans in Baltic; related terms in Baltic, Hurrian-Urartian [7], Kartvelian [19, pp. 150–152] and Semitic (e. g., Common Baltic term for 'eagle' > unique Akkad. *erum* 'eagle').

On the basis of a comparative analysis of the names of representatives of the fauna and flora of the Caucasus and Siberia in the Turkic languages, the ancestral homeland of the Turks is also convincingly tied to Transcaucasia and, approximately, to the interval of the 6_{th}–4th millennia BC (according to G. Gumbatov, private correspondence).

The ancient Transcaucasian neighborhood of the Proto-Turks and the Proto-Balts explains the following etymological connections of the level of basic vocabulary:

– Lith., Old Prussian *dangus* 'sky' – and Old Turkic **teŋri/*taŋrɨ* (also Old Mong. *t'ngri* – 'sky', Sum. *diĝir* [tiŋɪr] 'sky', Chinese 天[tian] 'sky');

– Lith. *mẽdis* 'tree', East. Lith. dial. *mẽdžias*, Zhem. *mẽdė* 'forest', Lett. *mežs* 'forest', Old Prussian *median* 'tree' – and Mong. *мод* [mod] 'tree', *модон* [modon] 'wooden';

– Lith. *miškas*, Lett. *mežs* 'forest' – and Ottoman Turkish *meşä* Azer. *meşə* 'forest' (Slavic *межа* 'boundary' and IE lexemes meaning 'medium' are secondary);

– Lith. gėlė 'flower' (with unknown origin) – and Ottoman Turkish *gül*, Azer. *gül* 'flower';

– already mentioned Baltic loan of 'goat' into Turkic.

Archaic contacts with Hurrians, Urartians, Proto-Slavs, Proto-Turks and Akkadians alongside with invention of wine [20], domestication of sheep before 6th millennium BC [10] and cultivation of apple-trees (and never – sweet cherries and figs) were possible at the time and on the territory of Transcaucasian Shulaveri-Shomu culture, just between Zagros mountains and Anatolia.

Original location of Proto-Italics and Proto-Germans.

The streams of migration via the Caucasus northward and back from Yamnaya culture (across the Caucasus into Armenia), where they left numerous patrilineal descendants, have been detected genetically [21, Abstract]. Participating of Proto-Italics, Proto-Celts and Proto-Germans in these migrations could explain the following linguistic phenomena:

– probable North Caucasian origin of IE numerals meaning 'five' [22, p. 119], most noticeable in Lat. *quinque* and Arm. *hinq* with phonetics greatly different from that of the Baltic and Slavic numerals meaning 'five': Lat. *quinque* and Arm. *hinq* 'five' are phonetically closer to North Caucasian lexemes meaning 'fist' = 'five fingers', than to IE words for 'fist';

– northern origin of Latin, Greek, Hittite, Arian, Celtic, Albanic and Germanic names for 'bear', related to the Nenets name [1, p. 132], unrelated with Slavic and Baltic names;

– Indo-Arian connections (Sanskr. *dyáuṣ-pitṛ́* 'Heavenly Father' and *apām napāt* 'Child of the Waters') of names of Latin gods *Iūpiter* (Proto-Germanic **Tīwaz*) and *Neptunus* (Celtic *Nechtan*), the names being absent in Slavic and Baltic mythology;

– traces of "Caucasian" vigesimal counting system in Celtic and Albanic.

In Central Iranian Plateau, the use of copper dates back to the Pre-Pottery Neolithic (9th–7th millennia BC), and in the 4th millennium copper mining began in the upper reaches of the

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Euphrates [23, pp. 51, 52]. Hence Akkadian, Italic and Germanic words for 'ore'/'copper' as well as with Transcaucasian and Sumerian words for 'to melt (metal)' and '(copper)smith':

– Akkad. *erû* 'copper', Lat. *aes*, genitive *aeris* 'metal', Germanic: Goth. *aiz*, OHG *ēr* 'ore', Old Icel. *eir* 'ore', 'copper' [3, p. 709];

– Lat. *tabeo* 'thaw', Armenian *darbin* 'smith', Hurrian *tabrinni*- 'smith' with the stem *tav*- 'to melt (metal)' and Sum. *tabira*/*tibira* 'coppersmith' [24, p. 268–270].

The absence of Celtic words for 'copper', related to the above-mentioned Latin and Germanic words, may result from early migrations of Proto-Celtic tribes in the direction of the Volga River (Khvalynsk culture) where they may have adopted prototypes for Old Welsh *emid* and Old Irish *umae* 'copper', co-operating within Balkan-Carpathian metallurgic province.

Latin *capra*, Old Irish *gabor*, Welsh *gafr* 'goat' and Old Norse *hafr* 'buck' have plenty of IE cognates meaning 'goat/buck', 'sheep' and even 'boar' (Greek cognate), and a non-IE one: Elamite *ka-pu-ra*. It is difficult to point out in which language within this group of names the original name for goat had a clear sense, but there is a temptation to connect Latin *capra* with Latin *capsa* 'covering' and *caput* 'head' (the upper, "covering" part of a person), *capra* looking like a calque of Proto-Slavic **koza* ('covered') or having a typological resemblance with the latter in this *case*.

The last word for 'goat' in the list of IE goat names is a Germanic word from the Proto-Germanic prototype **gaits*. It is related with Latin *haedus* 'young goat' and, very probable, with Proto-Semitic **gady*- 'young goat', Proto-Berber **a-ɣăyd*, Proto-Nakh **gaaʒa* (hence Chechen *гāза* [gaza] 'goat') [25, pp. 56–57]. It is widely accepted that the common stem cannot be derived from any known IE root, therefore it should be a loan from a pre-IE substrate language. Like in the case with 'donkey', Proto-Slavic appears a suitable candidate explaining uniformly Proto-Nakh **gaaʒa* 'goat', Ancient Egyptian *gḥs* 'gazelle' (*ḥ* – voiceless pharyngeal fricative) and Arabic *ḡazāl* 'idem' as borrowings from Proto-Slavic **koza* 'goat' or **kozula* 'roe', remembering correspondence of Proto-Slavic [k] to Semitic [g] when borrowing (e. g., P.-Slav. **kolo* 'wheel' > Hebr. *galgal* 'wheel', P.-Slav. **komolъ* 'hornless' > Hebr. *gamal* 'camel' [1, p. 141]).

So Proto-Italics and Proto-Germans look like a group of tribes inhabiting originally a region between Zagros/Central Iranian Plateau and Caucasus, North-East to Semitic tribes in Arabia, and being in contact with Proto-Balts and Proto-Celts. This conclusion is supported by:

– absence of native names for African endemics, as well as of camel and elephant;

– loaned (from Proto-Slavs directly or via Proto-Balts) Latin and Gothic names for 'donkey', donkeys being domesticated in Africa in the late 4th millennium BC;

– borrowing of Baltic or Slavic terms for 'wine' to Latin, Celtic and Germanic (the terms for 'grapes', the raw for wine, in Latin, Celtic and Germanic has no etymological connection with the corresponding terms for 'wine', hence Lat. *vīnum* etc. could not be native words);

– closest phonetic similarity of Latin and native Baltic names for 'sheep' among other IE sheep names (compare Lat. *ovis* and Lith. *avis*);

– related terms for 'wheat' in Baltic and Germanic;

– connection of Latin *gelidus* 'icy, frosty' with Senitic: Syr. ܓܠܝܕܐ (*gəlīḏā*), Hebr. גְּלִיד (*gəlîḏ*), Arab. جليد (*jalid*), all – 'ice';

– traces of Mesopotamian duodecimal counting system in Germanic;

– connections of Gothic and Hurrian [26, p. 156];

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– an odd similarity of Welsh and Georgian terms for 'wine' (Georgian *ɣvino*, Celtic-Brittonic **gwin*) and of Welsh *blaidd* 'wolf' (with unreliable etymology from Old Irish *bled* 'sea monster') and Lith. *bliauti* 'to bleat, howl';

– Altaic and Dravidian elements in Celtic, e. g., Old Irish *macc* 'son', having no IE etymology, is related to Tamil. *maka* 'child, son, boy' [27, pp. 12, 17], etc.

The influx of Neolithic population from eastern Anatolia, Syria, and northern Mesopotamia led to the formation of the Maikop culture in the 4th millennium BC (Early Bronze Age), independently of the steppe dwellers of the northern Black Sea region. This is evidenced by the Y-haplogroups of the Maikop culture population: G2a2, J1 and J2 – haplogroups of Neolithic southern farmers and pastoralists.

The return flux from North caused the ruin of Kura-Araks polyethnical culture in the Middle Bronze age (3d millennium BC). The presence of Proto-Celts and Proto-Italics (and not only them among the IE ethnic groups, but except Proto-Slavs, Proto-Balts and Proto-Germans) in this region at this time is witnessed by adopting the regional term for silver into their languages: Lat. *argentum*; Old Alban. *rgjand*; Old Bret., Old Welsh *argant*, Old Irish *argat*; Old Arm. արծաթ (*arcat'*); Sanskr. रजत (*rajatá*), Avest. *ərᵊzata*; Ancient Greek *ἄργυρος*; Tokh. B *arjuṃ* < Sanskr. *árjuna* 'of silver', – having common origin with North Caucasian names of silver: Arch. *arsi*, Darg. *arc*, Lak. *arcu*, And. *orsi*, Akhv. *arči*, Abkh. *araʒnə́*, Abaz. *rəzna* et al [22, p. 131]. Silver was mined from lead-silver ores in the Kura-Araks culture since the 4th millennium BC [28, p. 165].

Conclusion. The complex application of linguistic, archaeological, and paleogenetic data leads to the following scenario of the emergence of a number of IE ethnic groups, passing from the hunter-gatherers' way of life to the sedentary one in Pre-Pottery Neolithic times in the Near East:

– Proto-Slavs had separated from the hunter-gatherers' continuum in South-Eastern Anatolia at Pre-Pottery Neolythic times, with their further expansion southwards to Levant (Tahuni culture) and North-Eastern Africa and westwards to the Balkans (as future Illyrians);

– Proto-Balts had separated from the Neolithic continuum in Transcaucasia (Shulaveru-Shomu culture) with further expansion westwards to the Balkans (as future Thracians), partly returning in the 4th – 2d millennia BC to Anatolia (probably, as Luwians who founded Troy I and were assimilated by Hittites, and with the last migration flux as Phrygians);

– Proto-Italics and Proto-Germanics emerged somewhere in the area including Central Iranian Plateau, Zagros foothills and Northern Mesopotamia with further expansion northwards via Caucasus to the areals of Maikop (Proto-Italics) and Khvalynsk (Proto-Germanics and Proto-Brittons) cultures, partly returning in the 4th–2d millennia to Transcaucasia (as future Italics, Armenians, Albans and Celts) and to Northern Mesopotamia (as part of future Germanics).

This scenario explains many of linguistic oddities without addressing to the hypothesis of a common PIE ancestral homeland and without implying the necessity of "Wanderwörter". It is clear that further discussion can raise new questions or reveal inconsistencies in the suggested scenario forcing to its modification or replacement. Nevertheless, the application of the described method to figure out the circumstances of migrations of other ancient ethnic groups seems promising and can form the content of further work.

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