

*Linguistics*

## Recent Trends in Nostratic Comparative Linguistics

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**ABSTRACT.** The Nostratic Hypothesis got its start in 1903 with a suggestion by the Danish Indo-Europeanist Holger Pedersen that a number of languages/language families of northern Eurasia and the ancient Near East might be genetically related (cf. Pedersen 1931:335-339). He coined the term “Nostratic” to refer to this proposed grouping of languages. Early work was done by a small number of scholars on the question of distant linguistic relationship, but most of that work was of poor quality and was, consequently, largely ignored by mainstream linguists. It was not until the mid-1960s that the Russian linguists Vladislav M. Illič-Svityč and Aharon Dolgopolsky began to make meaningful progress in reconstructing the Nostratic parent language. Subsequently, a number of other scholars in other countries began making important contributions as well – these include: Václav Blažek, Allan R. Bomhard, Joseph H. Greenberg, Alexis Manaster Ramer, and Vitaly Shevoroshkin, among others. Two schools have come into being, namely, the Moscow School, whose chief spokesman is Aharon Dolgopolsky, and the American School, whose chief spokesman is Allan R. Bomhard. Serious work continues unabated (see below). © 2008 Bull. Georg. Natl. Acad. Sci.

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### 1.0. Evidence for Nostratic

The following evidence provides the basis for setting up a Nostratic macrofamily:

1. First and foremost, the descendant languages can be shown to share a large common vocabulary. In an article published in 1965, Illič-Svityč listed 607 possible common Nostratic roots, but only 378 have been published to date in his posthumous comparative Nostratic dictionary (1971– ). Since the early 1960s, Dolgopolsky has been gathering material for a new Nostratic dictionary and currently has material to support approximately 3,000 common Nostratic roots. His *Nostratic Dictionary* has just (2008) been made available online at: <http://www.dspace.cam.ac.uk/handle/1810/196512>. In the joint monograph (1994) by Allan R. Bomhard and John C. Kerns, entitled *The Nostratic Macrofamily: A Study in Distant Linguistic Relationship*, 601 common Nostratic roots were listed, and another 50 were proposed by Bomhard in a later article. Bomhard's most recent work, entitled *Reconstructing Proto-Nostratic: Comparative Phonology, Morphology, and Vocabulary*, has just been published (2008) by E. J. Brill ([http://www.brill.nl/product\\_id30791.htm](http://www.brill.nl/product_id30791.htm)). Volume 2 of this monograph (942 pp.) is devoted to comparative vocabulary. In it, Bomhard supplies material to support the reconstruction of 843 common Nostratic roots. In volume 2 (2002) of his book entitled *Indo-European and Its Closest Relatives: The Eurasiatic Language Family*, the late Joseph H. Greenberg presented a large amount of lexical material to support the reconstruction of his Eurasiatic Macrofamily (Eurasiatic may be viewed as a branch of Nostratic). In a number of articles, the Czech scholar Václav Blažek has also made many important contributions to the reconstruction of the common Nostratic vocabulary. It should be noted that there are many shared etymologies in the works of these different scholars.

2. As is to be expected, the various branches of Nostratic investigated to date exhibit regular sound correspondences (see the Appendix at the end of this paper for details), though, it should be mentioned, there are differences in interpretation between Illič-Svityč and Dolgopolsky on the one hand and Bomhard on the other (see below [§10.0]).

3. Finally, a substantial number of common grammatical formants have now been recovered – many of these are listed in Illič-Svityč's comparative Nostratic dictionary (1971– ); see also Dybo (2004), the chapter on Nostratic morphology by John C. Kerns in Bomhard–Kerns (1994:141–190), volume 1 of Greenberg's *Indo-European and Its Closest Relatives: The Eurasiatic Language Family* (Greenberg 2000), and Chapters 16 and 17 of Bomhard's new book *Reconstructing Proto-Nostratic* (Bomhard 2008.1:273–415).

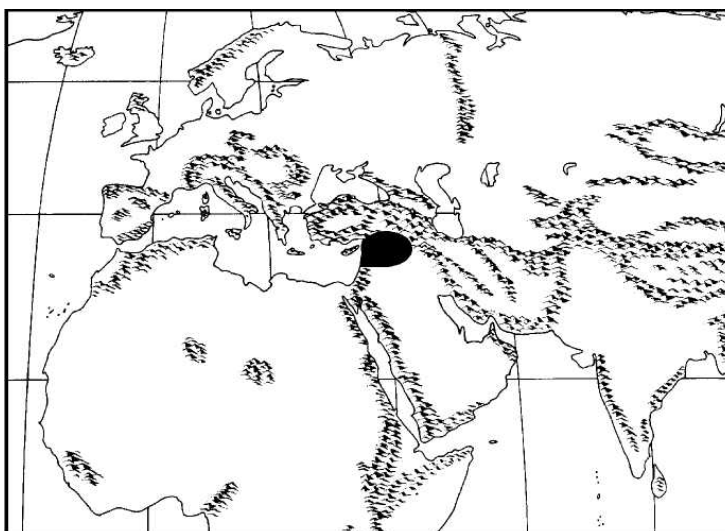
Notable among the lexical items uncovered by Illič-Svityč, Dolgopolsky, Greenberg, and Bomhard is a solid core of common pronominal stems. These pronominal stems have particular importance, since, as forcefully demonstrated by John C. Kerns (1985:9–50), pronouns, being among the most stable elements of a language, are a particularly strong indicator of genetic relationship (Ruhlen 1994:92–93 makes the same point, as did Björn Collinder before him).

The conclusion seems inescapable that the consistent, regular phonological correspondences that can be shown to exist among the Nostratic daughter languages as well as the agreements in vocabulary and grammatical formants that have been uncovered to date cannot be explained as due to linguistic borrowing or mere chance but can only be accounted for in terms of common origin, that is, genetic relationship. To assume any other possibility would be tantamount to denying the efficacy of the Comparative Method. This does not mean that all problems have been solved. On the contrary, there remain many issues to be investigated and many details to be worked out, but the future looks extremely exciting and extremely promising.

## 2.0. Nostratic Homeland

Analysis of the available evidence has enabled us to determine the most likely homeland of the Nostratic parent language, to establish a time-frame during which Proto-Nostratic might have been spoken, to date the disintegration of Proto-Nostratic, and to trace the early dispersal of the daughter languages. The following scenario emerges: The unified Nostratic parent language may be dated to between 15,000 to 12,000 BCE, that is, at the end of the last Ice Age – it was most likely located in the Fertile Crescent just south of the Caucasus Mountains. Beginning around 12,000 BCE, Nostratic began to expand, and, by 10,000 BCE, several distinct dialect groups had appeared. The first to split off from the main speech community was Afrasian. One dialect group spread from the Fertile Crescent to the northeast, eventually reaching Central Asia sometime before 9,000 BCE – this was Eurasiatic. Another dialect group spread eastward into western and central Iran, where it developed into Elamo-Dravidian at about 8,000 BCE. If Johanna Nichols is correct in seeing Pre-Proto-Kartvelian as having migrated from Central Asia westward below the Caspian Sea to the Caucasus, this would seem to imply that Pre-Proto-Kartvelian had first migrated northeastward from the Fertile Crescent along with or as part of Pre-Proto-Eurasiatic, that it stopped somewhere along the way, and that it then returned to the Middle East. For details, cf. Dolgopolsky 1998 and Bomhard 2008.1:221–252.

The following map shows the approximate location of the Nostratic homeland around 15,000 BCE:



At this stage of research, we can confidently say that the following languages/language families are to be included in the Nostratic macrofamily: Afrasian (also called Afroasiatic, Hamito-Semitic, Semito-Hamitic), Elamo-Dravidian, Kartvelian, and Eurasiatic. Eurasiatic, in turn, includes the following: Tyrrhenian (Etruscan, Raetic, and Lemnian), Indo-European, Uralic-Yukaghir, Altaic (Mongolian, Turkic, and Tungus), Chukchi-Kamchatkan, Gilyak (also called Nivkh), and Eskimo-Aleut. Other languages may belong as well, such as, for example, Korean and Japonic (Japanese-Ryukyuan). But much work needs to be done before these two groups can be convincingly shown to be related to Altaic (itself quite controversial), as is often assumed, let alone Nostratic.

### 3.0. A Sketch of Proto-Nostratic Phonology

Proto-Nostratic had a rich system of stops and affricates. Each stop and affricate series was characterized by the three-way contrast (1) voiceless (aspirated), (2) voiced, and (3) glottalized. The aspiration of series (1) was phonemically non-distinctive.

The Proto-Nostratic phonological system may tentatively be reconstructed as follows (cf. Bomhard 2008.1:213–220; see Dolgopolsky 1998:101 for a slightly different reconstruction):

**Stops and Affricates:**

|                |                |                |                |                 |                 |                |                 |                |     |   |  |
|----------------|----------------|----------------|----------------|-----------------|-----------------|----------------|-----------------|----------------|-----|---|--|
| p <sup>h</sup> | t <sup>h</sup> | c <sup>h</sup> | č <sup>h</sup> | ty <sup>h</sup> | tʃ <sup>h</sup> | k <sup>h</sup> | k <sup>wh</sup> | q <sup>h</sup> |     |   |  |
| b              | d              | ʒ              | ž              | dʏ              | dʒ (?)          | g              | g <sup>w</sup>  | ɠ              |     |   |  |
| pʼ             | tʼ             | cʼ             | čʼ             | tʼy             | tʃʼ             | kʼ             | kʼw             | qʼ             | qʼw | ʔ |  |

**Fricatives:**

|   |       |        |  |   |   |
|---|-------|--------|--|---|---|
| s | š     | sʏ     |  | h | ħ |
| z | ž (?) | zʏ (?) |  |   | ʕ |

**Glides:**

|   |   |
|---|---|
| w | y |
|---|---|

**Nasals and Liquids:**

|   |   |    |   |
|---|---|----|---|
| m | n | nʏ | ŋ |
|   | l | ly |   |
|   | r | ry |   |

**Vowels:**

|         |         |
|---------|---------|
| i (~ e) | u (~ o) |
| e       | o       |
| (ə ~ a) | a       |

**Also the sequences:**

|           |           |    |    |           |
|-----------|-----------|----|----|-----------|
| iy (~ ey) | uy (~ oy) | ey | oy | (əy ~) ay |
| iw (~ ew) | uw (~ ow) | ew | ow | (əw ~) aw |

### 3.1. Remarks on the Vowels

The following vowels may be reconstructed for Proto-Nostratic: *\*a*, *\*e*, *\*i*, *\*o*, and *\*u*. At least some of these vowels must have been subject to considerable subphonemic variation in the Nostratic parent language. The high front and back vowels *\*i* and *\*u*, in particular, may be assumed to have had lowered variants (indicated in the Proto-Nostratic reconstructions as *\*e* and *\*o* respectively), while the central low vowel *\*a* may be assumed to have had higher variants (indicated in the Proto-Nostratic reconstructions as *\*ə*). To complicate matters, *\*e* and *\*o* must also have existed as independent vocalic elements. It was the reanalysis, phonemicization, and exploitation of this subphonemic variation that gave rise to the ablaut and vowel harmony patterning found in the majority of the

Nostratic daughter languages. It may be noted here that, according to Greenberg (1990), traces of an earlier system of vowel harmony can be discerned in Proto-Indo-European.

It is unclear whether phonemic long vowels existed in Proto-Nostratic as well, though the evidence seems to indicate that they did not, except in nursery words.

Finally, it may be noted that, while any vowel (*\*a*, *\*e*, *\*i*, *\*o*, *\*u*) could appear in initial syllables, only *\*a*, *\*i*, *\*u* could appear in non-initial syllables. This is identical to the patterning found in Dravidian.

#### 4.0. Root Structure Patterning in Proto-Nostratic

Comparison of the various Nostratic daughter languages makes it possible to determine the rules governing the structural patterning of roots and stems in Proto-Nostratic. Most likely, the earliest patterning was as follows (cf. Bomhard 2008.1:215–216 and 1:391–394):

1. There were no initial vowels in Proto-Nostratic. Therefore, every root began with a consonant.
2. Originally, there were no initial consonant clusters either. Consequently, every root began with one and only one consonant. Medial clusters were permitted, however.
3. Two basic root types existed: (A) *\*CV* and (B) *\*CVC*, where *C* = any non-syllabic, and *V* = any vowel. Permissible root forms coincided exactly with these two syllable types.
4. A stem could either be identical with a root or it could consist of a root plus a single derivational morpheme added as a suffix to the root: *\*CVC+CV-*. Any consonant could serve as a suffix.
5. A stem could thus assume any one of the following shapes: (A) *\*CV-*, (B) *\*CVC-*, (C) *\*CVC+CV-*, or (D) *\*CVC-CVC-*. As in Proto-Altaic, the undifferentiated stems were real words in themselves and could be used without additional suffixes or grammatical endings. However, when so used, a vowel had to be added to the stem (unless the stem already ended in a vowel or in a semivowel, nasal, or liquid), thus: (A) *\*CV-* > *\*CV* (no change), (B) *\*CVC-* > *\*CVC+V*, (C) *\*CVC-CV-* > (no change), or (D) *\*CVC-CVC-* > *\*CVC-CVC+V*. Following Afrasian terminology, this vowel may be called a “terminal vowel” (TV). Not only did terminal vowels exist in Proto-Afrasian, they were also found in Dravidian, where they are called “enunciative vowels”. As in Proto-Dravidian, the terminal vowel was only required in stems ending in obstruents, which could not occur in final position.

The original root structure patterning was maintained longer in Proto-Dravidian and Proto-Altaic than in the other branches, while the patterning found in Proto-Indo-European, Proto-Kartvelian, and Proto-Afrasian is based upon slightly later developments. The root structure constraints found in Proto-Indo-European were an innovation. In Proto-Uralic, the rule requiring that all words end in a vowel was an innovation and arose from the incorporation of the so-called “terminal vowel” into the stem. It should be mentioned that reduplication was a widespread phenomenon.

On the basis of the evidence of Proto-Indo-European, Proto-Kartvelian, Proto-Afrasian, Proto-Dravidian, and Proto-Altaic, it may be assumed that there were three fundamental stem types: (A) verbal stems, (B) nominal and adjectival stems, and (C) pronominal and indeclinable stems. Some stems were exclusively nominal. In the majority of cases, however, both verbal stems and nominal stems could be built from the same root. In Proto-Nostratic, only pronominal and indeclinable stems could end in a vowel. Verbal and nominal stems, on the other hand, had to end in a consonant, though, as noted above, when the undifferentiated stems were used as real words in themselves, a “terminal vowel” had to be added to the stem (but only when the stem ended in an obstruent). The terminal vowels were morphologically significant. Adjectives did not exist as an independent grammatical category in Proto-Nostratic.

During the earliest period of Proto-Nostratic, *roots* could only have the forms: (A) *\*CV-* and (B) *\*CVC-*. Type (A) was restricted to pronominal stems and indeclinables, while type (B) characterized nominal and verbal stems. A single *derivational formative* could be placed after root type (B): *\*CVC + CV* (derivational formative). Grammatical relationships were indicated by placing *particles* either after the undifferentiated stem or after the stem plus a derivational formative: (A) *\*CVC + CV* (particle [P]) or (B) *\*CVC + CV* (derivational formative [DF]) + *CV* (particle [P]). In this scheme, a morphologically significant *formative vowel* (FV) had to be added either directly after the root if it ended in a consonant or between the root and any following element, be it particle or derivational formative; thus, we get the following patterns:

- |  |   |
|--|---|
| (A) <i>*CVC + V<sub>FV</sub></i>                   | (plus particle: <i>*CVC + V<sub>FV</sub> + CV<sub>p</sub></i> )                   |
| (B) <i>*CVC + V<sub>FV</sub> + CV<sub>DF</sub></i> | (plus particle: <i>*CVC + V<sub>FV</sub> + CV<sub>DF</sub> + CV<sub>p</sub></i> ) |
| (C) <i>*CVC-CVC + V<sub>FV</sub></i>               | (plus particle: <i>*CVC-CVC + V<sub>FV</sub> + CV<sub>p</sub></i> )               |

Eventually, the vowel of the derivational formative after the stem plus formative vowel was lost in type (B) when a particle was added, as follows:  $*CVC + V_{FV} + C_{DF} + CV_p$ . This is essentially the stage represented in Proto-Dravidian, though Proto-Dravidian has added long vowels to the equation as well as stems beginning with a vowel (no doubt arising from the loss of initial laryngeals). Next, the formative vowel was reinterpreted as part of the derivational formative in type (B):  $*CVC + VC + CV$ . This is the stage represented by Proto-Afrasian and is the basis for the root structure patterning found in Proto-Kartvelian and Proto-Indo-European as well. From an Afrasian perspective, there is no such thing as “formative vowels” – they are only preserved in Dravidian and Elamite, though, in Elamite, their status is disputed.

## 5.0. Proto-Nostratic Morphology

The assumptions we make about the morphological and syntactical structure of a given proto-language profoundly affect the reconstructions that we propose. In what follows, we will be discussing Bomhard’s proposal (2008.1:387–391) that Proto-Nostratic may have been an active language. Now, active languages exhibit specific characteristics that set them apart from other morphological types. Therefore, the reconstructions given below will conform with an active structure. However, it must be stressed that reconstructions should never be driven by theory alone. Rather, they must be fully consistent with the supporting data. Moreover, not only must our reconstructions be consistent with the supporting data, they must be consistent from a typological perspective as well, and they must be able to account for later developments in the descendant languages in as straightforward a manner as possible, without recourse to ad hoc rules. When reconstructions are driven by theory alone, the results can be disastrous.

Several scholars have recently presented persuasive arguments in favor of reconstructing an early phase of Proto-Indo-European as an active language. Proto-Afrasian is also assumed to have been an active language. In active languages, subjects of both transitive and intransitive verbs, when they are agents semantically, are treated identically for grammatical purposes, while non-agent subjects and direct objects are treated differently. An “agent” may be defined as the entity responsible for a particular action or the entity perceived to be the cause of an action.

Above, we mentioned that Proto-Nostratic had *formative vowels*. Now, it is curious that the formative vowel can take different shapes in Proto-Dravidian:  $*a$ ,  $*i$ , or  $*u$ . This seems to indicate that the different formative vowels must have had some sort of morphological significance at one point in time, even though this distinction has been lost in Dravidian. Not only must the formative vowels have had morphological significance, it is even probable that they had different significance depending upon whether a nominal or verbal stem was involved.

For verbal stems, the formative vowels may have been aspect markers, as follows:  $*a$  marked imperfective,  $*i$  marked perfective, and  $*u$  marked subordinate.

For nominal stems, the situation is a bit more complicated. The following patterning may be reconstructed for the earliest period of development in Proto-Nostratic:  $*-i/*-u$  was used to mark the subject in active constructions, while  $*-a$  was used to mark the direct object in active constructions as well as the subject in stative constructions.  $*-a$  was also used to mark the so-called “*status indeterminatus*”.

In later Proto-Nostratic, this patterning became disrupted, though it may have survived into Proto-Afrasian. In later Proto-Nostratic, the relational markers  $*-ma$  and  $*-na$  came to be used to mark the direct object in active constructions as well as the subject in stative constructions. Eventually, these relational markers became the primary means of marking the direct object in active constructions or the subject in stative constructions, with the result that the older patterning became disrupted. Thus, in the latest stage of the Nostratic parent language, we find the following patterning:

1.  $*-i/*-u$ : used to mark the subject in active constructions:
  - (A)  $*CVC + i/u$
  - (B)  $*CVC + i/u + CV_{DF}$
  - (C)  $*CVC-CVC + i/u$
2.  $*-a \sim *-ma/*-na$ : used to mark the direct object in active constructions as well as the subject in stative constructions:
 

|                          |   |
|--------------------------|---|
| (A) $*CVC + a$           | plus $*-ma/*-na$ : $*CVC + a + ma/na$             |
| (B) $*CVC + a + CV_{DF}$ | plus $*-ma/*-na$ : $*CVC + a + C(V)_{DF} + ma/na$ |
| (C) $*CVC-CVC + a$       | plus $*-ma/*-na$ : $*CVC-CVC + a + ma/na$         |

\*-ma/\*-na was the first case form (bound relational marker) to develop in Proto-Nostratic. The second was the genitive (in the sense ‘belonging to’) in \*-nu. Indeed, these are the only two bound relational markers that can be confidently reconstructed for the latest period of Proto-Nostratic. Finally, it seems likely that unextended \*-a remained as the indicator of the *status indeterminatus*.

Proto-Nostratic syntax was head-final, or left-branching, that is, dependents preceded their heads according to the so-called “rectum-regens rule”. In other words, “adverbs” preceded verbs, “adjectives” preceded nouns, and auxiliaries followed the main verb, though it must be emphasized here that adjectives did not exist as an independent grammatical category in Proto-Nostratic. The unmarked syntactical order was Subject + Object + Verb (SOV).

## 6.0. Pronominal, Deictic, and Anaphoric Stems

### 6.1. First Person Stems

First person singular (active): \*mi

First person plural (inclusive, active): \*ma

First person (stative): \*k<sup>h</sup>a

First person (stative): \*Ha

First person singular: \*na

First person plural (exclusive, active): \*na

First person (postnominal possessive/preverbal agentive): \*ʔiya

### 6.2. Second Person Stems

Second person (active): \*t<sup>h</sup>i (~ \*t<sup>h</sup>a)

Second person: \*si

Second person: \*ni

### 6.3. Anaphoric and Deictic Stems

Pronominal base of unclear deictic function: \*-gi/\*-ge

Deictic particle: (A) \*ʔa-/\*ʔa- (distant), (B) \*ʔi-/\*ʔe- (proximate), and (C) \*ʔu-/\*ʔo- (intermediate)

Deictic particle: (A) \*k<sup>h</sup>a-/\*k<sup>h</sup>a- (proximate), (B) \*k<sup>h</sup>u-/\*k<sup>h</sup>o- (distant), and (C) \*k<sup>h</sup>i-/\*k<sup>h</sup>e- (intermediate)

Deictic particle: (A) \*t<sup>h</sup>a-/\*t<sup>h</sup>a- (proximate), (B) \*t<sup>h</sup>u-/\*t<sup>h</sup>o- (distant), and (C) \*t<sup>h</sup>i-/\*t<sup>h</sup>e- (intermediate)

Deictic particle: \*ša-/\*sə-

Anaphoric pronoun stem: \*si-/\*se-

Anaphoric pronoun stem: \*na-, \*ni-

Deictic particle: \*p<sup>h</sup>a- ‘that over there, that yonder (not very far)’

### 6.4. Interrogative, Relative, and Indefinite Stems

Relative: \*k<sup>wh</sup>i-/\*k<sup>wh</sup>e-; interrogative: \*k<sup>wh</sup>a-/\*k<sup>wh</sup>a-

Interrogative-relative stem: \*ʔay-, \*ʔya-

Interrogative: \*mi-; relative: \*ma-

Interrogative-relative: \*na-

Indefinite: \*ma-, \*mi-, \*mu-

Indefinite: \*d<sup>y</sup>i-/\*d<sup>y</sup>e- ‘this one, that one’

## 7.0. Nominal Morphology

The overall structure of nominals (nouns and adjectives) was as follows:

Root + formative vowel (+ derivational suffix)

(+ relational marker) (+ number marker)

A stem could consist of the unextended root or the root extended by a single derivational suffix (preceded, as indicated above, by a formative vowel). As has already been noted, it is necessary to recognize two distinct periods of development in Proto-Nostratic. In the earliest phase of development, the relational markers listed below were free relational morphemes (postpositional particles). In later Proto-Nostratic, however, at least two of them were well on their way to becoming bound relational morphemes (case suffixes).

As already noted, only the following two bound relational markers (case suffixes) can be confidently reconstructed for the latest period of Proto-Nostratic: (A) direct object *\*-ma*, *\*-na* and (B) genitive *\*-nu*. Other case relationships were expressed by postpositions (see below for a list), some of which developed into bound case morphemes in the individual daughter languages. This is confirmed by Dravidian, where only the accusative (*\*-ay*, *\*-Vn*), dative (*\*-kk-*/*\*-k-*), and genitive (*\*-a*, *\*-in*) can be confidently reconstructed for the Dravidian parent language. Other case forms developed within the Dravidian daughter languages. Likewise, only the following two grammatical cases can be reconstructed for Proto-Uralic: (A) accusative *\*-m*, which probably was used to mark the definite direct object of finite verbs, and (B) a subordinate suffix *\*-n*, which functioned as a genitive/nominalizer with nouns and as an adverb formant with verbs. There were also at least three local cases in Proto-Uralic: (A) locative *\*-nA*, (B) separative *\*-tA* ~ *\*-tI*, and (C) and perhaps the latives *\*-k* (and/or *\*-ŋ*) and *\*-p* (traditional *\*-č*) (and/or *\*-n* [traditional *\*-ń*]). Denis Sinor (1988:714–725) has devoted an important study to the question of common case markers between Uralic and Altaic. He, too, posits a Proto-Uralic accusative in *\*-m* and a genitive in *\*-n*. For the former, he notes that nothing comparable can be posited for Proto-Turkic or Proto-Mongolian, but he does reconstruct a Proto-Tungus accusative *\*-m*, which is in agreement with what is found in Uralic. The clearest parallels for the latter are to be found in the Proto-Mongolian genitive *\*-n* and in the Proto-Turkic genitive *\*-n*. The genitive and accusative have converged in some Mongolian languages. This seems to indicate that Proto-Mongolian may have preserved the *\*-n* variant accusative form as opposed to the *\*-m* variant found in Uralic and Tungus. Sinor (1988:715–725) also discusses the Uralic and Altaic parallels between various local cases. Finally, it is worth mentioning here that, within Afrasian, Zaborski (1990:628) tentatively reconstructs the following case morphemes for Proto-Omoti: (A) nominative *\*-i*, (B) genitive-instrumental-directional *\*-kV*, (C) dative *\*-s*, (D) dative-comitative *\*-rV*, (E) accusative *\*-a* and *\*-nV*, (F) instrumental-locative-directional-dative *\*-nV*, and (G) ablative *\*-pV*. Zaborski (1990:618) notes that some of these case forms may go back to earlier postpositions. Parallels with Cushitic show that at least some of these case forms go back to Proto-Afrasian. Diakonoff (1988:61) notes that the following cases can be established for Proto-Afrasian with reasonable certainty: (A) *\*-Vš*, *\*-šV* locative-terminative; (B) *\*-dV*, *\*-Vd* comitative, dative; (C) *\*-kV* ablative and comparative; (D) *\*-Vm* locative-adverbialis; (E) *\*-l* directive; and (F) *\*-p* (also *\*-f*) ablative (in Omoti); conjunction, demonstrative pronoun in other languages. The ultimate Nostratic origin of several of the case forms posited by Zaborski for Proto-Omoti and by Diakonoff for Proto-Afrasian is completely transparent.

In Proto-Nostratic, adjectives did not exist as a separate grammatical category. They were differentiated from nouns mainly by syntactical means – “adjectives” preceded the nouns they modified. Moreover, they did not agree with the head noun in number or gender.

## 7.1. Relational Markers

Direct object: *\*-ma*

Direct object: *\*-na*

Possessive: *\*-nu* ‘belonging to’

Possessive: *\*-IV* ‘belonging to’

Dative: *\*-na* ‘to, for’

Directive: *\*-k<sup>h</sup>a* ‘direction to or towards, motion to or towards’

Directive(-locative): *\*-ri* ‘direction to or towards, motion to or towards (?)’

Locative: *\*-ni* ‘the place in, on, or at which something exists or occurs’

Locative, instrumental-comitative: *\*-ma* ‘in, from, with’

Locative: *\*-bi* ‘in addition to, together with’

Locative: *\*-i* ‘near to, near by’ (?)

Comitative-locative: *\*-da* ‘together with’

Oblique: *\*-t<sup>h</sup>a*

## 7.2. Dual and Plural Markers

Dual: *\*k<sup>h</sup>i(-nV)*

Plural: *\*-t<sup>h</sup>a*

Plural: *\*-ri*

Plural: *\*-k<sup>h</sup>i*

Plural (Eurasian only): *\*-sV*

Plural/collective: *\*-la*

Plural: *\*-nV*

*Note:* plurality could also be expressed by reduplication of the root.

### 7.3. Derivational Suffixes

Nominalizer: *\*-ri/\*-re*

Nominalizer: *\*-ma*

Nominalizer: *\*-ya*

Nominalizer: *\*-t<sup>h</sup>a*

Nominalizer: *\*-na*

Nominalizer: *\*-la*

Nominalizer: *\*-k<sup>h</sup>a*

Nominalizer: *\*-k'a*

### 8.0. Verbal Morphology

In Proto-Nostratic, verbs fell into two types of construction: (1) active and (2) stative. In active constructions, which usually involved transitive verbs, the grammatical subject of the verb represented the agent performing the action, and the direct object represented the patient, or recipient, of the action. Stative constructions, on the other hand, expressed a state of affairs, rather than an event. Verbs expressed aspectual contrasts rather than temporal contrasts. Tense relates the time of the situation referred to to some other time, usually to the moment of speaking, while aspect marks the duration or type of temporal activity denoted by the verb. Proto-Nostratic had two aspects: (A) perfective (past) and (B) imperfective (non-past). Proto-Nostratic also had, at the very least, the following moods: (A) indicative; (B) imperative; (C) conditional; (D) hortatory-precative; (E) inchoative; and (F) prohibitive. There was also a causative construction.

The overall structure of verbs was as follows:

Root + formative vowel (+ derivational suffix)  
(+ mood marker) (+ person marker) (+ number marker)

A stem could consist of the unextended root or the root extended by a single derivational suffix (preceded, as indicated above, by a formative vowel). The position of the number marker seems to have been flexible – it could also be placed before the person marker. Gender was not marked. There were no prefixes in Proto-Nostratic. We may note here that Krishnamurti (2003:279 and 312) posits the following structure for verbs in Proto-Dravidian:

Stem + tense-mood + (gender-)number-person marker

Stative verbs were indifferent to number and, therefore, had no plural forms. They also had a special set of person markers different from those of active verbs:

|     | Active person markers  |  | Stative person markers |
|-----|------------------------|--|------------------------|
|     | Singular               | Plural                                   |                        |
| 1p. | <i>*mi</i>             | <i>*ma</i> (inclusive) (+ plural marker) | <i>*k<sup>h</sup>a</i> |
|     | <i>*na</i>             | <i>*na</i> (exclusive) (+ plural marker) | <i>*Ha</i>             |
| 2p. | <i>*t<sup>h</sup>i</i> | <i>*t<sup>h</sup>i</i> (+ plural marker) | <i>*t<sup>h</sup>i</i> |
|     | <i>*si</i>             |  |                        |
|     | <i>*ni</i>             |  |                        |
| 3p. | <i>*ša-/*šd-</i>       | <i>*ša-/*šə-</i> (+ plural marker)       | <i>*Ø</i>              |
|     | <i>*na-, *ni-</i>      | <i>*na-, *ni-</i> (+ plural marker)      |                        |

Morphologically, verbs could be either finite or non-finite. Finite forms could be marked for aspect, mood, person, and number, but not for gender or tense. Non-finite forms exhibited nominal inflection. In unmarked word order, the verb occupied the end position of a clause.

### 8.1. Non-finite Verb Forms (Derivational Suffixes)

The following non-finite verb forms are widespread enough in the Nostratic daughter languages to guarantee their common origin, and, consequently, they are listed separately here. However, at the Proto-Nostratic level, they were indistinguishable from the nominalizing suffixes listed above.

Participle: *\*-na*

Participle: *\*-t<sup>h</sup>a*

Gerundive-participle: *\*-la*

### 8.2. Finite Verb Forms: Mood Markers

Imperative: *\*-k<sup>h</sup>a*, *\*-k<sup>h</sup>i*, *\*-k<sup>h</sup>i*

Conditional: *\*-ba*

Hortatory-precative: *\*-li*

Inchoative: *\*-na*

Note: the bare stem could also serve as imperative.

### 8.3. Finite Verb Forms: Others

Causative: *\*-sV*

## 9.0. Prohibitive/Negative Particles and Indeclinables

The following negative/prohibitive particles and indeclinables can be reconstructed for Proto-Nostratic:

Negative particles: *\*na*, *\*ni*, *\*nu*

Prohibitive particle: *\*ma(?)*

Negative particle: *\*ʔal-* (*~ \*ʔal-*)

Negative particle: *\*li* (*~ \*le*) (?)

Negative particle: *\*ʔe*

Post-positional intensifying and conjoining particle: *\*k<sup>wh</sup>a-* (*~ \*k<sup>wh</sup>ʔ*)

Particle: *\*k<sup>wh</sup>ay-* ‘when, as, though, also’

Particle: *\*har<sup>w</sup>-* ‘or; with, and; then, therefore’

Particle: *\*ʔin-* (*~ \*ʔen-*), *\*(-)ni* ‘in, into, towards, besides, moreover’

Sentence particle: *\*wa* (*~ \*wə*) ‘and, also, but; like, as’

Coordinating conjunction: *\*ʔaw-*, *\*ʔwa-* (*~ \*ʔwə*) ‘or’

Note: The *CVC-* root structure patterning of some of these forms points to their ultimate nominal or verbal origin. For example, the negative particle *\*ʔal-* (*~ \*ʔal-*) must ultimately have been a negative verb stem meaning ‘to be not so-and-so’, as in its Dravidian derivatives, while *\*ʔin-* (*~ \*ʔen-*), *\*(-)ni* was originally a nominal stem meaning ‘place, location’.

## 10.0. Remarks on Nostratic Sound Correspondences

The Nostratic sound correspondences given in the tables in the Appendix to this article are based exclusively upon the work of Bomhard. They differ in several significant respects from the sound correspondences proposed by the Moscow School, as represented in the work of Illič-Svityč and Dolgopolsky. Bomhard bases his views on three fundamental assumptions:

1. The traditional reconstruction of the Proto-Indo-European consonant system is flawed and is to be reinterpreted along the lines proposed, on the one hand, by Thomas V. Gamkrelidze and Vjačeslav V. Ivanov and, on the other hand, by Paul J. Hopper, as follows (the reconstruction of the Proto-Indo-European stop system posited by Lehmann is given for comparison):

| Lehmann        |                 |                |   | Gamkrelidze – Ivanov |        |        |  |
|----------------|-----------------|----------------|---|----------------------|--------|--------|--|
| b              | b <sup>h</sup>  | p              | = | p'                   | bh/b   | ph/p   |  |
| d              | d <sup>h</sup>  | t              | = | t'                   | dh/d   | th/t   |  |
| g              | g <sup>h</sup>  | k              | = | k'                   | gh/g   | kh/k   |  |
| g <sup>w</sup> | g <sup>wh</sup> | k <sup>w</sup> | = | k'ʷ                  | gʷh/gʷ | kʷh/kʷ |  |

2. The frequency distribution of Proto-Nostratic stops (and affricates) in the reconstruction proposed by Illič-Svityč and Dolgopolsky is in contradiction to typological predictions, and is, therefore, highly suspect (see below).
3. Taking into consideration (1) the radical reinterpretation of the Proto-Indo-European consonant system proposed by Gamkrelidze, Ivanov, and Hopper, as well as (2) the problems in the frequency distribution of stops (and affricates) in the reconstruction of the Proto-Nostratic phonological system proposed by Illič-Svityč and Dolgopolsky, a different set of Nostratic sound correspondences is warranted.

Each of these assumptions must be evaluated independently. The reasons that each of these assumptions must be evaluated independently are as follows: Even if assumption 1 proves to be untenable, it does not invalidate assumption 2. Likewise, even if assumption 2 proves to be untenable, it does not invalidate assumption 1. Assumption 3, on the other hand, is dependent upon assumption 2 but not assumption 1. That is to say, assumption 3 is not dependent upon any particular reconstruction of the Proto-Indo-European consonant system, though, it goes without saying, if assumption 1 is valid, it reinforces the likelihood that the revised set of Nostratic sound correspondences that Bomhard has proposed is correct. Inasmuch as assumption 3 is dependent on assumption 2, however, if assumption 2 is invalid, then assumption 3 is unnecessary. Moreover, even if assumption 2 is valid and a different set of Nostratic sound correspondences is warranted, it does not necessarily follow that the alternative correspondences that Bomhard has proposed are the only possible scenario, though other scenarios are considerably less likely.

Let us now consider the basis for assumption 2: The mistake that Illič-Svityč and Dolgopolsky made was in trying to equate the glottalized stops of Proto-Kartvelian and Proto-Afrasian with the traditional plain voiceless stops of Proto-Indo-European. Their reconstruction would make the glottalized stops the least marked members in the Proto-Nostratic labial series and the most marked in the velar series. Such a reconstruction is thus in contradiction to typological evidence, according to which glottalized stops uniformly have the opposite frequency distribution (most marked in the labial series and least marked in the velar series). The reason that Illič-Svityč's and Dolgopolsky's reconstruction contradicts the typological evidence is as follows: Illič-Svityč and Dolgopolsky posit glottalics for Proto-Nostratic on the basis of a small number of seemingly solid examples in which glottalics in Proto-Afrasian and/or Proto-Kartvelian appear to correspond to traditional plain voiceless stops in Proto-Indo-European. On the basis of these examples, they assume that, whenever there is a voiceless stop in the Proto-Indo-European examples they cite, a glottalic is to be reconstructed for Proto-Nostratic, even when there are no glottalics in the corresponding Kartvelian and Afrasian forms! This means that the Proto-Nostratic glottalics have the same frequency distribution as the Proto-Indo-European plain voiceless stops. Clearly, this cannot be correct (Alexis Manaster Ramer 1997 makes the same observation). The main consequence of the mistaken comparison of the glottalized stops of Proto-Kartvelian and Proto-Afrasian with the traditional plain voiceless stops of Proto-Indo-European is that Illič-Svityč and Dolgopolsky are led to posit forms for Proto-Nostratic on the basis of theoretical considerations but for which there is absolutely no evidence in any of the Nostratic daughter languages.

The question then arises: Do these criticisms completely invalidate the cognate sets involving glottalized stops (and affricates) proposed by Illič-Svityč and Dolgopolsky? Well, no, not exactly – it is not quite that simple. In many cases, the etymologies are correct, but the Proto-Nostratic reconstructions are wrong – here, a simple rewriting of the reconstructions is all that is required. Other examples adduced by Illič-Svityč and Dolgopolsky admit alternative explanations, while still others are questionable from a semantic point of view and should be abandoned. Once the questionable examples are removed, there is an extremely small number left over (no more than a handful) that appear to support their position. However, compared to the massive counter-evidence supplied by Bomhard (2008, volume 2), even these remaining examples become suspect (they may be borrowings or simply false cognates). Finally, there are even some examples where the comparison of glottalized stops in Proto-Kartvelian and Proto-Afrasian with plain voiceless stops in Proto-Indo-European is correct. This occurs in the cases where two glottalics originally appeared in a Proto-Nostratic root: *\*C'VC'*-. Such roots are preserved without change in Proto-Kartvelian and Proto-Afrasian, while in Proto-Indo-European, they have been subject to a rule of regressive deglottalization: *\*C'VC'* -> *\*CVC'* -.

## Appendix: Nostratic Sound Correspondences

| Proto-Nostratic   | Proto-IE          | Proto-Kartvelian | Proto-Afrasian | Proto-Uralic | Proto-Dravidian | Proto-Altaic       | Proto-Eskimo |
|-------------------|-------------------|------------------|----------------|--------------|-----------------|--------------------|--------------|
| b-                | b <sup>h</sup> -  | b-               | b-             | p-           | p-              | b-                 | p-           |
| -b-               | -b <sup>h</sup> - | -b-              | -b-            | -w-          | -pp-/ -vv-      | -b-                | -v-          |
| p <sup>h</sup> -  | p <sup>h</sup> -  | p-               | p-, f-         | p-           | p-              | l <sup>h</sup> -   | p-           |
| -p <sup>h</sup> - | -p <sup>h</sup> - | -p-              | -p-, -f-       | -p-          | -pp-/ -v-       | -lc <sup>h</sup> - | -p(p)-       |
| p'-               | (p'-)             | p'-              | p'-            |              |                 | p-                 |              |
| -p'-              | (-p'-)            | -p'-             | -p'-           |              |                 | -p-                |              |

|                   |                   |      |      |        |        |                   |        |
|-------------------|-------------------|------|------|--------|--------|-------------------|--------|
| d-                | d <sup>h</sup> -  | d-   | d-   | t-     | t-     | d-                | t-     |
| -d-               | -d <sup>h</sup> - | -d-  | -d-  | -t-    | -t(t)- | -d-               | -ð-    |
| t <sup>h</sup> -  | t <sup>h</sup> -  | t-   | t-   | t-     | t-     | t <sup>h</sup> -  | t-     |
| -t <sup>h</sup> - | -t <sup>h</sup> - | -t-  | -t-  | -t(t)- | -tt-   | -t <sup>h</sup> - | -t(t)- |
| t'-               | t'-               | t'-  | t'-  | t-     | t-     | t-                | t-     |
| -t'-              | -t'-              | -t'- | -t'- | -t-    | -t(t)- | -t-               | -t-    |

|                    |                   |        |                    |                    |           |                   |        |
|--------------------|-------------------|--------|--------------------|--------------------|-----------|-------------------|--------|
| d <sup>y</sup> -   | d <sup>h</sup> -  | žg-    | d <sup>y</sup> -   | t <sup>y</sup> -   | c-        | ž-                | c-     |
| -d <sup>y</sup> -  | -d <sup>h</sup> - | -žg-   | -d <sup>y</sup> -  | -t <sup>y</sup> -  | -c(c)/-y- | -ž-/ -d-          | -c-    |
| t <sup>h</sup> -   | t <sup>h</sup> -  | čk-    | t <sup>y</sup> -   | t <sup>y</sup> -   | c-        | č <sup>h</sup> -  | c-     |
| -t <sup>h</sup> -  | -t <sup>h</sup> - | -čk-   | -t <sup>y</sup> -  | -t <sup>y</sup> -  | -c(c)/-y- | -č <sup>h</sup> - | -c(c)- |
| t' <sup>y</sup> -  | t'-               | č'k'-  | t' <sup>y</sup> -  | t <sup>y</sup> -   | c-        | č-                | c-     |
| -t' <sup>y</sup> - | -t'-              | -č'k'- | -t' <sup>y</sup> - | -t' <sup>y</sup> - | -c(c)/-y- | -č-               | -c-    |
| s <sup>y</sup> -   | s-                | šk-    | s <sup>y</sup> -   | s <sup>y</sup> -   | c-        | s-                |        |
| -s <sup>y</sup> -  | -s-               | -šk-   | -s <sup>y</sup> -  | -s <sup>y</sup> -  | -c(c)/-y- | -s-               |        |

|                   |                   |      |      |     |        |                   |        |
|-------------------|-------------------|------|------|-----|--------|-------------------|--------|
| ž-                | d <sup>h</sup> -  | ž-   | ž-   | č-  | c-     | ž-                | c-     |
| -ž-               | -d <sup>h</sup> - | -ž-  | -ž-  | -č- | -c(c)- | -ž-/ -d-          | -c-    |
| c <sup>h</sup> -  | t <sup>h</sup> -  | c-   | c-   | č-  | c-     | č <sup>h</sup> -  | c-     |
| -c <sup>h</sup> - | -t <sup>h</sup> - | -c-  | -c-  | -č- | -c(c)- | -č <sup>h</sup> - | -c(c)- |
| c'-               | t'-               | c'-  | c'-  | č-  | c-     | č-                | c-     |
| -c'-              | -t'-              | -c'- | -c'- | -č- | -c(c)  | -č-               | -c-    |
| s-                | s-                | s-   | s-   | s-  | c-     | s-                |        |
| -s-               | -s-               | -s-  | -s-  | -s- | -c(c)  | -s-               |        |
| z-                | s-                | z-   | z-   | s-  |        | z-                |        |
| -z-               | -s-               | -z-  | -z-  | -s- |        |                   |        |

| Proto-Nostratic   | Proto-IE          | Proto-Kartvelian | Proto-Afrasian | Proto-Uralic | Proto-Dravidian | Proto-Altaic      | Proto-Eskimo |
|-------------------|-------------------|------------------|----------------|--------------|-----------------|-------------------|--------------|
| ǵ-                | d <sup>h</sup> -  | ǵ-               | ǵ-             | č-           | c-              | ǵ-                | c-           |
| -ǵ-               | -d <sup>h</sup> - | -ǵ-              | -ǵ-            | -č-          | -c(c)-          | -ǵ-/d-            | -c-          |
| č <sup>h</sup> -  | t <sup>h</sup> -  | č-               | c-             | č-           | c-              | č <sup>h</sup> -  | c-           |
| -č <sup>h</sup> - | -t <sup>h</sup> - | -č-              | -c-            | -č-          | -c(c)-          | -č <sup>h</sup> - | -c(c)-       |
| č'-               | t'-               | č'-              | c'-            | č-           | c-              | č-                | c-           |
| -č'-              | -t'-              | -č'-             | -c'-           | -č-          | -c(c)-          | -č-               | -c-          |
| š-                | s-                | š-               | s-             | s-           | c-              | s-                |              |
| -š-               | -s-               | -š-              | -s-            | -s-          | -c(c)-          | -s-               |              |

|                   |                   |      |      |        |        |                   |                  |
|-------------------|-------------------|------|------|--------|--------|-------------------|------------------|
| g-                | g <sup>h</sup> -  | g-   | g-   | k-     | k-     | g-                | k- q-            |
| -g-               | -g <sup>h</sup> - | -g-  | -g-  | -x-    | -k-    | -g-               | -γ-              |
| k <sup>h</sup> -  | k <sup>h</sup> -  | k-   | k-   | k-     | k-     | k <sup>h</sup> -  | k- q-            |
| -k <sup>h</sup> - | -k <sup>h</sup> - | -k-  | -k-  | -k(k)- | -k(k)- | -k <sup>h</sup> - | -k(k)-<br>-q(q)- |
| k'-               | k'-               | k'-  | k'-  | k-     | k-     | k-                | k- q-            |
| -k'-              | -k'-              | -k'- | -k'- | -k-    | -k(k)- | -k-               | -k- -q-          |

|                    |                    |                      |                    |        |        |                   |                  |
|--------------------|--------------------|----------------------|--------------------|--------|--------|-------------------|------------------|
| g <sup>w</sup> -   | g <sup>wh</sup> -  | gw/u-                | g <sup>w</sup> -   | k-     | k-     | g-                | k- q-            |
| -g <sup>w</sup> -  | -g <sup>wh</sup> - | -gw/u-               | -g <sup>w</sup> -  | -x-    | -k-    | -g-               | -γ-              |
| k <sup>wh</sup> -  | k <sup>wh</sup> -  | kw/u-                | k <sup>w</sup> -   | k-     | k-     | k <sup>h</sup> -  | k- q-            |
| -k <sup>wh</sup> - | -k <sup>wh</sup> - | -kw/u-               | -k <sup>w</sup> -  | -k(k)- | -k(k)- | -k <sup>h</sup> - | -k(k)-<br>-q(q)- |
| k' <sup>w</sup> -  | k' <sup>w</sup> -  | k' <sup>w</sup> /u-  | k' <sup>w</sup> -  | k-     | k-     | k-                | k- q-            |
| -k' <sup>w</sup> - | -k' <sup>w</sup> - | -k' <sup>w</sup> /u- | -k' <sup>w</sup> - | -k-    | -k(k)- | -k-               | -k- -q-          |

|                    |                    |                      |                        |        |        |                   |                  |
|--------------------|--------------------|----------------------|------------------------|--------|--------|-------------------|------------------|
| G-                 | g <sup>h</sup> -   | G-                   | G- (?)                 | k-     | k-     | g-                | k- q-            |
| -G-                | -g <sup>h</sup> -  | -G-                  | -G- (?)                | -x-    | -k-    | -g-               | -γ-              |
| q <sup>h</sup> -   | k <sup>h</sup> -   | q-                   | q- (?)                 | k-     | k-     | k <sup>h</sup> -  | k- q-            |
| -q <sup>h</sup> -  | -k <sup>h</sup> -  | -q-                  | -q- (?)                | -k(k)- | -k(k)- | -k <sup>h</sup> - | -k(k)-<br>-q(q)- |
| q'-                | k'-                | q'-                  | q'- (?)                | k-     | k-     | k-                | k- q-            |
| -q'-               | -k'-               | -q'-                 | -q'- (?)               | -k-    | -k(k)- | -k-               | -k- -q-          |
| q' <sup>w</sup> -  | k' <sup>w</sup> -  | q' <sup>w</sup> /u-  | q' <sup>w</sup> - (?)  | k-     | k-     | k-                | k- q-            |
| -q' <sup>w</sup> - | -k' <sup>w</sup> - | -q' <sup>w</sup> /u- | -q' <sup>w</sup> - (?) | -k-    | -k(k)- | -k-               | -k- -q-          |

| Proto-Nostratic | Proto-IE | Proto-Kartvelian | Proto-Afrasian | Proto-Uralic | Proto-Dravidian | Proto-Altaic | Proto-Eskimo |
|-----------------|----------|------------------|----------------|--------------|-----------------|--------------|--------------|
| tʰh-            | kh-      | x-               | tʰ-            | sy-          | c-              | š-           | t-           |
| -tʰh-           | -kh-     | -x-              | -tʰ-           | -δ-          | -k-             |              | -t-          |
| tʰ'-            | k'-      |                  | tʰ'-           | δy-          | t-              |              |              |
| -tʰ'-           | -k'-     |                  | -tʰ'-          | -δy-         | -t(t)-          |              |              |
| ɣ-              | ɣh-      | Ø-               | ɣ-             | Ø-           | Ø-              | Ø-           | Ø-           |
| -ɣ-             | -ɣh-     | -Ø-              | -ɣ-            | -Ø-          | -Ø-             | -Ø-          | -Ø-          |
| h-              | hh-      | x-               | h-             | Ø-           | Ø-              | Ø-           | Ø-           |
| -h-             | -hh-     | -x-              | -h-            | -Ø-          | -Ø-             | -Ø-          | -Ø-          |
| ʔ-              | ʔ-       | Ø-               | ʔ-             | Ø-           | Ø-              | Ø-           | Ø-           |
| -ʔ-             | -ʔ-      | -Ø-              | -ʔ-            | -Ø-          | -Ø-             | -Ø-          | -Ø-          |
| h-              | h-       | Ø-               | h-             | Ø-           | Ø-              | Ø-           | Ø-           |
| -h-             | -h-      | -Ø-              | -h-            | -Ø-          | -Ø-             | -Ø-          | -Ø-          |
| y-              | y-       | y-/Ø-            | y-             | y-           | y-/Ø-           |              | y-           |
| -y-             | -y-      |                  | -y-            | -y-          | -y-             | -y-          | -y-          |
| w-              | w-       | w-               | w-             | w-           | v-/Ø-           |              | v-           |
| -w-             | -w-      | -w-              | -w-            | -w-          | -v-             |              | -v-          |
| m-              | m-       | m-               | m-             | m-           | m-              | m-           | m-           |
| -m-             | -m-      | -m-              | -m-            | -m-          | -m-             | -m-          | -m-          |
| n-              | n-       | n-               | n-             | n-           | n-              | n-           | n-           |
| -n-             | -n-      | -n-              | -n-            | -n-          | -n-/n̄-         | -n-          | -n-          |
| ny-             | n-       |                  | n-             | ny-          | ñ-              | ny-          |              |
| -ny-            | -n-      |                  | -n-            | -ny-         | -ñ-             | -ny-         |              |
| -ŋ-             | -n-      |                  | -n-            | -ŋ-          | -ñ-             | -ŋ-          | -ŋ-          |
| l-              | l-       | l-               | l-             | l-           | l-              | l-           |              |
| -l-             | -l-      | -l-              | -l-            | -l-          | -l-             | -l-          | -l-          |
| -ly-            | -l-      | -l-              | -l-            | -ly-         | ḷ-             | -ly-         |              |
| r-              | -r-      | -r-              | -r-            | r-           |                 |              |              |
| -r-             | -r-      | -r-              | -r-            | -r-          | -r-/ṛ-         | -r-          | -R-          |
| -ry-            | -r-      | -r-              | -r-            | -ry-         | -ṛ-            | -ry-         |              |

| Proto-Nostratic | Proto-IE       | Proto-Kartvelian | Proto-Afrasian | Proto-Uralic | Proto-Dravidian | Proto-Altaic | Proto-Eskimo |
|-----------------|----------------|------------------|----------------|--------------|-----------------|--------------|--------------|
| i               | i e            | i                | i              | i            | i               | i            | i            |
| ə               | e a ə          | e i              | i u            | e            | e               | e            | ə            |
| u               | u o            | u                | u              | u            | u               | u            | u            |
| e               | e              | e                | e              | e            | e               | e            | i            |
| a               | a o ə          | a                | a              | a ă          | a               | a            | a            |
| o               | o              | o                | o              | o            | o               | o            | u            |
| iy              | īy ey ī ē ī    | iy i             | iy             | iy i         | iy ī            |              | iy           |
| əy              | ey ay īy ī     | ey i             | iy uy          | ey           | ey ē            |              | əy           |
| uy              | īy ī ī         | uy i             | uy             | uy           | uy ū            |              | uy           |
| ey              | ey īy ē ī      | ey i             | ey             | ey e         | ey ē            |              | iy           |
| ay              | ay oy īy ī     | ay i             | ay             | ay ăy        | ay ā            |              | ay           |
| oy              | oy īy ī        | oy i             | oy             | oy           | oy ō            |              | uy           |
| iw              | ū ūw ū         | iw u             | iw             | iw           | iv ī            |              | iv           |
| əw              | ew aw<br>ūw ū  | ew u             | iw uw          | ew           | ev ē            |              | əv           |
| uw              | ū ō ūw<br>ow ū | uw u             | uw             | uw u         | uv ū            |              | uv           |
| ew              | ew ūw ū        | ew u             | ew             | ew           | ev ē            |              | iv           |
| aw              | ow ūw ū        | aw u             | aw             | aw ăw        | av ā            |              | av           |
| ow              | ō ow<br>ūw ū   | ow u             | ow             | ow o         | ov ō            |              | uv           |

Note: The Proto-Altaic vowels given above are according to Starostin—Dybo—Mudrak's (2003) reconstruction. The developments of the sequences *\*iy*, *\*əy*, *\*uy*, *\*ey*, *\*ay*, *\*oy*, *\*iw*, *\*əw*, *\*uw*, *\*ew*, *\*aw*, *\*ow* in Proto-Altaic are unclear.

## ენათმეცნიერება

ახალი მიმდინარეობანი ნოსტრატულ შედარებით  
ენათმეცნიერებაში

ალან რ. ბომჰარდი

ჩარლსტონი, სამხრეთ კაროლინა, აშშ

(წარმოდგენილია აკადემიკოს თ. გამყრელიძის მიერ)

ნოსტრატული ჰიპოთეზა სათავეს იღებს 1903 წელს, როდესაც გამოჩენილი დანიელი ენათმეცნიერი *პოლგერ პედერსენი* აყენებს თვალსაზრისს, რომ ჩრდილოეთ ევრაზიის მთელი რიგი ენები შესაძლებელია მონათესავენი აღმოჩნდნენ ძველი მახლობელი აღმოსავლეთის ენებისა და ენათა ოჯახებისა. *პ. პედერსენმა* შემოიღო ტერმინი “ნოსტრატული ენები” ამ ჯგუფის ენათა აღსანიშნავად.

უკვე ადრევე დაიწყო კვლევა ამ მიმართულებით, ე.ი. ენებს შორის “შორეული ნათესაობის” გამოსავლენად, მაგრამ გამოკვლევათა უმრავლესობა ისეთი დონისა იყო, რომ მათ არ მოუხდენიათ გავლენა ძირითად ლინგვისტურ მიმართულებებზე.

მხოლოდ გასული საუკუნის 60-იანი წლებიდან იწყება ამ მიმართულებით სერიოზული გამოკვლევების პუბლიკაცია, როდესაც რუსმა ლინგვისტებმა *ვლადისლავ ილიჩ-სეიტიჩმა* და *აპარონ დოლგოპოლსკიმ* შემოგვთავაზეს “ნოსტრატული” ფუძე-ენის რეკონსტრუქციები. მას შემდეგ სხვადასხვა ქვეყნის ლინგვისტები გამოდიან “ნოსტრატული ენის” რეკონსტრუქციის წინადადებებით...

ამ მიმართულებით ამჟამად ჩამოყალიბებულია ორი ძირითადი სკოლა: “მოსკოვის სკოლა”, რომლის მთავარი წარმომადგენელია ამჟამად *აპარონ დოლგოპოლსკი*, და ამერიკული სკოლა, რომლის სათავეშია წინამდებარე სტატიის ავტორი *ალან რ. ბომჰარდი*. ამ მიმართულებით შეუწელებლად მიმდინარეობს მნიშვნელოვანი კვლევა-ძიება.

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