Yan V. Kapranov
Kyiv National Linguistic University, Kyiv, Ukraine

DIACHRONIC INTERPRETATION
OF PHONOMORPHOLOGICAL AND SEMANTIC
REGULARITIES OF NOSTRATIC
(Based on *HuKa “eye”)

Bibliographic Description:
Kapranov, Y. V. (2019). Diachronic Interpretation of Phonomorphological and
Semantic Regularities of Nostratic (Based on *HuKa “eye”). Scientific Journal of National
P. 74–89. DOI: https://doi.org/10.31392/NPU-nc.series9.2019.19.05

Abstract
The diachronic interpretation of Indo-European *h²ek²- / *heuk- “eye, to see”, Altaic *uka- “to notice,
to understand” and Afro-Asiatic *Hwg- “to know”, originating from Nostratic *HuKa “eye, to see”, allowed
to establish both divergent and convergent types of linguistic relationship among them, for which the close
(Indo-European, Altaic, Afro-Asiatic) and remote / distant (Indo-European / Afro-Asiatic and Altaic) types
of language relationship have been established, depending on the action of the main phonomorphological and
semantic regularities.

The degree of manifestation of phonomorphological laws indicates a close type of language
relationship among Indo-European, Altaic and Afro-Asiatic language families. They are: 1) the law on the
three-letter / three-phonemic root structure of an archetype (according to E. Benvenist), which corresponds to
the law on the consonant root (according to A. G. Belova): it helped to fix three phonemes in Indo-European
*h²ek²- / *heuk-. Altaic *uka- and Afro-Asiatic *Hwg-, as well as to trace the reflexes of this structure in the
genetic data material of these language families; 2) the law of the mora is fixed in the Indo-European *h²ek²-
/ *heuk-, Altaic *uka- and Afro-Asiatic *Hwg-, the forms of which correspond to a monosyllabic structure, and
mono- and multisyllable structures have been observed in the genetic data material; 3) the process of
spirantisation consists in weakening the consonant phoneme /q/, i.e. the reflection /q/ into /k/ and /x/; 4) the
process of “pharyngisation” can be traced at the end of monosyllabic words, where it could occur by analogy
with those forms of the word where the consonant was intervocal; 5) the law on the pronunciation of short
yowel phonemes /ə/ and /u/, where such features are represented: 1) the degree of solution of the oral cavity;
2) hardness / softness (low tonality / high tonality); 3) absence or presence of labilisation; 6) the law of prosody, which consists in the realisation of stress in accordance with various languages; 7) the law of an open syllable.

The degree of phonomorphological manifestations indicates a remote / distant form of language relationship between Indo-European / Afro-Asiatic and Altaic language families, where one of the provisions of the phonetic prohibitions of Jucquo, i.e. when the initial and final laryngals are not allowed, is traced in the Indo-European *H₁ek₁- / *heuk- and Afro-Asiatic *Hwq-.

The degree of manifestation of semantic laws indicates a close type of language relationship among Indo-European, Altaic and Afro-Asiatic language families, where 2 lexi-semantic variants (LSV) were fixed: 1) somatism; 2) action. If in the Indo-European *H₁ek₁- / *heuk- “eye, to see” 2 LSVs are fixed: 1) somatism; 2) action, but in the Altaic *uka- “to notice, to understand”, including Turkic *uk(a)- “to raise, to listen” and Mongolian *uk- “to notice”, as well as the Afro-Asiatic *Hwq- “to know” – only 1 LSV – 2) action.

Keywords: diachronic interpretation, phonomorphological and semantic laws, divergent and convergent types of language relationship, Indo-European, Altaic and Afro-Asiatic language families.

1. Introduction.

The issues related to the evolutionary development and formation, on the one hand, the mankind as a whole and a Homo sapiens in particular, and on the other hand, his (her) language, are topical at the present stage of development of Linguistic Macrocomparative Studies. It is impossible to answer these and other questions using only linguistic (language) data. Therefore, now it is not just necessary, but, according to Klein, the interdisciplinary approach remains “obligatory”, i.e. there is an appeal to such branches of knowledge as: archeology (P. E. Grine, W. L. Jungers, J. Schultz (1996)), genegeography (Ye. V. Balanovskaya, O. P. Balanovskiy (2009)), culturology (P. E. Grine, W. L. Jungers, J. Schultz (1996) et al.) and so on.

The nostratic theory, which became a logical continuation of Linguistic Comparative Studies and Linguistic Macrocomparative Studies, which took shape as a separate branch of knowledge – Nostratics, or Nostratic Linguistics – also “found a response”, according to Nafigov’s observations, “in a number of related disciplines: archeology and others” (Nafigov, 2003: 33). In this context, it is worth recalling the words of Alekseyev, the anthropologist: “the differences between the Indo-European and Dravidian peoples are morphologically as significant as it can be within the framework of one type: they are included in the various racial divisions of modern mankind”. It is true, because, according to the hypothesis that the author defends, “these two divisions are included in a single output racial trunk, but their unity is palaeoanthropologically documented, and it dates back to the Mousterian era” (Alekseyev, 1990:162). We fully and completely agree with the researcher’s words that “the origin of the language is [...] an extralinguistic problem, it is beyond the scope of linguistics, it is complex, i.e. one that is solved by the efforts of various disciplines, and, perhaps, is not solved at all only at the modern level of development of science, but also fundamentally” (Alekseyev, 1974).

2. Aim.

The aim of the article is to do the diachronic interpretation of phonomorphological regularities of Nostratic *HuKa “eye”, taken from “Opyt sravneniya nostraticheskikh yazykov (semito-khamitskiy, kartvelskiy, indoyeuropeyskiy, uralskiy, dravidyskiy, altayskiy)” (Engl. “The Experience of Nostratic Languages Comparison (Semitic-Hamitic, Kartvelian, Indo-European, Uralic, Dravidian, Altaic)” by Illich-Svitych.

3. Methodology.

The reconstruction of Nostratic *HuKa “eye”, carried out based on Indo-European *hʉːk₁- / *heuk- “eye, to see”, Altaic *uka- “to notice, to understand”, Afro-Asiatic *Hwq- “to know” allows us to trace the following methodological steps of Illich-Svitych.
The first step deals with the method of etymon (or archetype) modelling, or prediction, proposed by Serebrennikov. It means that “the very course of the historical process is not obvious to the researcher, who sees only the final result of this process, but knowledge of certain regularities allows him to hypothetically assume the nature and orientation this process” (Serebrennikov, 1974: 7).

“The combination of two possible levels in direct connection with a specific lexical material is specific for etymology” (Martynov, 1963: 4). In this context Eckert wrote the following: “the inclusion of the phonomorphological structure of the comparable words ensures a more complex approach to the complex issues of language relations” (Eckert, 1978: 80). That is why the question of combining the phonetic analysis of a word with its study in the lexico-grammatical system (Köhler, 1970: 16–52) is recognized as an urgent necessity by many comparativists.

The second step deals with the comparative-historical method with the parallel application of internal and external reconstruction procedures: if the internal reconstruction procedure is reflected in the material of one language family (Indo-European, Altaic, Afro-Asiatic), but the external reconstruction procedure – on the material of two and / or three language families. In this case, it helps to see the common and distinctive features concerning phonomorphological regularities.

The third step deals with the application of the method of diachronic interpretation aimed at identification of the common features of Indo-European *ḥεκ- / *heu- “eye, to see”, Altaic *uka- “to notice, to understand”, Afro-Asiatic *Hwq- “to know” and observation of their reflexes in genetic data material. In this case, the method of step-by-step reconstruction (according to Starostin) is used for proving the mass comparison hypothesis.

4. Results.

For example, we are to take the Nostratic *HuKa “eye, to see” represented in “Opýt sravneniya nostraticheskikh yazikov (semito-khamitskij, kartvelskij, indoevropejskij, uralskij, dravidjskij, altayskij)” (Engl. “The Experience of Nostratic Languages Comparison (Semitic-Hamitic, Kartvelian, Indo-European, Uralic, Dravidian, Altaic)” by Illich-Svitych. It should be noted that the diachronic interpretation of this form was carried out based on the data of 3 language families (Indo-European, Altaic, Afro-Asiatic), the genetic data material of which will be discussed below.

The Indo-European *hεkʷ- / *heu- “eye, to see”, observed at the level of the Indo-European language family, was reconstructed based on the analysis of the correspondences of the languages of the following groups: Iranian: Ancient Indian áksi n.; Avestian aši (dual.); Armenian: Armenian akn (gen. akan; it is not clear why -k- is given instead of expected -kʰ-); Illyrian: Albanian sú (<*okʰi-); Latin-Falic: Latin oculus; Baltic: Lithuanianakis; Slavic: Old Slavonic oko; Tocharian: Tocharian A ak, Tocharian B ek, and also in Greek: Greek ὀφθαλμός (dual. <*okʰi; cf. ὀφθαλμοῖς, perf. ὀφθαλμεῖα “I see, I foresee”). It should be noted that Illich-Svitych gave the etymons at the level of Greek and the Illyrian language group: Ancient Greek *okʰí and Albanian *okʰi-.

The Altaic *uka- “to notice, to understand” observed at the level of the Altaic language family, was reconstructed based on the analysis of the correspondences of the languages of the following groups: Turkic with the following language subgroups: Khakas (Кыргыз): Khakas uq-; Gorno-Altaic (Central-Eastern): Gorno-Altaic uk- “to listen”, Kyrgyz uk-; Karluk: Ancient Uighur uq (aor. uqar, con verb. uqa < *uka-), Chagatai uq (converb. uqa), Uighur (Southern) uk-; Ogu: Ogu (Ibn-Muhanna) uq-; Mongolian with the following language subgroups: North Mongolian: Middle Mongolian uqa- “to notice” (Sino-Mongolian also “to recognise”), Written Mongolian uqa-; Central Mongolian: Khalkha uxa-, Buryat uxaan “mind”; West Mongolian (Mongolian-Kalmyk): Oirat uxa-, Kalmyk uxa- “to
understand”. It should be noted that Illich-Svitych gave the ety whole groups: Turkic *uk(ä) “to raise, to listen” and Mongolian *uka- “to notice”.

The Afro-Asiatic *Hwq- “to know” observed at the level of the Afro-Asiatic (Chamito-Semitic) language family, was reconstructed based on the analysis of the correspondences of the languages of the following groups: Cushitic: Kuara ax, Avia jaq, Somali ōğ; Semitic: Geez *qä, Amharic awwäqä, Harari āqa (by the way, they are borrowed from Cushitic).

4.1. Phonomorphological Regularities.

4.1.1. The law on the three-letter / three-phonemic structure of the root of etymon.

The law on the three-letter / three-phonemic structure of the root of etymon is consistently fixed in Indo-European *hëkʰ-/ / *heuk-, Altaic *uka- and Afro-Asiatic *Hwq-.

The effect of this law, according to the definition of Benvenist, can be traced in the Indo-European *hëkʰ- / *heuk-, which is monosyllabic, “three-letter”, or three-phonemic root, where *e is the main proto-language vowel (Benvenist, 1955, p. 201): the roots of Indo-European *hëkʰ- (*h, *e, *k) and *heuk- (*h, *e, *k) have three proto-language constructs, where *e is an independent proto-language vowel in the first version and *e is represented in the diphthong *eu in the second one. In this case, according to Brugman’s position, the Indo-European root morpheme is monosyllabic, because it has the short proto-language vowel (* e / * eu) and it is also referred to as “light monosyllabic morpheme” (German leichte einsilbbige Basis) (Brugman, 1904: 140). The provisions of this law are fixed in the genetic data material of the Indo-European language family: Avestian aši (dual.); Armenian. akn; Old Slavonic oko.

Incidentally, the Indo-European hëkʰ- / *heuk-, represented by Illich-Svitych, belong to the “morpheme I” (according to Benvenist), because the complete degree of correctness (пос. огласовки) of their roots causes zero correctness of their suffixes. (which can be traced after the hyphen -). According to the scholar, the second element cannot be added to it neither in degree (i.e. with the form of expansion (пос. распространения)), because two consecutive elements with zero validity within one morphological series are impossible, nor fully (i.e. with suffix), because only one can get full alignment of the three elements, and it already has the root. It follows that the morpheme I does not allow the expansion; it can only have it when it is morpheme II (Benvenist, 1955, p. 201).

In addition, it is worth noting that certain provisions of this law, such as three-letter or three-phonemic root structure, are traced not only in the Altaic *uka-, but also in the Turkic *uk(ä)- and Mongolian *uka-. Due to the fact that they are not monosyllabic, because they have two vowels and one consonant, they correspond to this structure and are consistently observed in genetic data material: Middle Mongolian uqa-, Written Mongolian uqa-; Khalkha uxä-; Oirat uxa-; Kalmyk uxä-.

Moreover, it should be assumed that the provisions of the law on the three-letter / three-phonemic structure of the root of the etymon correspond to the law on the consonant root, which, according to Belova, is one of the features of the grammatical system of Semitic languages (Belova, 1991: 81).

The notion of a consonant root (if we consider the root as one of the morphemes) is theoretically admissible, as admissible derivational and inflectional consonant morphemes. However, this assumption can be limited only by the shortest single-voiced elements. The consonant root in semitology is not so much in the historical as in the synchronous-operational sense (Mayzel, 1983: 88–90). In synchronous typology and morphology, the consonant root is a member of the morphological system along with other morphemes and it
is considered as a typological attribute of grammatical systems of Semitic languages. The attention should be drawn to the fact that within the framework of the conditional operational interpretation of the Semitic root as a consonant, it becomes the object of historical research, the purpose of which is the problem of the number of consonants composing it (Belova, 1991: 81).

Belova also adds that the three-voiced root is typical for the Semitic root word and traditional Semitic lexicography not only quantitatively, because, according to her words, “the whole system of grammatical methods of regular word formation and inflection is based on apophony (on alternation) of vowels or on a combination of apophony with affixation (the so-called derivational and inflectional (“models”)), “inclined” to the three-voiced root” (Belova, 1991: 81). That is why the period of general Semitic unity already represents the three-voiced root as the leading structure of Semitic morphology. The most revealing study in this area is the work of Mayzel, the orientalist, who represents the original hypothesis about the structure of the Semitic root. It is built on the phenomena of allotheza (some, a small alternation of sounds for a semantic purpose) and metathesis (mutual permutation of sounds or syllables in words motivated by assimilation or dissimilation) that are typical for the Semitic languages (Mayzel, 1983).

The attention should be drawn to the fact that the Afro-Asiatic *Hwq- really corresponds to the structure of the consonant root, i.e. the three-letter, three-phonemic structure and it is consistently traced in the genetic data material of the Afro-Asiatic language family: Avia jaq, Geez ʿoqā, Harari āqa.

4.1.2 The Law of the Mora.

The Law of the Mora (from Latin mora – “procrastination, pause”) is a rhythmic unit that is distinguished in the phonology of Ancient Greek, Latin, Sanskrit, Japanese and a number of other languages (Rybin, 2012: 10). Today this law may be fixed in the structure of the Indo-European proto-language. In the article “Problema mory v indoevropeskikh ablautnykh cheredovaniyakh: korni s “tyazholymi bazami”” (Engl. “The Problem of Mora in the Indo-European Ablautic Alternation: Roots with “Heavy Bases”” Belova suggests that “the Indo-European proto-language – at least in its later state – was a Moro-speaking language and the opposition of long / short syllables was described by the categories of mora; accordingly, the syllables of this language could be with one mora, but they also could be with two or more moras” (Belov, 2011: 1).

The effect of this law is traced in the genetic correspondences of three language families, where it may be fixed syllables with one mora: Indo-European: Avestian aši; Armenian ań; Albanian sú; Tocharian A ań; Tocharian B eń; Altaić: only in Turkic: Khakas uń-; Gorno-Altaic uń-; Kyrgyz uń-; Ancient Uighur uń-; Chagatai uń-; Uighur (Southern) uń-; Oğuz (Ibn-Muhanna) uń-; and with two or more moras: Indo-European: Ancient Indian aḵi n.; Avestian aši (duńal.); Latin oculus; Lithuanian ašis; Old Slavonic oko; Greek oσσε; Altaić: only in Mongolian: Middle Mongolian uńa-; Written Mongolian uńa-; Khalkha uń-; Buryat uńań; Uirat uńa-; Kalmyk uńa-; Afro-Asiatic: Geez ʿoqā, Amharic awwāqā, Harari āqa.

In this context, it is worthwhile to dwell separately on the Indo-European language family, because, according to the observations of Trubetskoy, in order to prove that a particular language belongs to this language family, in addition to an indefinite number of “material matches”, it is necessary to have separate structural features inherent in all known Indo-European languages (Trubetskoy, 1984: 44–59). The given by Illich-Svityč data material allows us to consider the phonological feature – the lack of vowel harmony, i.e. the composition of vowels of the first syllable in Indo-European languages is never determined.
by the composition of the vowels of the first syllable (unlike the Altaic languages and many Finno-Ugric ones).

4.1.3 Phonetic Prohibitions of Jucquo.

The following **phonic prohibitions of Jucquo** can be detected in the reconstructed etynons and in the genetic correspondences at the level of a family:

1) one and the same consonant does not occur at the beginning and at the end of the root (g^b^ag^b^, dod, pep, nan... are not allowed);

2) the initial voiceless occlusive and final voiced aspirate (such as tag^b^) is not allowed (it means that the forms tak, tag are allowed); this provision is included in the second prohibition of Meillet;

3) the initial voiced occlusive and final voiceless occlusive (such as dak) are not allowed;

4) the initial and final voiced occlusive of different places of articulation (such as dag) are not allowed (but ded, gag ... are not allowed according to the provision 1 – g^w^eg, g^w^ag ... are allowed);

5) the voiced aspirates of different places of articulation at the beginning and end (such as d^b^ag^b^) are not allowed (but according to the provision 1 the forms d^b^ed^b^, g^b^ag^b^ ... are not allowed, the forms g^wh^eg^b^, g^wh^ag^b^ ... are allowed);

6) the initial voiced occlusive and final voiced (occlusive) aspirate (such as dag^b^ type) are not allowed;

7) the initial voiced (occlusive) aspirate and final voiceless occlusive (such as b^h^ak) are not allowed (it is inverse to the provision 2);

8) the voiced aspirate at the beginning and voiced explosive at the end (such as d^b^ag);

9) the initial and final laryngeals are not allowed: H_1H_2, H_2H_1 (Jucquo, 1966: 61).

Although the Indo-European *h^b^ek^a^ / *heuk- have proto-language laryngeal consonants *h^b^ / *h- at the beginning and proto-language consonants *-k^a^ / *-k- at the end, in which *h^b^ / *h- is fricative, voiceless, but *-k^a^ / *-k- is stop, voiceless, noisy, the attention should be paid to the 9 (ninth) provisions of the laws of U. Jucquo – the initial and final laryngeals are not allowed.

4.1.4. The process of Spirantisation.

The **process of spirantisation** deals with “the weakening and transition of strong back consonants into the labial ones and, rarely, to the middle consonants and long vowels, but the front consonants to the middle ones and, less often, to the labial consonants and the corresponding long vowels” (Shcherbak, 1970: 98). According Kairzhanov the consonant /q/ is difficult for pronunciation and it may be attributed to the strong vowels (this is how the main articulation of the consonant changes towards the palatine curtain (Kairzhanov, 2016: 44)). Therefore, in certain [...] languages there was the weakening, which turned into /k/ and /s/ (Kairzhanov, 2016: 35–36), which led to the choice by the etymologist of the proto-language consonant *k*.

Shcherbak speaks about the effect of this law in the Altaic languages: in the reconstructed Turkic *úk(a)- and Mongolian *u(k)-, where the proto-language *-k- was reflexed and preserved in the genetic data material of this language family: Gorno-Altaic u(k); Kyrgyz uk-; Uighur (Southern) uk-; Khalkha uči; Buryat uxa; Oirat uxa(-); Kalmyk uči. By the way, the strong positions of the phoneme /q/ are preserved in some correspondences: Ancient Uighur uq-; Chagatai uq-; Oguz (Ibn-Muhammad) uq-; Middle Mongolian uqa-; Written Mongolian uqa-.
Having made an excursion into the history of the slotted /x/, it was found out that in the runic inscriptions x is absent at all (although its absence in this group of monuments can be explained by the peculiarities of the graphic). Whereas in the Arabographic texts of the XI century it occurs quite often, but mainly in borrowed words. Thus, Mahmud of Kashgar cites only a few Turkic words in which k was replaced by the spirants x (xajy “which”, Handa “where” (Besim, III: 218)) and he considers this replacement a feature of the Oguz and Polovtsian. Other sources that relate to a later time testify to the change of /k/ into /x/ in the languages of the southern group (see Zajc zekowski) (Shcherbak, 1970: 98).

Dybo notes that the reflexes of proto-language *k into /k/, /x/ in the Turkic languages is explained by the effect of regular phonetic laws. The scholar cites the position of Ramstedt, who believes that consonants disappeared after a long vowel and after a short vowel persisted (Dybo, 2006: 50). In turn, Shcherbak suggested that in the Turkic languages, only a voiced back-tongue was possible after a short, and both a voiced and a voiceless – after a long vowel (Shcherbak, 1970: 175). This tendency is confirmed by the examples from the Turkic language, because the accent falls on the first syllable, therefore the vowel /u/ is emphasised, and after it the voiceless velar vowels /k/, /x/, /q/ are represented (Khakas ux-; Gorno-Altaic uk-; Kyrgyz uk-; Ancient Uighur uq-; Chagatai uq-; Uighur (Southern) uk-; Oguz (Ibn-Muhanna) uq-). In the reconstruction of Shcherbak, the voiced velar consonant is the voiced spirant *-y, but the voiceless velar one is occlusive *-k-, *-q- (Shcherbak, 1970: 175).

Shcherbak notes that the process of spirantisation is not observed in the Turkic languages: up today, /k/ is preserved without switching to /x/ in the following languages: Altaic, Bashkir, Gagauz, Kazakh, Karakalpak, Kyrgyz, Nogai, Tatar, Uzbek, Uyghur, etc. In other Turkic languages, there are no spirants at all. But along with stops they are in relation to the additional distribution. For example, in the Khakas language x is found in hard words (for example, Khakas u-x-) (Shcherbak, 1970: 98).

In addition, the effect of the law is also observed in the data material of the Afro-Asiatic language family, where the proto-language *q in the Afro-Asiatic *Hwq- is reflected into /x/: Kura a-x, but in some cases it is simply preserved: Avia jaq, Somali oğ; Geez əqə, Amharic awwäqä, Harari äqä.

Moreover, taking into account the close interconnection between the Afro-Asiatic and Indo-European language families, it may be assumed that the proto-language *q in the Afro-Asiatic *Hwq- is a natural realization of the proto-language *k in the Indo-European *hékʷ- / *heuk-. In turn, it is preserved in the genetic data material of this language family: Ancient Indian əkši n.; Armenian akn; Latin oculus; Latvian akis; Old Slavonic oko; Tocharic A ak; Tocharic B ek.

### 4.1.5. The Process of Pharyngealisation.

According to Shcherbak, the process of pharyngealisation is a consequence of increased air friction against the pharynx walls, which is caused by the general tension of the articulation apparatus and, possibly, some narrowing of the pharynx. That is why, the scholar adds, acoustically “pharyngisation” is perceived as a doubling or somewhat lengthening of pure vowels, and their longitude is not a constant feature (Shcherbak, 1970: 42). At the same time, Baichur clarifies that “since the increase in intensity is associated with an increase in pressure on the vocal cords and thereby with an increase in the exhaled air flow and creates increased friction against the pharynx walls, we may think that we are dealing with a special type of pharyngisation, which consists not so much in narrowing the walls of the pharynx, but in increasing the amount of air coming from the lungs through the pharynx; this can create the acoustic effect of pharyngisation” (Baychura, 1957: 119).
According to Ilich-Svitych (1963), the appearance of “pharyngisation” at the end of monosyllables could occur by analogy with those forms of the word where the consonant was intervocal (55).

The effect of this law is recorded in the data material of **Indo-European**: Ancient Indian áksi n.; Armenian akn; Latin oculus; Lithuanian akis; Old Slavonic okò; Tocharian A ak; Tocharian B ek; **Altaic**: Khakas ux-; Gorno-Altaic uk-; Kyrgyz uk-; Ancient Uighur uq-; Chagatai uq-; Uighur (Southern) uk-; Oguz (Ibn-Muhanna) uq-; Middle Mongolian uqa-; Written Mongolian uqa-; Khalkha uxa-; Buryat uxaan; Oirat uxa-; Kalmyk uxa-; **Afro-Asiatic**: Kuara ax; Avisa jaq; Somali òg; Geez ̀oqà; Amharic awwāqā; Harari āqa.

This assumption compares favorably with others in that it allows one to explain all the features of the distribution of “pharyngalisation” of vowels. Needless to say, the scholar adds, “pharyngisation” could not encompass the common Turkic long vowels of monosyllabic words and short vowels of not the first syllables in a composite word: in either case, the final noisy consonants were always weak (Illich-Svitych, 1963: 55).

### 4.1.6. The law on the pronunciation of short vowels /a/ and /u/.

The law on the pronunciation of short vowel phonemes /a/ and /u/, among which we fix such signs: 1) **the degree of solution of the oral cavity**: if short /u/ is narrow (diffuse), short /a/ is wide (compact) (Shcherbak, 1970: 27); 2) **hardness / softness (low tonality / high tonality)**: short phonemes /a/ and /u/ are of hardness (low tonality) (Shcherbak, 1970: 35); 3) **absence or presence of labialisation** (labialising / non-labialising) (simple tonality / flat tonality): if short /u/ is labialised, short /a/ is non-labialised (Shcherbak, 1970: 39).

The effect of this law is recorded in the data material of **Indo-European**: Ancient Indian áksi n.; Armenian akn; Latin oculus; Lithuanian akis; Tocharian A ak; Tocharian B ek; **Altaic**: Khakas ux-; Gorno-Altaic uk-; Kyrgyz uk-; Ancient Uighur uq-; Chagatai uq-; Uighur (Southern) uk-; Oguz (Ibn-Muhanna) uq-; Middle Mongolian uqa-; Written Mongolian uqa-; Khalkha uxa-; Buryat uxaan; Oirat uxa-; Kalmyk uxa-; **Afro-Asiatic**: Kuara ax; Avisa jaq; Amharic awwāqā; Harari āqa.

It is worth dwelling on the third feature of this law – **the absence or presence of labalisation** – which is fixed in Turkic *uk(ā)*-, reconstructed within the Altaic language family, because it (the feature) is of fundamental importance for the reconstruction of the phonological system of the Turkic proto-language. According to Shcherbak, “none of the Turkologists are trying to restore the three-stage opposition of labial vowels in proto-language, and it should be noted that there is no reason for such a reconstruction”. The scholar adds that “labialising /a/ is not a common Turkic feature; [...] a phenomenon that arose during the separate development of Turkic languages” (Shcherbak, 1970: 39–40). Therefore, the combinatorial-positional tendency of the phoneme /a/ to labialisation could contribute to the efficient manifestation of substrate influence (Shcherbak, 1970: 40).

In the article “Tyurkskiye yaziki” (Engl. “Turkic Languages”) Gadzhieva tries to explain how Ancient Turkic was formed, referring to anthropological data material. She suggests that it “was formed in Southern Siberia and Central Asia, in a large territory from Altai through the Sayan Mountains to the Lake Baikal”. Moreover, “the formation of individual national Turkic languages was preceded by numerous and complex processes of migration and distribution of the Turkic languages over the vast territory from the Yenisei to the Bosphorus” (Gadzhieva, 1997: 17–34).

According Gadzhieva, the monuments of Ancient Turkic writing help to restore the real picture of the historical fate of the Turkic peoples, starting from the V e. Thus, the Gur tribes (later the Bulgars) began to move from Asia in the V c., the Turkic tribes began to
move from Central Asia (Oguz et al.) to Central Asia in the period of V–VI c. The range of settlements from Central Asia of Ancient Uighur tribes to Central Asia has expanded (karylk, chigili, yagma) until the X–XI c. (Gadzhiiyeva, 1997: 17–34). It is evidenced by correspondents which have the same form: Gorno-Altaic uk- and Uighur (Southern) uk-. There was an amalgamation and consolidation of tribes – ancestors of Tuvans, Khakasses, Gorno-Altaics. At the beginning of II mil. BC the Kyrgyz tribes moved to the present territory of Kyrgyzstan from Yenisei (Gadzhiiyeva, 1997: 17–34): for example, Gorno-Altaic uk- and Kyrgyz uk-. The Kazakh tribes consolidated in the XV c. The Kipchak-Uzbek tribes had a close contact with the Karluk-Chagatai tribes at the beginning of the XVI c. (Gadzhiiyeva, 1997: 17–34).

According to the modern geography of distribution, the Turkic languages of the following largest areas are clearly distinguished: Central and Southeast Asia, South and Western Siberia of Volgokamya, the North Caucasus and Transcaucasia, the Black Sea region. The Turkic languages, which have been developing for centuries in these areas, have developed linguistic features typical for their regions. For example, there is an increase in the specific gravity of the overwrought allait in the Turkic languages of the North Caucasus, Transcaucasia and more broadly – in the Caspian region. Sonorisation here is a chronologically established phenomenon. A phonetic process such as spirantisation is also typical phenomenon. The phonetic process of determining the velar й is expressed in the Turkic languages of the Caspian Sea (Gadzhiiyeva, 1997: 17–34). This is evidenced by the correspondents from the Turkic language group: Gorno-Altaic uk-; Kyrgyz uk-; Uighur (Southern) uk-.

4.1.7. The Law of Prosody.

The law of prosody deals with the realization of the stress in correspondences of different languages.

According to Dybo, the stress in the Indo-European proto-language was free (it could be on any syllable in a word) and mobile (it could shift within the paradigm of one word). Basically, in the reconstruction of stress in Indo-European proto-language, scholars rely on the data of the Ancient Greek language and Vedic Sanskrit, to a lesser extent on the languages of the Baltic, Slavic and Germanic languages (Dybo, 2013: 93–108).

It should be noted that the correspondences of the Iranian language group (Ancient Indian ākṣi n.) and the Greek language (Greek ὁσε (dual. ὁσε; cf. ὁσομαι, perf. ὁσωμα “I see, I foresee”)) indicates that the stress is fixed on the first syllable. This position is also confirmed by Lubotsky, who mentions the rule on the relationship between the structure of the Indo-European root and stress: “if it is sensible in the root, it will be stressed, in case if this occlusive is voiceless”: for example, the consonant phoneme /k/ is occlusive and stop one in the root.

At the same time, the Moscow accentological school is developing the opposite approach, in which the Balto-Slavic prosodic data are considered to be more archaic (Dybo, 2013: 93–108). The examples from the Baltic (Lithuanian akis) and Slavic (Old Slavonic oko) language groups demonstrate the different tendency: in the first case, the stress is fixed on the second syllable, but in the second – on the first. It confirmed the Dybo’s words about the freedom and mobility of this feature.

The genetic data material of the Altaic language family, in particular the Turkic language group, makes sure that the stress is expiratory-musical. According to Gadzhiiyeva, the ratio of musical and power moments in stress “depends on the nature of the sentence and it is explained by a direct relationship of Turkic word stress with phrase one” (Gadzhiiyeva, 1997: 17–34). It should be noted that the represented genetic data correspondences of the
Turkic language group, i.e. Khakas uq-; Gorno-Altaic uk-; Kyrgyz uq-; Ancient Uighur uq-; Chagatai uq-; Uighur (Southern) uk-; Ögz (Ibn-Muhanna) uq-, allow confirming the view of Gadzhiyeva: “from the historical and typological position, in order to retain the force of the first composition that guides the implementation of harmony of vowels, it should not lose its qualities and it should be stressed” (Gadzhiyeva, 1997: 17–34). It should be assumed that the indicated morphemes in the correspondence are stressed. Therefore, “the vowel harmony typical for the Turkic languages, which comes from the root, could occur during the main stress on the root” (Gadzhiyeva, 1997: 17–34). The attention should be also drawn to the Kairzhanov’s words: “the process of reducing the Proto-Turkic long /aː/, which was widespread in most Turkic languages”: as it can be seen, the Turkic *uk(ā)-. 

The data material of the Mongolian language group, i.e. Middle Mongolian uqa-; Written Mongolian uqa-; Khalkha uxā-; Buryat uxân; Oirat uxa-; Kalmyk uxā- contains two vowels, one of which is stressed. For example, Khalkha uxā-; Buryat uxân; Kalmyk uxā-help to assume that the proto-language vowel *-a- could be stressed in Mongolian *uka-. In turn, it was preserved as stressed one, i.e. a long vowel /aː/, as well as a short vowel /a/: Middle Mongolian uqa-; Written Mongolian uqa-; Oirat uxa-. 

The genetic data material of the Afro-Asiatic language family, in particular Cushitic and Semitic language groups, allows us to make sure that the stress could fall on the first syllable: Kuara ax; Avia jaq; Somali oğ; Harari āqa; and the second: Geez coqā; Amharic awwāqā. As it can be seen, the individual correspondences of the Semitic language group (Harari āqa) have the stress on the first syllable, which confirms the hypothesis about the contacts of this group with the Cushitic one.

4.1.8. The Law of Open Syllable.

The genetic correspondences of the Turkic and Mongolian language groups confirm the view of Vladimirtsov, who expressed the opinion that in most cases the Turkic languages lost their final consonant and the open vowel was preserved in the Mongolian languages (Khalkha uxā-, Buryat uxân, Oirat uxa-, Kalmyk uxā-). In this respect it is close to the proto-language state (Vladimirtsov, 1929: 156–157), i.e. to the Turkic *uk(ā)- and Mongolian *uka-, as well as to the Altaic *uka-. The following position of Kotvich is of special interest: “shorter forms were already known to the Turkic proto-language and, conversely, elongated, Mongolian forms, which are a later phenomenon. Because we cannot fail to notice the tendency of the Mongolian language to increase words, the individual vowels and consonants, but sometimes individual syllables, were included to the root of the word for this purpose” (Kotvich, 1962). For example, Middle Mongolian uqa-, Written Mongolian uqa-.

4.2. Semantic Processes.

The analysis of the plan of the content of Nostratic *HuK̥a “eye, to see” allows to fix 2 lexico-semantic variants (hereinafter referred to as “LSV”): 1) somatism; 2) action. 2 LSV (1) somatism; 2) action) are fixed in Indo-European *hēk̥- / *heuk- “eye, to see”: 1) somatism; 2) action; 1 LSV (2) action) is fixed in Altaic *uka- “to notice, to understand”, including Turkic *uk(ā)- “to raise, to listen” and Mongolian *uka- “to notice”, as well as Afro-Asiatic *Hwq- “to know”.

Koleva-Zlateva explains that when the old meanings are reconstructed, it must be borne in mind that the means of the modern language can hardly explicate precisely the old diffuse semantics. If, nevertheless, any discreteness and direction of development exists in this case, then most likely it is in the opposite direction, from the subject to its features, because this is how the agnosticism of ancient concepts manifests itself. As a manifestation of the desire for agency, we can also consider the semantic evolution of the “eye” – “to see,
to watch” (Koleva-Zlateva, 2005: 35), which can be traced in the Indo-European *h²ek²- /heuk- “eye, to see”, as well as in the Ancient Greek *okʰi- “eye” and Albanian *okʰi- “eye”.

The attention should be drawn to the fact that LSV 1) somatism can be traced in most genetic correspondences of the Indo-European language family: Ancient Indian áksi n.; Avestian āši (dual.); Armenian aṅk; Albanian sük; Latin oculus; Lithuanian akiš; Old Slavonic oko; Tocharian A aḵ; Tocharian B aḵ; Greek ὀσς ὕπαθα “I see, I foresee”. By the way, many etymological dictionaries (Български: 844; Chernykh: 594; Herkunftswörterbuch: 40; Kluge: 38; Pokorny: 775–777; Preobrazhenskiy: 347; Skok: 551; Wahrig: 485; Walde: 201) give the meaning not only “to see”, but also “to watch” for the Indo-European *h²ek²- /heuk-.

On this occasion, Koleva-Zlateva gives such a comment. At first glance, such a hypothesis looks plausible – an eye is an organ of vision, but another fact must be taken into account: this is the oldest Indo-European name for the eye and it must be established whether it (the name) is motivated by a functional sign, the initial internal form is “the one who sees; the one who watches” (Rus. “видящий; смотрящий”). In other words, is it possible for the ancient Indo-Europeans to first have a perceptual verb with the meaning “to see; to watch” and subsequently formed the first native language name for it from the eye? The scholar adds that today there is no information that it would supplant another, more ancient name (as happened, for example, with the Russian глаз, which replaced as expressive name Proto-Slavic *oko) (Koleva-Zlateva, 2005: 23).

Within the Altaic language family, only LSV 2) action may be fixed, i.e. Altaic *uka- “to notice, to understand”. The Slovnyk ukrainskoj movy (Engl. The Dictionary of the Ukrainian language) (hereinafter referred to as “SUM”) convinced that the meaning of “to notice” is interpreted as: 1) to perceive by sight; to see; 2) to perceive by ear; to hear (SUM: 127) and it is reflected in Gorno-Altaic uk- “to listen”, Middle Mongolian uqa- “to notice” (Syno Mongolian “to recognise”). At the same time, the meaning “to understand”, according to SUM, is 4) to perceive not by reason, but by intuition, by senses; to feel (SUM: 842) and is reflected in the Buryat уxàн “mind”; Kalmyk уxà- “to understand”. These definitions correspond to the meaning of “see” in the Nostratic *HuKa.

The attention should be drawn to the fact that Illich-Svitych, referring to Gombocz, suggests that probably Hungarian ok “reason, mind” indicates to the Old Bulgarian *uk-(Gombocz). In addition, according to his version, this does not apply in spite of Ligeti (Ligeti: 230–231) of the Turkic *oky- “to read, to learn” (← “to call, to sing”, this meaning is preserved, for example, in Kipchak language (Radlov: 993–994); according to semantics, it is more approximate to the Slavic language group of the Indo-European language family – Bulgarian dialect nax “I sing, I read”).

Of course, the attention is also drawn to the Afro-Asiatic *Hwq- “to know”, which also corresponds to LSV 2) action, however, it is interpreted in the SUM in the following way: “4) to understand, realise something”. It is reflected in the genetic data material of Afro-Afrasian language family: Kuara ah; Avia jaq; Somali ḍķ; Geez ḍqā; Amharic awwāqā; Harari ağa, which probably indicates a connection with the Altaic language family.

Moreover, Illich-Svitych, citing Pokorny (Pokorny: 775–776), assumes that, for example, at Proto-German *aوغan- “eye” (Gothic auǭo, Ancient High German ouģa) represents not secondary conversion by analogy to *ausan- “ear”. Pokorny leaves such an assumption without explanation, i.e. velar *g (< *kh), and the ancient “basis I” *Heuk- (where H- is probably *h-), concerning the transformed “basis II”. Therefore, *h²ek²- (< *h³ek-), as well as Indo-European *breuŋ- “to run”, belongs to *bheŋʰ- (Illich-Svitych1).
5. Discussion.

**Diachronic Interpretation of Nostratic *HuKa “eye, to see”**

<table>
<thead>
<tr>
<th>Nostratic macrofamily</th>
<th>Indo-European language family</th>
<th>Altaic language family</th>
<th>Afro-Asiatic (Semitic-Hamitic) language family</th>
</tr>
</thead>
<tbody>
<tr>
<td>PE PC</td>
<td>PE PC</td>
<td>PE PC</td>
<td>PE PC</td>
</tr>
<tr>
<td>*HuKa “eye, to see”</td>
<td>*hvek²/-heuk- ”eye, to see”</td>
<td>*uka- “to notice, to understand”</td>
<td>*Hwq- “to know”</td>
</tr>
<tr>
<td>*H</td>
<td>*h</td>
<td></td>
<td>*H</td>
</tr>
<tr>
<td>*u</td>
<td>*v/*e/*i</td>
<td>*u</td>
<td>*w</td>
</tr>
<tr>
<td>*K</td>
<td>*k</td>
<td></td>
<td>*q</td>
</tr>
<tr>
<td>*a</td>
<td>*a</td>
<td></td>
<td>*a</td>
</tr>
</tbody>
</table>

The analysis of the plan of expression of the genetic data material allowed to trace the phonetic correspondence of vocal and consonant constructs: 1) within the Indo-European language family, the Indo-European *hvek²- / heuk- corresponds to such reflexes: the Indo-European proto-language vowel *e corresponds to Ancient Greek *o and Albanian *o: a /a/, e /ɛ/, o /ɔ/; the Indo-European proto-language consonant k corresponds to the Ancient Greek *k and Albanian *k: c, k /k/, s /s/, š /ʃ/; the Indo-European proto-language vowel *u corresponds to the Ancient Greek *u and Albanian *u: o /o/, u /u/; 2) within the Altaic language family, the Altaic *uka- corresponds to the following reflexes: the Altaic proto-language vowel *u corresponds to Turkic *u and Mongolian *u: u /u/; the Altai proto-language consonant -k corresponds to Turkic *k and Mongolian *k: k, q /k/, x /x/; the Altaic proto-language vowel *a corresponds to Turkic *a and Mongolian *a: a /a/, ā /ā/; 3) within the Afro-Asiatic language family, the following reflexes correspond to the Afro-Asiatic *Hwq-: Afro-Asiatic consonant *w correspond to: a /a/, ā /ā/, o /o/, ō /ō/; Afro-Asiatic consonant *q correspond to: q /k/, ĝ /dʒ/.

The reflexes of the plan of content of the Nostratic *HuKa “eye, to see” made it possible to fix 2 LSVs: 1) somatism and 2) action that are found in Indo-European hvek²- / heuk- “eye, to see” (1 somatism and 2 action), Altaic *uka- “to notice, to understand” (1 action) and Afro-Asiatic *Hwq- “to know” (1 action) (second-degree etymons), as well as in the Ancient Greek *ok⁵i “eye, to see” (1 somatism and 2 action) and Albanian *ok⁵i- “eye, to see” (1 somatism and 2 action) (first-degree etymons).

6. Conclusions.

In the course of the study, we can talk about both divergent and convergent relationship of the Indo-European, Altaic and Afro-Asiatic language families, originating from Nostratic *HuKa.

The degree of manifestation of these degrees of relationship is evidenced by the action of the relevant regularities: 1) the law on the three-letter / three-phonemic structure of the root of etymon (Benvenist) corresponds to the law of the consonant root (according to Belova), which allows to fix three phonemes in Indo-European hvek⁵- / *heuk-, Altaic *uka- and Afro-Asiatic *Hwq-; 2) the law of mora is fixed in Indo-European hvek⁵- / *heuk-, Altaic *uka- and Afro-Asiatic *Hwq- as single-stranded structures, which were reflected in the genetic data material of these language families and they represented both single-stranded and multifaceted compositions; 3) the phonetic prohibitions of Jucquo, one of the characteristics of which the initial and final larynx are not allowed, can be traced in both Indo-European hvek⁵- / *heuk- and Afro-Asiatic *Hwq-; 4) the process of spirantisation is the weakening of the consonantal phoneme /q/, i.e. its
reflection into /k/ and /x/ that is observed in Indo-European, Altaic and Afro-Asian language families; 5) the process of pharynalisation is traced at the end of monosyllabic words and could occur by analogy with those forms of the word, where the consonant was intervocal; it is observed in Indo-European, Altaic and Afro-Asiatic language families; 6) the law on the pronunciation of short vowel phonemes /a/ and /u/, among which the following features are fixed: 1) the degree of solution of the oral cavity: if short /u/ is narrow (diffuse), short /a/ is wide (compact); 2) hardness / softness (low tonality / high tonality): short phonemes /a/ and /u/ are of hardness (low tonality); 3) absence or presence of labialisation (labialising / non-labialising) (simple tonality / flat tonality): if short /u/ is labialised, short /a/ is non-labialised; 7) the law of prosody deals with the stress in the correspondences of different languages and it is reflected in Indo-European, Altaic and Afro-Asiatic language families; 8) the law of open syllable is fixed in Indo-European, Altaic and Afro-Asiatic language families.

The reflexes of the plan of content of the Nostratic *HuKa “eye, to see” made it possible to fix 2 LSVs: 1) somatism and 2) action and testified the divergent and convergent relationship of the Indo-European, Altaic and Afro-Asiatic language families. They are found in Indo-European hεkʷ- / heuk- “eye, to see” (1) somatism and 2) action), Altaic *uka- “to notice, to understand” (1) action) and Afro-Asiatic *Hwq- “to know” (1) action) (second-degree etymons), as well as in the Ancient Greek *okʰje “eye, to see” (1) somatism and 2) action) and Albanian *okʰi- “eye, to see” (1) somatism and 2) action) (first-degree etymons).

References


Martynov, V. V. (1963). *Slaviano-germanskiye leksicheskiye vozaimodeystviye drevnei slaviany* [Slavic-German lexical interaction of the most ancient pores: On the problem of the ancestral homeland of Slavs]. Minsk : Izd-vo AN BSSR.


Vladimirov, B. Ya. (1929). *Sravnitelnaya grammatika mongolskogo pismennogo yazyka i khalkhaskogo narciy* [Comparative grammar of the Mongolian written language and Khalkha dialect]. L.

**Sources of Illustrative Material:**


Бібліографічний опис:

Анотація
У статті здійснено діахронічну інтерпретацію індоєвропейського *h₁ekʷ- / *heuk- “око, бачити”, алтайського *uқa- “помічаю, розумію” і афразійського *Hwq- “знайти” архетипів, що складають ностратичного архетипу *HuҚa “око, бачити”, яка дала змогу встановити як дивергенційний, так і конвергенційний типи мовної спорідненості між ними. Установлено близький (індоєвропейський, алтайський, афразійський) і віддалений / далекий (індоєвропейська / афразійська і алтайська) види мовної спорідненості залежно від дій основних фоноформологічних і семантичних закономірностей.
Ступінь прояву фоноформологічних закономірностей засвідчує про близький вид мовної спорідненості між індоєвропейською, алтайською і афразійською мовами сім’ями, серед яких: 1) закон про трилітерну / трифонемну структуру кореня етимона (за Е. Беневеністом), що відповідає закону про консонантний корінь (за А. Г. Белову) і дає змогу зафіксувати три фонеми в індоєвропейському *h₁ekʷ- / *heuk-, алтайському *uқa- й афразійському *Hwq- архетипах, а відтак, простежити рефлексії цієї структури в генетичному матеріалі мовних сімей, до яких вони належать; 2) закон морфі фіксується в індоєвропейському *h₁ekʷ- / *heuk-, алтайському *uқa- й афразійському *Hwq- архетипах, форми які відповідають однорідній структурі, а в генетичному матеріалі рефлексуються у вигляді як однорідних, так і багатоморфних складів; 3) процес спрагматизації полягає в осягненні присложеної фонеми /q/, тобто рефлексії /q/ в /ʁ/ і /χ/; 4) процес “фарніцізації” простежується в кінці однословах сів, де він міститься за аналогією з тими формами слова, де приголосний був інтервокальним; 5) закон щодо вимови коротких голосних фонем /a/ і /u/, де представлено такі ознаки: 1) ступінь розмичу порожнини рота; 2) твердкорійність / лежкорійність (низька тональність / висока тональність) 3) відсутність або наявність лініялізації; 6) закон поздовжній, який полягає в реалізації заголосу у відповідниках різних мов; 7) закон відкритого складу.
Ступінь прояву фоноформологічних закономірностей засвідчує про віддалений / далекий вид мовної спорідненості між індоєвропейською / афразійською й алтайською мовами сім’ями, де одна з положень фонетичних заборон У. Жюку — коли не допускається початковий і кінцевий ларингалі — простежується лише в індоєвропейському *h₁ekʷ- / *heuk- і афразійському *Hwq- архетипах.
Ступінь прояву семантичних закономірностей засвідчує про близький вид мовної спорідненості між індоєвропейською, алтайською й афразійською мовними сім’ями, де відбулося зафіксовано
2 лексико-семантичних варіантів (ЛСВ): 1) соматизм; 2) дія. Якщо в індоєвропейському архетипі *h²ek²â/- *heuk- “око, бачити” зафіксовано 2 ЛСВ: 1) соматизм; 2) дія, то в алтайському архетипі
*uka- “помічати, розуміти”, у тому числі й тюркському *uk(â)- “пізнавати, слухати” і монгольському *uka- “помічати”, а також афразійському архетипі *Hwq- “знати” – лише один ЛСВ – 2) дія.

Ключові слова: діахронічна інтерпретація, фономорфологічні й семантичні закономірності, індоєвропейська, алтайська й афразійська мовні сім’ї.